ICACON 2019
11\textsuperscript{th} National & 1\textsuperscript{st} International Conference of the Indian College of Anesthesiologists (ICA)

\textbf{Theme:}

“Evidence Based Medicine to Patient Outcomes”

5\textsuperscript{th} to 8\textsuperscript{th} September 2019
Chief Guest
Dr Abhijat Sheth
President, National Board of Examinations

Guest of Honour
Dr DS Rana
Chairman Board of Management, Sir Ganga Ram Hospital
Message

I am glad to know that the Department of Anaesthesiology, Pain and Perioperative Medicine, of Sir Ganga Ram Hospital, New Delhi is going to organize 11th National and 1st International Conference of the Indian College of Anaesthesiologists (ICA) from September 5, 2019 to September 8, 2019, in New Delhi. The organisers have chosen the theme “Evidence Based Medicine to Patient Outcomes”, for the proposed conference.

2. I am sure that the deliberations at the conference would be very fruitful and some actionable points will emerge therefrom.

3. I send my good wishes to the organisers for the successful completion of the proposed conference.

(Dr. Harsh Vardhan)
MESSAGE

The Modern medicine has allowed itself to become captive to the so-called objectivity of numbers and formulae resulting in the healthcare providers to function in a rigid and closed ecosystem. The practice of medicine is intricately complex and falling prey to statistical values without any evidence is a definite recipe to failure. It gives me immense pleasure to know that the Department of Anaesthesiology, Pain and Perioperative Medicine, Sir Ganga Ram Hospital, New Delhi is treading on a progressive path by organizing a conference on “Evidence Based Medicine to Patient Outcomes”.

I hope that the participants will get an opportunity to enhance their clinical acumen through this conference. I congratulate the entire organizing team for this academic feast. May the people of the country live healthier and happier lives, and may you continue to safeguard their health.

Dr. Abhijat Sheth
Message

The Indian College of Anaesthesiologists was established in 2008 with the aim of standardizing anaesthesia teaching and practice with improved patient outcome. I congratulate the founding members for their tireless efforts in these eleven years since the inception of the society. They have gone from strength to strength and held many conferences at the national level and now they are going a step further and holding the 1st International Conference.

The conference is being organised from 5th to 8th September, 2019 at Le Meridien, New Delhi, India by the Deptt. of Anaesthesiology, Pain and Perioperative Medicine, Sir Ganga Ram Hospital. The theme of the conference is ‘Evidence Based Medicine to Patient Outcomes’.

I extend my warm greetings to the experts, speakers and delegates, and hope this mega event of the year is an enriching experience for all.

I am sure that the ICACON 2019 will be a resounding success.

Dr. D.S. Rana
Chairman
Board of Management
MESSAGE

I am very glad to note that Indian College of Anaesthesiologists (ICA) is organizing its 11th National and 1st International Conference from 5th-8th September, 2019 in New Delhi.

I feel that it is a proud privilege that a Souvenir is being released to commemorate this occasion.

I am sure this Conference will focus on newer trends in the field of modern medicine to update the knowledge of the participants and acquainting them with the latest technologies and techniques that have been introduced in the field of medicine will finally translate into quality health care delivery at grass root level.

I also convey my best wishes to all the delegates and sincerely hope that each one of them will feel empowered and cherish the memories of the conference.

My heartiest congratulations on the success of the conference.

Dr. Santanu Sen
National President, IMA
MESSAGE

It is very heartening to note that 11th National and 1st International Conference of the Indian College of Anaesthesiologists (ICA), ICACON 2019, is being organized from 05th -08th September, 2019 in New Delhi.

I appreciate the team members for organizing said conference. By organizing ICACON, 2019, the image of medical professionals will improve in the society and at the same time society will be benefitted. This will be an important milestone for the future of healthcare delivery in India. The theme of the conference you have chosen “Evidence Based Medicine to Patient Outcomes” will be added attraction in conference. This conference will provide a common platform for Anaesthesiologists to discuss the major issues concerning this specialty and will provide a forum for exchange of knowledge, ideas and learning experiences among the anaesthesiologists and it will benefit its members in discharging their duties.

My heartiest congratulations and appreciate the organizing Chairperson of Indian College of Anaesthesiologists for organizing said conference and I wish that the said Conference will be a great success.

(Dr. Girish Tyagi)
Secretary

Dr. Jayashree Sood
Organizing Chairperson
MESSAGE

The anaesthesia teaching and training varies greatly in different parts of the country. The Indian College of Anaesthesiologists (ICA) was started with the idea of making it uniform. To attain this goal the college has to standardize syllabi for undergraduates, postgraduates, paramedics and anaesthesia nurses. It also has to chalk out protocols, guidelines for primary healthcare and anaesthesia care at district hospitals, teaching hospitals and referral centres. ICA is working towards this goal. There are workshops, updates, fellowships and conferences held in different parts of the country. The conference is preceded by workshops held in various hospitals of the NCR.

Four days of deliberations on different subjects will be carried out by faculty experts. I am sure it has something for all delegates to take away and disseminate. The scientific programme has a uniform appeal both for the postgraduates and the specialists attending it.

The strength of an institution depends on its membership. Therefore, a robust membership drive is needed to spread the educational message and best practices. This will help the future of the specialty.

I wish a great future for the college and success for the conference.
Dr. V. P. Kumra
MD, DA, D Ac, M Ac F.I, FICA
Emeritus Consultant & Advisor
Dept. of Anaesthesiology,
Pain & Perioperative Medicine
Sir Ganga Ram Hospital, New Delhi 110060

Chief Trustee, ICA
Indian College of Anaesthesiologists

Ex-Vice President
Indian Society of Anaesthesiologists (National)

Mobile: 91 9811132221
E-mail: ved.kumra@yahoo.com

MESSAGE

It gives me immense pleasure to invite you all to the 11th National and 1st International Conference of the Indian College of Anaesthesiologists (ICACON) 2019, being organized by the Department of Anaesthesiology, Pain & Perioperative Medicine, Sir Ganga Ram Hospital, New Delhi from 5th September 2019 to 8th September 2019.

The theme of the conference “Evidence Based Medicine to Patient Outcome” itself suggests a persistent endeavor to improve the standard of practice of anaesthesia across the country. The active participation of eminent national and international faculty will provide a platform to share and exchange their vast collective experience that will ensure the highest standard of patient healthcare.

The Indian College of Anaesthesiologists extends best wishes to all the delegates and wishes success of the conference while providing warm hospitality in the capital city of India.

With best wishes

DR. V.P. KUMRA
Patron, ICACON2019

Secretariat: Indian College of Anaesthesiologists
190, MCD, Gautam Nagar, New Delhi - 110049
No.104/Cof/2019       27.08.2019

From
Dr B Radhakrishnan
President, ICA

Respected Colleagues,

Indian College of Anaesthesiologists (ICA) proudly welcome you all to our first international and 12th annual meeting to be conducted at Hotel Le Meridien, New Delhi on 05-08 September 2019.

You all are welcome to our educational venture. This probably will be one of the best academic meet of current times and organizers are sketching it out as the best of anaesthesia education programmes in India. We plan to make this an yearly event and as far possible as the best in India, suiting anaesthesia students, practitioners, faculty and researchers.

As you all know, Indian College of Anaesthesiologists is an academic trust, functioning as not for profit organization, aiming at instituting uniform anaesthesia education and equitable anaesthesia practice whole over country matching international standards. The college is in the 12th year of formation, progressing well through our education programmes, publications on current literature, awareness creation on needed protocols, public education on resuscitation, charitable work to community, participating in execution of social responsibility and above all academic enrichment.

Links are being established with overseas colleges on examination and overseas exposure for our youngsters to gain more skill.

College wish you all bright career ahead, peaceful co existence with our fellow citizens and meaningful life ahead.

With warm regards,

Dr.B. Radhakrishnan
President ICA
MESSAGE

Greetings from all of us in the Organising Committee of ICACON 2019.

It is a proud moment for all of us to be welcoming all the delegates to the 11th National and 1st International Conference of the Indian College of Anaesthesiologists, ICACON 2019 scheduled from 5th to 8th September, 2019 at New Delhi, the Capital of India. The conference is being hosted by the Department of Anaesthesiology, Pain and Perioperative Medicine, Sir Ganga Ram Hospital, New Delhi.

The Indian College of Anaesthesiologists was established in 2008 with the aim of achieving uniform standards in academic activities and safety culture across India and to be at par with similar institutions in the developed world.

The ICACON 2019 is of great importance and value for the presenters and listeners alike for both teachers and postgraduates. This is going to be the platform of learning and empowering oneself and others through the medium of workshops, didactic lectures, ‘meet the experts’ over breakfast, panel discussions and no doubt by cornering your favourite speaker during lunch or tea. The ICACON2019 is also showcasing an exhibition where the latest technology from the field of Anaesthesiology will be on display.

We promise you excellent academic interactions with a host of eminent international and national faculty and we hope you make this conference a great success.

Looking forward to meeting you all at the ICACON2019.

Prof. (Dr.) Jayashree Sood
Organising Chairperson ICACON2019
CEO, ICA
MESSAGE

Greetings to all of you attending the ICACON 2019, the 11th national conference of the Indian College of Anaesthesiologists being hosted by the Department of Anaesthesiology, Pain & Perioperative Medicine, Sir Ganga Ram Hospital, Rajender Nagar, New Delhi. What is unique about this conference is that it is the 1st international conference.

We have organized six workshops at different venues on the 5th of September 2019. The participants are spoilt for choice: from simulation and communication skills to perioperative ultrasound interventions, research methodology among others. The workshops would include lectures and hands-on practice for the participants. So this is a great chance to hone your skills or learn new ones.

Aside from workshops the conference offers a smorgasbord of the many facets of anaesthesia: lectures, panel discussions and topics as diverse as fluid administration, artificial intelligence and physician burnout, and of course, what the postgraduates love, the quiz. Our speakers include anaesthesiologists from India and abroad.

Wishing you a wonderful experience and enjoyable stay.

DR. BIMLA SHARMA
Organising Secretary
ICACON2019
MESSAGE

Dear Delegates & Colleagues,

It is a matter of great privilege to welcome all the delegates, faculty and guests to the 11th National and 1st International Conference of the Indian College of Anaesthesiologists (ICACON 2019) to be held at Hotel Le Meridien, New Delhi from 5th to 8th September 2019.

The Indian College of Anaesthesiologists (ICA) aims to achieve uniform standards in academic activities, ensure quality and safe anaesthesia practices. Various conferences have been organised in the past which have been a great success. This is the first endeavor to involve international experts and take the conference to a higher platform. The conference focuses on ‘Evidence Based Medicine to Patient Outcomes’.

We have tried to put all our efforts and expertise into designing a programme which will help specialists and students alike and give them ample opportunities to keep abreast of recent technological and medical advancements. There are six pre-conference workshops on 5th September to enhance the practical knowledge and skills of both experienced and trainee anaesthesiologists. The CME from 6th to 8th September has crisp, to the point, informative talks from national and international experts in different fields of anaesthesiology.

The organisation of such a huge conference is always a challenge which, as co-organising secretary, I have been able to take on because of the support that I had from the organising team, my senior and junior colleagues at the Department of Anaesthesiology, Pain and Perioperative Medicine at the Sir Ganga Ram Hospital and members of the ICA. Our endeavor has been to put together scientific material of clinical relevance that you will find useful in your practice.

I sincerely hope your stay in Delhi will be comfortable, the sessions stimulating and hope you return home with fond memories.

[Signature]

Dr. Anjelena Kumar Gupta
Co-Organising Secretary
ICACON2019
Dear friends,

Indian College of Anaesthesia has involved itself in enhancing medical education to all.

It is organizing regular conferences, workshops and CME’s for the same purpose. I am happy to be associated with and involved in organizing this International Conference in New Delhi.

All this endeavor may lead to better informed and knowledgeable Anaesthesiologist which may help mankind at large.

Medical knowledge and information is increasing day by day by leaps and bounds, and it is not possible for anyone to go through all this information. Such conferences help in individual to keep with abreast with latest information.

As a scientific committee chairman I have tried my level best to include all the relevant information and current topics which will update the delegates and lead to improvement in patient care.

I am sure the conference will be a great scientific extravaganza.

I wish the conference a great success.

Dr. Anil Kumar Jain
Chairman, scientific committee
A very warm welcome to all the delegates attending this conference, being the 1st International & 11th National Conference of Indian College of Anaesthesiologists.

The Indian College Anaesthesiologist the is engaged in the process of providing uniform standard of training and anaesthesia practices all over the country. We have a number of international faculty participating in this meeting which will provide a broader outlook of the anaesthesia practices and standards all over the world.

There are a large number of panel discussions on important clinical and administrative issues. Medical practices have changed vastly over the years and the medical fraternity has been constantly trying to stay in touch with the latest available modalities of medical care. Similarly the expectations of the patients and their relatives are also according to the best available medical care in the world. Delivering high standard of care and meeting all the expectations of doctors, patients and the community is a challenging task.

I hope this meeting will provide a lot of useful information and stimulate thought provoking discussions leading to improved standard of care all around.

Wishing you a pleasant and enjoyable stay in Delhi.

Dr. Vijay Vohm
Chairman, Scientific Committee
ICACON 2019- Organizing Committee

PATRONS

Dr. DS Rana  
Dr. VP Kumra  
Dr M Mittal  
Dr B Radhakrishnan

ORGANISING CHAIRPERSON

Dr. J Sood

CO- ORGANISING CHAIRPERSON

Dr. Pradeep Jain

ORGANISING SECRETARY

Dr. Bimla Sharma

CO-ORGANISING SECRETARY

Dr. Anjeleena K Gupta

Treasurer

Dr. Shikha
Department of Anaesthesiology, Pain and Perioperative Medicine

Sir Ganga Ram Hospital, New Delhi
ICACON 2019
11th National
&
1st International Conference
of the
Indian College of Anaesthesiologists (ICA)

Theme:
“Evidence Based Medicine to Patient Outcomes”

6th - 8th September, 2019
Le Meridien, New Delhi, India

Programme Book

Conference Secretariat
Dr. Bimla Sharma
Organising Secretary
Dr. Anjeleena Kumar Gupta
Co-Organising Secretary
Department of Anaesthesiology, Pain and Perioperative Medicine,
5th Floor, SSR Block, Sir Ganga Ram Hospital, Rajinder Nagar, New Delhi 110060
E-mail: icacon2019sgrh@gmail.com

Conference Manager:
M: +91 9319950044
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>7:15 AM</td>
<td>Registration</td>
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<td>7:45-8:00 AM</td>
<td>Flag Hoisting</td>
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<tr>
<td>8:00-8:30 AM</td>
<td><strong>Plenary Session</strong></td>
<td>Dr. Chandralekha, Dr. Manorama Mittal, Dr. Sarla Sindh</td>
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<td></td>
<td><em>Cardiac Anaesthesia</em></td>
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<tr>
<td>8:00-8:30 AM</td>
<td>Three decades of capnography - Where we are?</td>
<td>Dr. Bhavani Shankar Kodali</td>
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<tr>
<td>8:30-8:50 AM</td>
<td>Perioperative management of patients with left ventricular assist devices undergoing non-cardiac surgery</td>
<td>Dr. Harish R</td>
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<tr>
<td>8:50-9:10 AM</td>
<td>Management of patients with IHD &amp; perioperative myocardial protection</td>
<td>Dr. Anil Karlekar, Dr. Rajiv Juneja, Dr. Manjula Sarkar</td>
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<td>9:10-9:30 AM</td>
<td>Myocardial diastolic dysfunction</td>
<td>Dr. Amarja Nagra</td>
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<td>9:30-9:45 AM</td>
<td>Discussion</td>
<td>Dr. Usha Kiran</td>
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<tr>
<td>9:45-10:25 AM</td>
<td><strong>Panel Discussion</strong></td>
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<td>Periaticl patient with cardiac murmur (innocent/ Pathological) presenting for surgery</td>
<td>Moderator: Dr. Reena Joshi</td>
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<td>Panelists:</td>
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<td></td>
<td>Dr. Deepak Tempe</td>
<td>Dr. G D Puri</td>
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<td>Dr. Arun Maheshwari</td>
<td>Dr. Muralidhar Kanchi</td>
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<td>Dr. Minati Choudhury</td>
<td>Dr. Rajashree Agaskar</td>
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<tr>
<td>10:25 - 10:45 AM</td>
<td>Technology in anaesthesia</td>
<td>Moderator: Dr. G D Puri</td>
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<tr>
<td>10:45-11:05 AM</td>
<td>Tea</td>
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<tr>
<td>11:00-11:25 AM</td>
<td><strong>Thoracic Anaesthesia</strong></td>
<td>Dr. Victor Davila, Dr. Savita Babbar, Dr. Bimla Sharma</td>
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<td></td>
<td>Minimizing perioperative lung injury</td>
<td>Dr. Namrata Ranganath</td>
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<tr>
<td>11:25-11:45 AM</td>
<td>Advanced diagnostic and therapeutic bronchoscopy in non operating room anaesthesia (NOBA)</td>
<td>Dr. Basem Abdelmalak</td>
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<tr>
<td>11:45-12:05 PM</td>
<td>Anaesthesia for tracheal reconstruction</td>
<td>Dr. Shikha Sharma</td>
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<tr>
<td>12:00-12:20 PM</td>
<td>Discussion</td>
<td>Moderator: Dr. Anjan Trikha</td>
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<td>Panelists:</td>
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<td>Dr. Arvind Kumar</td>
<td>Dr. Dr. Raj Sahajirandana</td>
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<td>Dr. Sangeeta Khanna</td>
<td>Dr. Mohindra Singh Baansal</td>
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<td>Dr. Amit Kumar</td>
<td>Dr. Anil Karlekar, Dr. Rajiv Juneja, Dr. Manjula Sarkar</td>
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1:20-2:00 PM  | Lunch                                                                  |                                     |                                                |
## Symposium: Game Changing Innovations in Anaesthesia

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
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<tbody>
<tr>
<td>2:00-2:20 PM</td>
<td>Expanding role of ECMO</td>
<td>Dr. Raminder Sehgol, Dr. Deepak Malviya, Dr. Debabrata Banik</td>
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<tr>
<td>2:20-2:40 PM</td>
<td>Difficult airway management – Futuristic outlook</td>
<td>Dr. Manjula Sarkar</td>
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<td>2:40 - 2:50 PM</td>
<td>Discussion</td>
<td>Dr. Kapil Chaudhary</td>
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**Anaesthesia Digression**

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<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>2:50 - 3:05 PM</td>
<td>Physician burnout</td>
<td>Dr. Chand Sahai, Dr. S.P. Chittora, Dr. Rajiv Gupta</td>
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<tr>
<td>3:05 - 3:20 PM</td>
<td>Artificial intelligence and intelligence augmentation – In anaesthesia practice</td>
<td>Dr. Miodrag Milenovic</td>
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<td>3:20 - 3:30 PM</td>
<td>Discussion</td>
<td>Dr. Rashmi Gatta</td>
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**Research and Innovations in Anaesthesia**

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<tr>
<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
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<tbody>
<tr>
<td>3:30 - 3:50 PM</td>
<td>Role of genomics in anaesthesia</td>
<td>Dr. S S Harsoor, Dr. Rashmikant Dave, Dr. Umesh Deshmukh</td>
</tr>
<tr>
<td>3:50 - 4:10 PM</td>
<td>Low flow anaesthesia</td>
<td>Dr. Bimla Sharma</td>
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<tr>
<td>4:10 - 4:30 PM</td>
<td>Gastric sonography – Exciting revelations</td>
<td>Dr. Nandita Mehta</td>
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<td>4:30-4:45 PM</td>
<td>Discussion</td>
<td>Dr. Shashi Kiran</td>
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**6th September Roopa Bai Hall**

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<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
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<tr>
<td>8:00-8:30 AM</td>
<td>Only Morton Hall in Progress</td>
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### Anaesthesia for Organ Transplant

**Chairpersons**

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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30-8:50 AM</td>
<td>Advances in solid organ transplantation</td>
<td>Dr. Anil Jain, Dr. Shashank Pandey, Dr. G V Prem</td>
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<tr>
<td>8:50-9:10 AM</td>
<td>Optimizing brain dead donor – Recent protocols</td>
<td>Dr. Prerana Shah</td>
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<td>9:10-9:30 AM</td>
<td>Normothermic machine perfusion for organ preservation</td>
<td>Dr. Komal Ray</td>
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<td>9:30-9:45 AM</td>
<td>Discussion</td>
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**Panel Discussion**

Legal issues in organ donation and transplantation

**Moderator:** Dr. Vijay Vohra

**Panelists:**
- Dr. Vasanthi Ramesh
- Dr. Anil Kumar
- Dr. Harsh Jauhari
- Dr. (Brig.) Satendra Katoh
- Dr. Sanjeev Aneja
- Dr. Harsh Sapra

**Time**
- 9:45 - 10:45 AM: Tea
# Intensive Care Unit

**Chairpersons**: Dr. Suresh Singhal, Dr. Pratibha Jain Shah, Dr. Pavan Gurha

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>11:05-11:25 AM</td>
<td>Acute kidney injury in an ICU: Diagnosis, prevention &amp; management</td>
<td>Dr. Rakesh Pandey</td>
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<tr>
<td>11:25-11:45 AM</td>
<td>Extracorporeal support for sepsis- Beyond CRRT</td>
<td>Dr. Ranajit Chatterjee</td>
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<tr>
<td>11:45-12:05 PM</td>
<td>ARDS – Where are we?</td>
<td>Dr. Sumit Ray</td>
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<tr>
<td>12:05-12:20 PM</td>
<td>Discussion</td>
<td>Moderator: Dr. B.K. Rao</td>
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<td></td>
<td><strong>Panel Discussion</strong></td>
<td>Panelists:</td>
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<td>Antimicrobial stewardship program: Nuts and bolts</td>
<td>Dr. Kamini Walla</td>
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<td>Dr. Vijay Arora</td>
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<td>Dr. Chand Wattal</td>
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<td>Dr. Pradeep Kumar Verma</td>
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<td>Dr. Prakash Shastri</td>
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<td>Dr. Vivek Nangia</td>
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<td>1:20-1:40 PM</td>
<td>Lunch</td>
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# Perioperative Care

**Chairpersons**: Dr. Geeta Ashwal, Dr. Shalha Haleem, Dr. Savita Saini

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<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>2:00-2:20 PM</td>
<td>Optimizing preoperative anemia to improve patient outcome</td>
<td>Dr. Subrahmanyam Maddirala</td>
</tr>
<tr>
<td>2:20-2:40 PM</td>
<td>Surgical smoke: the potential hazards to OR personnel</td>
<td>Dr. S.K. Malhotra</td>
</tr>
<tr>
<td>2:40-3:00 PM</td>
<td>Haemodynamic coherence in shock</td>
<td>Dr. Suraphong Lorsomrada</td>
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<td>3:00-3:20 PM</td>
<td>Discussion</td>
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# Palliative Care

**Chairpersons**: Dr. Stanely Macaden, Dr. Anu Kapur, Dr. Naresh Dua

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>3:15-3:35 PM</td>
<td>Early integrated palliative care improves patient outcome</td>
<td>Dr. Sushma Bhatnagar</td>
</tr>
<tr>
<td>3:35-3:55 PM</td>
<td>End of life care</td>
<td>Dr. M.R. Rajagopal</td>
</tr>
<tr>
<td>3:55-4:45 PM</td>
<td><strong>Panel Discussion</strong></td>
<td>Moderator: Dr. Rajesh Garg</td>
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<td></td>
<td>Palliative care in advanced chronic diseases</td>
<td>Panelists:</td>
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<td>Dr. M.R. Rajagopal</td>
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<td>Dr. Stanley Macaden</td>
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<td>Dr. Sushma Bhatnagar</td>
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<td>Dr. Atul Kakar</td>
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<td>Dr. Abhijit Kantilal Dam</td>
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<td>Dr. Nishkarsh Gupta</td>
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<td>4:45-5:00 PM</td>
<td>Tea</td>
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</tbody>
</table>

**Chairpersons**: Dr. B. Radhakrishnan, Dr. V P Kumra

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<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>5:00-5:45 PM</td>
<td>Manorma Mittal oration</td>
<td>Dr. Sunila Sharma</td>
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<td>Time</td>
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<tr>
<td>8:40-10:40 AM</td>
<td>Oral Paper Presentation</td>
<td>Judges: Dr. Poonam Bhadaria, Dr. Manoj Kamal</td>
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<tr>
<td>11:00-12:00 PM</td>
<td>Preliminary Quiz Round</td>
<td>Quiz Master: Dr. Prashant Agarwal</td>
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<tr>
<td>12:15-1:20 PM</td>
<td>Executive Meeting of Renal Transplant Chapter</td>
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<tr>
<td>1:20-2:00 PM</td>
<td>Lunch</td>
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<td>2:00-4:00 PM</td>
<td>Poster Presentation</td>
<td>Screen I: Dr. S Parthasarthy; Screen II: Dr. R K Agarwal; Screen III: Dr. Neeta Taneja; Screen IV: Dr. Bharti Wadhwa; Screen V: Dr. Poonam Mehta; Screen VI: Dr. Geeta Bhandari; Screen VII: Dr. Nivedita Pani</td>
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<td>Judges: Dr. Maitree Pandey; Dr. Vijay Rokna; Dr. Naresh Jain; Dr. Ananta Sahni; Dr. Subrat Dhar; Dr. Pawan Nayar; Dr. Sonia Wadhawan</td>
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<td>4:00-4:45 PM</td>
<td>Best Poster Presentation</td>
<td>Judges: Dr. Baljit Singh, Dr. Rakesh Sawans, Dr. Murisha Agarwal</td>
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</table>
### Meet the Experts over Breakfast

**Roopa Bai Hall**

1. Education in Anaesthesia  
   - Dr. Miodrag Milenovic  
   - Dr. Rajeshwari Subramaniam  
   - Dr. Debaorati Banik

2. Ambulatory Anaesthesia  
   - Dr. Kumar Belani  
   - Dr. Roberto Blanco  
   - Dr. Bimla Sharma

**Mallampati Hall**

1. Monitoring in Anaesthesia  
   - Dr. Victor Davila  
   - Dr. Suiphong Lorsomradee  
   - Dr. Vijay Vohra

2. Airway Management  
   - Dr. Raman Madan  
   - Dr. Munisha Agarwal  
   - Dr. Neera G Kumar  
   - Dr. Sujata Chaudhary

### 7th September Morton Hall

**Planetary Session**

**Chairpersons**
- Dr. Kannika Krishnan, Dr. K R N Tagore, Dr. Aruna Jain, Dr. Surinder Mohan Sharma

**9:00 - 9:30 AM**
- Perioperative care - Current concepts  
  - Dr. Kumar Belani

**Neuroanaesthesia**

**Chairpersons**
- Dr. Mary Abraham, Dr. Rita Pal, Dr. Rachna Bhutani

**9:30 - 9:50 AM**
- Brain and spinal cord protection from perioperative ischaemia injury - Does current evidence support improved outcome  
  - Dr. Vasu Chadha

**9:50 - 10:10 AM**
- Awake craniotomy – Widening frontiers

**10:10 - 10:30 AM**
- Fast-track neuroanaesthesia  
  - Dr. Monica Kohli  
  - Dr. Joseph Monteiro

**10:30 - 10:45 AM**
- Discussion

**10:45 - 11:15 AM**
- Tea

**Paediatric Anaesthesia**

**Chairpersons**
- Dr. Anita Malik, Dr. Deepanjali Pant, Dr. Manish Gupt

**11:15 - 11:35 AM**
- Too small, too big – does it really matter?  
  - Dr. Rakesh Goyal Kumar

**11:35 - 11:55 AM**
- Neurocognitive impact of anaesthesia in children  
  - Dr. Bharti Wadhwa

**11:55 - 12:15 PM**
- Acute postoperative pain in children: Controversies and dilemmas  
  - Dr. Archana Koul
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairpersons</th>
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<tr>
<td>12:15-12:30 PM</td>
<td>Discussion</td>
<td>Dr. B. Radhakrishnan, Dr V P Kumra</td>
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<td>12:30-1:15 PM</td>
<td>Dr. BVR Shastry Oration 2019</td>
<td>Dr. Jayashree Sood</td>
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<td>1:15-2:00 PM</td>
<td>Lunch</td>
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<td><strong>Challenging Cases</strong></td>
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<td>Dr. C.K Duo, Dr. Y K Butra, Dr. Rashmi Jain</td>
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<td>2:00-2:20 PM</td>
<td>Wilm's tumour with IVC thrombus for nephrectomy</td>
<td>Dr. Vibhavari Naik</td>
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<td>2:20-2:40 PM</td>
<td>Cardiac arrest in OT</td>
<td>Dr. Nikki Sachanwal</td>
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<td>2:40-3:00 PM</td>
<td>Patient with ischaemic heart disease, chronic kidney disease with acute limb ischaemia for embolectomy</td>
<td>Dr. Sukanya Mitra</td>
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<td>3:00-3:15 PM</td>
<td>Discussion</td>
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<td>Dr. Pramila Bhalla, Dr. Dipasri Bhattacharya, Dr. Archna Matthias</td>
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<td>3:15-3:45 PM</td>
<td>Endotracheal tube vs. Supraglottic devices for laparoscopic surgery</td>
<td>Dr. Asha Tyagi</td>
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<td>Dr. Sonia Wadhawan</td>
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<td>Dr. Nitin Sethi</td>
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<td>Dr. Akilandeswari Manickam</td>
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<td>3:45-4:15 PM</td>
<td>BIS vs. MAC monitoring</td>
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<td>4:15-4:45 PM</td>
<td>Anatomically deformed spine for infraumbilical surgery- RA vs GA</td>
<td>Dr. Vandana Talwar</td>
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<td>Dr. Saihat Sen Gupta</td>
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<td>4:45-5:00 PM</td>
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<td>5:00-6:00 PM</td>
<td>Only Roopa Bai Hall in Progress</td>
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<td>6:00 Onwards</td>
<td>Cultural Programme followed by Dinner</td>
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<td>Time</td>
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<tr>
<td>9:00 - 9:30 AM</td>
<td>Plenary Session in Morton Hall</td>
<td>Dr. S M Basu, Dr. TVSP Murthy</td>
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<td>9:30 - 9:50 AM</td>
<td>Diabetic patient with autonomic dysfunction</td>
<td>Dr. Susheela Taxak</td>
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<tr>
<td>9:50 - 10:45 AM</td>
<td>Panel Discussion: Practical endocrine problems</td>
<td>Moderator: Dr. Rajeshwari Subramaniam</td>
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<td>Dr. TVSP Murthy</td>
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<td>Dr. M C Rajesh</td>
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<td>Dr. Vimi Rewari</td>
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<td>Dr. (Brig.) D K Shrivastava</td>
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<td>Dr. Geetanjali Telia Chilcoti</td>
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<td>10:45 - 11:15 AM</td>
<td>Tea</td>
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<tr>
<td>11:15 - 11:35 AM</td>
<td>Mass casualty incidents: Time to get prepared</td>
<td>Dr. Chinavi Sawhney</td>
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<td>11:35 - 11:55 AM</td>
<td>Damage control resuscitation</td>
<td>Dr. J Delavenkett</td>
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<td>11:55 - 12:15 PM</td>
<td>Polytrauma advances and perioperative management</td>
<td>Dr. S K Mathur</td>
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<tr>
<td>12:15 - 12:30 PM</td>
<td>Discussion</td>
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<td>12:30 - 1:15 PM</td>
<td>Dr. B V R Shastry Oration in Morton Hall</td>
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<td>1:15 - 2:00 PM</td>
<td>Lunch</td>
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<td>2:00 - 2:20 PM</td>
<td>Post TKR pain: Evolving trends</td>
<td>Dr. Manish Kohli</td>
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<td>2:20 - 2:40 PM</td>
<td>Role of lifestyle in low back pain: Nature or nurture</td>
<td>Dr. Mary Abraham</td>
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<td>2:40 - 3:00 PM</td>
<td>Dorsal root ganglion stimulation</td>
<td>Dr. GP Dureja</td>
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<td>Moderator</td>
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<td>3:00 - 3:15 PM</td>
<td>Discussion</td>
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<tr>
<td>3:15 - 4:15 PM</td>
<td>Panel Discussion</td>
<td>Moderator: Dr. Pradeep Jain</td>
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<td>Pain relief in high risk patients</td>
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<td>4:15 - 4:45 PM</td>
<td>Update on truncal blocks</td>
<td>Dr. Roberto Blanco</td>
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<td>4:45 - 5:00 PM</td>
<td>Tea</td>
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<td>5:00 - 6:00 PM</td>
<td>General Body Meeting</td>
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**7th September Mallampati Hall**

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<tbody>
<tr>
<td>9:40 - 11:40 AM</td>
<td>Oral Paper Presentation</td>
<td>Dr. Ramesinder Sehgal, Dr. Ranju Gandhi</td>
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<tr>
<td>11:40 - 1:40 PM</td>
<td>Oral Paper Presentation</td>
<td>Dr. Sujata Chaudhary, Dr. Neera G Kumar, Dr. Pratibha Panjari</td>
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<tr>
<td>1:30 - 2:00 PM</td>
<td>Lunch</td>
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<tr>
<td>2:00 - 4:00 PM</td>
<td>Oral Paper Presentation</td>
<td>Dr. Upen德拉 Gunj, Dr. Kapil Chaudhary</td>
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### 8th September, Sunday, Day 3

#### Meet the Experts over Breakfast

<table>
<thead>
<tr>
<th>Roopa Bai Hall</th>
<th>Mallampati Hall</th>
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<tr>
<td><strong>1. Education in Anaesthesia</strong></td>
<td><strong>1. Pain Management</strong></td>
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<tr>
<td>Dr. B Radhakrishnan</td>
<td>Dr. G.P. Dureja</td>
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<td>Dr. Muralidhar Kanchi</td>
<td>Dr. Pradeep Jain</td>
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<td>Dr. Pankaj Kundra</td>
<td>Dr. Ashok Kumar Saxena</td>
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<td><strong>2. Obstetric Anaesthesia</strong></td>
<td><strong>2. ERAS</strong></td>
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<td>Dr. Bhavani Shankar Kodali</td>
<td>Dr. Jayshree Sood</td>
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<td>Dr. Kirti Nath Saxena</td>
<td>Dr. Basem Abdelmalak</td>
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<tr>
<td>Dr. Sunil T Pandya</td>
<td>Dr. Aparna Sinha</td>
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### 8th September Morton Hall

#### Plenary Session

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<tbody>
<tr>
<td>9:00 - 9:30 AM</td>
<td>Evidence based clinical practice: Problems &amp; Limitations</td>
<td>Dr. Sarla Hooda, Dr. Kamal Fotedar, Dr. Vijay Langar</td>
<td>Dr. L.D. Mishra</td>
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<tr>
<td>9:30 - 9:50 AM</td>
<td>Ambulatory Anaesthesia</td>
<td>Dr. Madhu Gupta, Dr. RM Sharma, Dr. Lakshmi Jayaraman</td>
<td>Dr. Raju Kalidindi</td>
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<tr>
<td>9:50 - 10:10 AM</td>
<td>Expanding horizons and current guidelines in ambulatory surgery</td>
<td>Dr. Madhu Gupta, Dr. RM Sharma, Dr. Lakshmi Jayaraman</td>
<td>Dr. Raj Tobin</td>
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<tr>
<td>10:10 - 10:30 AM</td>
<td>Role of regional anaesthesia</td>
<td>Dr. Madhu Gupta, Dr. RM Sharma, Dr. Lakshmi Jayaraman</td>
<td>Dr. Victor Davila</td>
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<tr>
<td>10:30 - 10:45 AM</td>
<td>Updates in the management of postoperative nausea and vomiting</td>
<td>Dr. Madhu Gupta, Dr. RM Sharma, Dr. Lakshmi Jayaraman</td>
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<tr>
<td>10:45 - 11:05 AM</td>
<td>Discussion</td>
<td>Dr. Madhu Gupta, Dr. RM Sharma, Dr. Lakshmi Jayaraman</td>
<td>Tea</td>
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<tr>
<td>11:05 - 11:25 AM</td>
<td>Clinical Governance</td>
<td>Dr. Sunil Katyal, Dr. Rashmi Datta</td>
<td>Global surgical outcome differences related to education and manpower</td>
</tr>
<tr>
<td>11:25 - 11:35 AM</td>
<td>Overview - Clinical governance</td>
<td>Dr. Sunil Katyal, Dr. Rashmi Datta</td>
<td>Overview - Clinical governance</td>
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</table>
| 11:35 - 12:20 PM | Panel Discussion                                                        | Dr. Sunil Katyal, Dr. Rashmi Datta     | Panel Discussion - Clinical governance – Where are we? | **Moderator:** Dr. Dipankar Bose |**Panelists:**
<p>|                  |                                                                         |                                       | Dr. B Radhakrishnan                          |                                |
|                  |                                                                         |                                       | Dr. Kusum Verma                              |                                |
|                  |                                                                         |                                       | Dr. Deepak Tempe                             |                                |
|                  |                                                                         |                                       | Dr. Roberto Blanco                           |                                |
|                  |                                                                         |                                       | Dr. Shaveta Dewan                            |                                |</p>
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<th>Time</th>
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<tbody>
<tr>
<td>12:20 - 12:40 PM</td>
<td>Best Oral Paper Presentation</td>
<td>Judges: Dr. C.K. Dua, Dr. Ashok Kr. Saxena</td>
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<tr>
<td>12:40 - 1:20 PM</td>
<td>Quiz</td>
<td>Quiz Masters: Dr. Pradeep Jain, Prashant Aanwal</td>
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<td>1:20 - 2:00 PM</td>
<td>Lunch</td>
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**Special Session - I**

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<tr>
<th>Time</th>
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<th>Speaker</th>
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<tbody>
<tr>
<td>2:00 - 2:15 PM</td>
<td>Pre operative pharmacological optimisation</td>
<td>Dr. Anutam Rai</td>
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<tr>
<td>2:15 - 2:30 PM</td>
<td>Gas loss and its importance in conduct of GA</td>
<td>Dr. Sevita Sairi</td>
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<tr>
<td>2:30 - 2:45 PM</td>
<td>Basic statistics in relevance to routine theatre procedures</td>
<td>Dr. Parul Jindal</td>
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<tr>
<td>2:45 - 3:00 PM</td>
<td>Discussion</td>
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**Special Session-II**

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<th>Time</th>
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<tbody>
<tr>
<td>3:00 - 3:15 PM</td>
<td>Fluid administration in paediatric anaesthesia practice - elective / emergency</td>
<td>Dr. Senthil Kumar K M</td>
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<tr>
<td>3:15 - 3:30 PM</td>
<td>Adverse incidents in OT – How to handle</td>
<td>Dr. Meenakshi Sundaram</td>
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<tr>
<td>3:30 - 3:45 PM</td>
<td>Obstructive jaundice and laparoscopy</td>
<td>Dr. Uma Hariraran</td>
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<tr>
<td>3:45 - 4:00 PM</td>
<td>Discussion</td>
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<tr>
<td>4:00 - 5:00 PM</td>
<td>Ethics in Anaesthesia</td>
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**Ethics in Anaesthesia**

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<th>Time</th>
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<tbody>
<tr>
<td>4:00 - 4:15 PM</td>
<td>Ethical approach to informed consent obtainment in anaesthesia</td>
<td>Dr. Savita Malhotra</td>
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<tr>
<td>4:15 - 4:30 PM</td>
<td>Ethical considerations in anaesthesia practices</td>
<td>Dr. Armitabh Dutta</td>
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<tr>
<td>4:30 - 4:45 PM</td>
<td>Family and friends approaching for medical opinion</td>
<td>Dr. Arun Mehra</td>
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<tr>
<td>4:45 - 5:00 PM</td>
<td>Discussion</td>
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<td>5:00 PM</td>
<td>Valedictory function and flag lowering</td>
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<tr>
<td>9:00 - 9:30 AM</td>
<td>Plenary Session in Morton Hall</td>
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<td><strong>Enhanced Recovery After Surgery</strong></td>
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<td><strong>Chairpersons</strong></td>
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<td>Dr. Jayshree Sood, Dr. Roshan Lal Garg</td>
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<td>9:30 - 9:45 AM</td>
<td>ERAS in colorectal surgery - What are the lessons learnt?</td>
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<td><strong>Moderator</strong>: Dr. Pankaj Kundra</td>
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<td><strong>Panelists</strong></td>
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<td>Dr. Umesh K. Valecha</td>
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<td>Dr. Komal Ray</td>
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<td>Dr. Neha Agrawal</td>
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<td>9:45 - 10:45 AM</td>
<td>Panel Discussion</td>
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<td>ERAS: Is it the final pathway to quality improvement and patient safety?</td>
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<tr>
<td>10:45 - 11:05 AM</td>
<td>Tea</td>
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<td><strong>Obstetric Anaesthesia</strong></td>
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<td><strong>Chairpersons</strong></td>
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<td>Dr. Pushkar Ranjan, Dr. Anju Grewal, Dr. Anjali Gera</td>
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<td>11:05 - 11:25 AM</td>
<td>Labour analgesia – What’s new?</td>
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<td>Dr. Bhavani Shankar Kodali</td>
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<td>11:25 - 11:45 AM</td>
<td>Evidence based approach to PDPH</td>
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<td>Dr. Indrani Hemant Kumar Chincholi</td>
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<td>11:45 - 12:05 PM</td>
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<td>Anaesthesia in high risk pregnancy for LCS</td>
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<td><strong>Moderator</strong>: Dr. G L Ravindra</td>
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<td>Dr. Sameesh P J</td>
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Introduction: Chloroprocaine is an ester type local anaesthetic agent. The onset of action of chloroprocaine is rapid (6-12 minutes). The duration of anaesthesia depending on the amount used and route of administration, is up to 100 minutes. It is favourable for short duration procedures. Chloroprocaine is rapidly metabolised in plasma by hydrolysis of the ester linkage by pseudocholinesterase. Spinal anaesthesia is the commonly used technique for infraumblical surgeries as it provides faster and effective onset of sensory and motor block. This study aims to study the efficacy of two different doses of chloroprocaine for subarachnoid block in infraumblical surgeries.

Methods: A prospective comparative randomized controlled study on a total of 100 patients undergoing infraumblical surgeries. In this study, patients were divided into two groups. Group-A (n=50) received a dose of 5ml (50mg) chloroprocaine and Group-B (n=50) received a dose of 4ml (40mg) of chloroprocaine.

Parameters observed were:
- Time to onset of sensory block using pinprick sensation
- Time to onset of motor block assessed using modified Bromage scale
- Time to regression to two dermatomes with respect to the maximum level of sensory block
- Time to first spontaneous urine voiding
- Time to first dose of post-operative analgesia
- Time to unassisted ambulation.

Results: There was no statistically significant difference in systolic blood pressure, diastolic blood pressure and mean arterial pressure at any point of time between the groups. The difference in heart rate of all the patients was not statistically significant at all the intervals post subarachnoid block (P > 0.05). The onset of sensory and motor block is similar in both group A (50 mg Chloroprocaine) and group B (40 mg Chloroprocaine) (P > 0.05). The time to regression to two dermatomes was earlier in group B (40 mg Chloroprocaine) showing that effect of 50mg Chloroprocaine lasts longer as compared to 40 mg Chloroprocaine (P < 0.05). The time to post-operative analgesia was lesser in group B (40mg Chloroprocaine) as the effect of 40 mg Chloroprocaine has a shorter duration of anaesthesia as compared to 50mg Chloroprocaine (P < 0.05). The time to unassisted ambulation and time to first spontaneous voiding was more with 50 mg Chloroprocaine than with 40 mg Chloroprocaine (P < 0.05). There was no statistically significant difference in incidence of adverse effects as bradycardia, shivering, hypotension, nausea, vomiting, requirement of general anaesthesia and urinary retention.

Conclusion: 1% Chloroprocaine is a safe and effective local anaesthetic drug in subarachnoid block in patients undergoing short duration infraumblical surgeries. The onset time for both doses is same but 50mg dose has a longer anaesthetic effect and is better as compared to 40 mg Chloroprocaine.

References:
A Prospective, Double Blind Study Comparing Intrathecal Hyperbaric Levobupivacaine With Plain Levobupivacaine In Infraumbilical Surgeries

Dr. Jasmine Kumar

Introduction
Spinal anaesthesia is an established technique for providing anaesthesia for infraumbilical surgeries. It requires smaller doses of local anaesthetic to produce intense sensory, motor and sympathetic blockade. Bupivacaine used for spinal anaesthesia is associated with cardiovascular and central nervous system toxicity. It exists in two isomeric forms, S (-) and R (+).

In 1972, Alberg demonstrated that S (-) enantiomer of bupivacaine is less toxic form than the R (+) enantiomer. Levobupivacaine, the S(-) enantiomer of bupivacaine, has the advantage of less cardiotoxicity in the event of accidental intravascular injection. Thus levobupivacaine has a better safety profile.

This study was planned to observe the level of sensory and motor blockade and offset of block achieved with plain levobupivacaine and hyperbaric levobupivacaine (made hyperbaric with added dextrose).

Material and Methodology
40 patients, aged 18-60 years, ASA grade I – III patients were divided into two groups. They received the following drugs after subarachnoid block:

Group H (n= 20) : 2.52 ml 0.5% levobupivacaine + 0.48 ml 50% dextrose
Group I (n= 20) : 2.52 ml 0.5% levobupivacaine + 0.48 ml 0.9% normal saline

Statistical Methods
P value less than 0.05 was taken to indicate statistical significance.

Result
The two groups were comparable with respect to age, gender, body weight and ASA grade. There was no significant difference in the haemodynamic parameters between the groups.

The mean onset of sensory block, motor block, height and time to reach maximum block (less time in H group) and two-segment regression of sensory block was faster in group H which was statistically significant.

Discussion
Comparison of same doses of hyperbaric and isobaric levobupivacaine with respect to sensory and motor blockade, onset time, height of maximum sensory block, two-segment regression of sensory block, motor block offset and haemodynamic parameters, demonstrated that hyperbaric levobupivacaine produced a more reliable block as compared to its isobaric counterpart. Haemodynamic effects and adverse effects in both the groups were similar.

Conclusion
Hyperbaric levobupivacaine provides quick, profound and predictable motor blockade and increases block duration as compared to the isobaric form. Ability to provide rapid return of ambulatory function further adds to this advantage.

Bibliography
A Randomized Controlled Study of Analgesic Efficacy of Continuous Intravenous Esmolol Infusion in Patients Undergoing Laparoscopic Cholecystectomy Under General Anaesthesia

Dr Akshat Trivedi.

INTRODUCTION: The study is aimed to evaluate the analgesic efficacy of continuous intravenous Esmolol on intra-operative pain. The assessment was made by the requirement of analgesic and inhalational agents during intra-operative period and on post-operative pain, by Visual Analogue Score (VAS) / Verbal Rating Score (VRS) and requirement of rescue analgesic (injection Tramadol).

METHODS: It was a prospective randomized double blind controlled clinical study comprising of 60 patients divided into two groups:

Group E (30 patients): Received a loading dose of injection Esmolol 0.5 mg/kg in 10 ml isotonic saline just before induction of anaesthesia followed by intravenous infusion of Esmolol 0.05 mg/kg/min until extubation of the patient.

Group C (30 patients): received 10 ml of isotonic saline as a loading dose and thereafter continuous infusion of isotonic saline at the same rate, until the extubation of the patient. Intraoperative hemodynamic and requirement of injection fentanyl and isoflurane were recorded and post-operative VAS / VRS scores and need for injection tramadol as rescue analgesic were recorded. Incidence of post-operative nausea and vomiting and adverse effects of Esmolol (if any) were recorded.

RESULTS: Awaited

DISCUSSION: Awaited

CONCLUSION: Awaited
A Comparison of Intrathecal Bupivacaine and Levobupivacaine In Caesarean Section

Dr Anil Kumar

ABSTRACT

INTRODUCTION: Levobupivacaine is pure S (-) enantiomer of bupivacaine. It has differential effects on sensory and motor fibres at lower concentrations with less incidence of hypotension, bradycardia, nausea and vomiting as compared to bupivacaine. Present study was conducted to compare the effects of bupivacaine and levobupivacaine for patients undergoing caesarean section.

METHODS: Study was conducted in 100 females undergoing caesarean section. They were divided into group B and L receiving 2 ml of bupivacaine and levobupivacaine respectively. Groups were compared for sensory block (SB), motor block (MB), haemodynamic stability and complications.

RESULTS: Time to achieve SB (162.52 ± 80.55 seconds) and MB (160.76 ± 6.56 minutes) was prolonged with bupivacaine over levobupivacaine (SB 139.40 ± 49.79 seconds) (MB 131.48 ± 14.42 minutes). Better haemodynamic stability was seen with levobupivacaine as compared to bupivacaine with less incidence of hypotension and bradycardia.

DISCUSSION: Other studies and present study concluded that SB characteristics of both drugs were comparable but levobupivacaine had advantage of shorter duration of MB and less incidence of complications.

CONCLUSION: Levobupivacaine is nearly equally effective to bupivacaine to produce SB and MB with comparable onset time and better haemodynamic stability with lesser side effects.

REFERENCES

2. Babu et al. Intrathecal isobaric levobupivacaine 0.5% as an alternative for hyperbaric bupivacaine 0.5% for spinal anesthesia in elective Caesarean section- a randomized double-blind study. Int J Health Sci Res. 2016; 6:95-100.
**Introduction** Brachial plexus block is valuable and safe alternative to general anaesthesia for upper limb surgeries and day care surgeries. **Aim:** To compare supraclavicular, vertical infraclavicular and coracoid infraclavicular techniques for brachial plexus block using 0.5% ropivacaine under USG guidance based on: 1º **outcome** 1) Ease of performing the block / patient comfort. 2º **outcomes:** 1) Onset and duration of sensory and motor block 2) Degree of sensory and motor blockade 3) Duration of complete and effective analgesia 4) Quality of block and 5) Adverse effect / complications related to block.

**Methods.** We followed 90 patients of ASA I, II, and III posted for below mid-arm surgeries who were divided into 3 groups (n=30) based on the approach of brachial plexus block. (Group SC – Supraclavicular brachial plexus block, Group VI – Vertical infraclavicular brachial plexus block, Group CI – Coracoid infraclavicular brachial plexus block). These patients were kept on observation and interviewed with questionnaires post procedure and above listed aims were noted and analysed.

**Results**

**Discussion**
With limited previous studies in this area, results of this study can serve as a guide to best practices and a framework for anaesthesia for below midarm surgeries. In our study infraclavicular block causes less discomfort to the patient as positioning of painful arm is not required compared from supraclavicular technique in which arm must be adducted.

**Conclusion**
Coracoid infraclavicular approach is preferred for hand & forearm surgeries because of patient comfort & less complications.

**References**


Comparison of Analgesic Efficacy of Clonidine and Dexmedetomidine as Adjuncts to Lignocaine for Intravenous Regional Anaesthesia.

Dr. Meenal Jindal

INTRODUCTION - Clonidine and Dexmedetomidine decrease anaesthetic requirement and provide analgesia to patients. We designed this study to compare the effect of Dexmedetomidine and Clonidine when added to Lignocaine in intravenous regional anaesthesia (IVRA).

MATERIAL AND METHODS - Following approval from Institutional Ethical Research Committee, 60 ASA class I and II patients undergoing forearm and hand surgeries were randomly assigned to 2 groups. They received 40 ml of 0.5% Lignocaine and 1 mcg/kg Clonidine (Group LC, n = 30); or 1 mcg/kg Dexmedetomidine (Group LD, n = 30). Onset of Sensory and motor blockade and recovery time were noted. After the tourniquet deflation, pain and sedation values, time to first analgesic requirement and side effects were noted.

RESULTS - Shortened sensory and motor blockade onset times (6.67 min and 9.83 min respectively, P < 0.00010) and improved quality of anaesthesia (satisfaction score = 3, p < 0.05) were found in Dexmedetomidine group than Clonidine group (9.28 min sensory and 13.20 min motor blockade onset). Time to first analgesic requirement (360 ± 24.67, P < 0.0001) was significantly longer in Dexmedetomidine group after tourniquet release than Clonidine (270 ± 28.48, p < 0.0001)

CONCLUSION - We conclude that Dexmedetomidine significantly facilitates onset of sensory and motor blockade and prolongs duration of analgesia and more patient satisfaction as compared to clonidine.
To Evaluate the Efficacy of The OSTAP Block with Ropivacaine For Postoperative Analgesia in Laparoscopic Cholecystectomy

Dr Ashufta Rasool Qazi.

ABSTRACT
The aim of this study was to evaluate the analgesic efficacy of the Transversus Abdominis Plane block with ropivacaine in laparoscopic cholecystectomy.

METHODS - It was an observational study comprising of a total of seventy patients of ASA physical status I-II of both sexes, aged between 28 to 70 years, scheduled for laparoscopic cholecystectomy. Patients who received 20 ml of 0.2% ropivacaine injection bilaterally and conventional analgesia were labeled as Group A (with block n = 38): and who received only conventional analgesia were labeled as Group B (without block n = 32). All patients received a standard general anaesthesia regimen. The transversus abdominis plane block was achieved by an ultrasound-guided subcostal oblique approach after completion of surgery just before extubation. Immediately postoperatively, patients were transferred to the post anaesthetic care unit. The presence & severity of pain was assessed using Visual Analogue Scale, evaluation intervals being at 0 h, 2 h, 4 h, 6 h, 12 h, and 24 h.

RESULTS – The present study using USG-guided TAP block with 0.2% Ropivacaine after laparoscopic cholecystectomy was associated with reduction in VAS score at 0,2,4,6,12 and 24 hours and overall average VAS score, which was significantly low in Group A (2.3 vs. 4.7 P = 0.001). In the present study, the time to first request for analgesia ranged from 4 to 12 hours with a mean of 7.25 ± 1.20 hours in Group A, and 3-4 hours with a mean of 4.05 ± 80 hours in Group B and the statistical difference was significant among the study groups (p value 0.003). In the present study total tramadol consumption was also lowest in Group A (80 ± 30.2 mg) than Group B (170 ± 70.5). The statically difference was significant with P value < 0.05.

DISCUSSION – In recent years, TAP Block has demonstrated effectiveness in reducing postoperative pain when used as part of a multimodal analgesic regimen. TAP block has been used for various abdominal procedures other than laparoscopic cholecystectomy such as large bowel resection, open / laparoscopic appendectomy, total abdominal hysterectomy, open prostatectomy, abdominoplasty with or without flank liposuction, inguinal hernia and iliac crest bone graft.

CONCLUSION – The following conclusions were drawn:
• VAS was significantly reduced in group who received USG guided OSTAP block.
• Duration of analgesia was prolonged in the group who received OSTAP block.
• Total opioid consumption was reduced in the same group.
• No Side effects were found in both the groups.

REFERENCES:
Comparison of Postoperative Analgesia Provided by Multilevel Thoracic Paravertebral Block Using Bupivacaine (0.5%) Alone or With Clonidine in Breast Surgery: A Prospective Double-Blind Study.

Dr Tanuj Dave

ABSTRACT:
Objectives: Paravertebral block results in less postoperative pain, nausea and vomiting. The aim of our study was to compare the postoperative analgesia provided by multilevel thoracic paravertebral block (TPVB) of bupivacaine alone or with clonidine in various breast surgeries without axillary dissection.

Methods: The prospective study of 50 patients divided into 2 groups. Group B received TPVB using 0.5% bupivacaine 19 ml + 1 ml NS to make 20 ml solution; Group BC received TPVB using 0.5% bupivacaine 19ml + clonidine (1 µg/kg) + NS to make 20 ml solution, given 5 ml at each of four injection sites (T1, T3, T5, T7). Variables of efficacy [VAS up to 24 hrs, time for first rescue analgesic (whenever VAS ≥ 3) and amount of tramadol consumption in 24 hours] were noted. Sedation and duration of analgesia were also noted.

Results: Patient characteristics, vital parameters and anaesthetic techniques were comparable between the two groups. Duration of analgesia was significantly longer in group BC as compared to group B (p = 0.005). The VAS scores were significantly low in group BC at 8 and 12 postoperative hours. Patients in group BC were sedated postoperatively at 0 hour (at time of shifting), which was statistically significant when compared to group B.

Conclusion: We concluded that bupivacaine (0.5%) with clonidine (1 µg/kg) produces significantly longer duration of analgesia and less postoperative pain as compared to bupivacaine (0.5%) alone when used in thoracic paravertebral nerve block for breast surgeries.
Oral Gabapentin as Pre-emptive Analgesic Adjuvant for Postoperative Analgesia in Patients Undergoing Infraumblical Surgeries Under Subarachnoid Block

Dr Manesh Kumar Kumawat

**INTRODUCTION:** The primary aim of this study was to determine the role of oral gabapentin in prolonging the duration of analgesia in subarachnoid block with secondary aim of measurement of perioperative sedation score.

**METHOD:** It was a prospective randomized observational study in 60 patients, divided into two groups of 30 each. Group G was given 600 mg of oral Gabapentin and group P was given B complex orally 2 hours prior to surgery. Sedation score was noted every 2 hourly intraoperatively. Postoperative pain was monitored 2 hourly for the first 12 hours using numeric rating scale and time duration from subarachnoid block to first analgesic requirement was noted.

**RESULT:** On analysing the data, group G had prolonged duration of analgesia (410 ± 28 min) as compared to group P (190 ± 36 min). Sedation score was high in group G.

**DISCUSSION:** Statistically significant difference was found in duration of analgesia between group G and group. This proves that gabapentin prolongs the duration of analgesia in subarachnoid block and acts as an effective pre-emptive analgesic adjuvant.

**CONCLUSION:** Single dose of oral gabapentin given 2 hours prior to surgery prolongs the duration of analgesia, reduces the total analgesic requirement in post-operative period with good sedation.

**REFERENCES:**

Comparison of Clonidine and Fentanyl as Adjuvants to Hyperbaric Bupivacaine for Spinal Anaesthesia
In Patients Undergoing Transurethral Resection of Prostate: A Prospective Study

Dr. Pawan Kumar Gahlawat

Abstract:

Introduction: Spinal anaesthesia is widely used for urological procedures particularly in transurethral surgical procedures as it permits early recognition of symptoms caused by over hydration (TURP syndrome) and bladder perforation.

Methods: This study was done over a period of sixteen months in 60 patients (two groups of 30 each) in age group of 50 years and above who underwent transurethral resection of prostate (TURP) under spinal anaesthesia.

Group A: Patients received intrathecal Bupivacaine 2.2 ml with Clonidine 30 µg.
Group B: Patients received intrathecal Bupivacaine 2.2 ml with Fentanyl 20 µg.

The outcomes for sensory block were observed as time to achieve T10 level, highest level of sensory block and time to achieve it, time to two-segment regression of sensory block and regression to T12 level. The outcomes for motor block were observed as time to achieve maximum motor block and time to motor block regression to Bromage grade 0. The results was tabulated and statistically analyzed using SPSS (Statistical Package for Social Sciences) Software version 15.0, Chi-square test was used for qualitative data (sex, ASA grade), heart rate, mean blood pressure, was compared within the group against baseline values using paired t-test.

Results: Time to sensory regression to T12 level was found to be significantly (p = 0.0001) higher in Group A (120.33 ± 9.46) than Group B (104.33 ± 8.78). The total time of regression to Bromage 0 was significantly (p = 0.0001) higher in Group A (200.83 ± 17.71) compared to Group B (156.50 ± 13.78). The time of request of analgesia was significantly (p = 0.01) higher in Group A than Group B.

Conclusion: As an adjuvant to hyperbaric bupivacaine, clonidine (30 mcg) showed longer duration of sensory block and longer post-operative analgesia when compared to fentanyl (20mcg) in subarachnoid block for transurethral resection of prostate.
Comparison of 0.25% Ropivacaine For Intraperitoneal Instillation V/S Rectus Sheath Block for Postoperative Pain Relief Following Laparoscopic Cholecystectomy: A Prospective Study.

Dr Sudeshna Goswami

**Introduction:** Laparoscopic Cholecystectomy is not a pain-free procedure, with the pain being most intense on the day of surgery and on the following day. Various techniques for postoperative pain relief like intraperitoneal instillation of local anaesthetics and rectus sheath block may provide effective pain relief.

**Aim:** To compare the efficacy of pre-emptive administration of intraperitoneal instillation and rectus sheath block using ropivacaine for postoperative analgesia after laparoscopic cholecystectomy.

**Materials and Methods:** 75 selected patients were randomly assigned to three equal groups as Group R received bilateral RSB with 0.25 % ropivacaine 15 ml on either side; Group I, received intraperitoneal instillation of 0.25% ropivacaine 50 ml and Group C (Control group), received rescue analgesic on pain.

These were compared for postoperative analgesia in terms of Visual Analog Scale (0-10 cm), Prince Henry Hospital Pain Score (0-3), time to first dose of rescue analgesic (tramadol), total rescue analgesic consumption in 48 hours, patient satisfaction scores (1-7).

**Results:** Order of time to first rescue analgesic was Group R > Group I >Group C. Postoperative pain scores were significantly less in Group R and Group I as compared to Group C during first 6 hours. Order of postoperative analgesia effect was Group R > Group I > Group C. Patient Satisfaction Scores were: Group R (92%) v/s Group I (40%) v/s Group C (20%).

**Conclusion:** Pre-emptive administration of rectus sheath block or intraperitoneal instillation of 0.25% ropivacaine was found effective in providing better postoperative analgesia. Among these two techniques, rectus sheath block was found to be superior over intraperitoneal instillation.
Perivascular Nerve Group (PENG) Block Vs Fascia Iliaca Block in Patients with Hip Osteoarthritis Undergoing Total Hip Arthroplasty

Dr. Swayam Sahu

Introduction:
9.6% of men and 18.0% of women aged over 60 years have symptomatic osteoarthritis. Total Hip Arthroplasty is the definitive treatment. Effective perioperative analgesia that minimizes the need for opioids is essential in this geriatric patient population.

Regional analgesic techniques, because of their opioid-sparing effects and reduction in opioid-related adverse effects, are popular analgesic strategies; comprising of 3-in-1 block, femoral nerve (FN) block, and fascia iliaca block (FIB). However, these blocks only provide moderate analgesia, and evidence suggests that the obturator nerve (ON) gets spared.

Short et al, in a recent study confirmed the innervation of the anterior hip capsule by femoral nerve, obturator nerve, and accessory obturator nerves (AON). Laura Girón-Arango et al developed a novel ultrasound-guided approach for blockade of these articular branches to the hip, the PENG (PERcapsular Nerve Group) block.

Methods:
We conducted a single-centre, double-blinded, prospective observational study comparing the efficacy of postoperative analgesia provided by PENG Block vs fascia iliaca block in 20 patients with osteoarthritis hip joint, undergoing total hip arthroplasty. The outcome measured was Pain Score at 6, 12, and 24 hours postoperatively and the total morphine consumption in 24 hours.

Results:
Patients in PENG block group had lower pain scores, and lower total morphine consumption in 24 hours than patients in fascia iliaca group.

Discussion:
The results show that PENG Block is superior to fascia iliaca block for postoperative analgesia following hip arthroplasty.

Conclusion:
We conclude that PENG block offers better postoperative analgesia than fascia iliaca block in patients undergoing total hip arthroplasty.

References:
Oral Presentations Abstracts Session 2

Comparison of Haemodynamic Parameters During Intubation Using Macintosh Laryngoscope, McCoy Laryngoscope And C-MAC Video Laryngoscope in Children

Dr. Akanksha Gupta

**Introduction:** We compared haemodynamic response using Macintosh laryngoscope, McCoy laryngoscope and C-MAC Video laryngoscope in children between 5-12 years with normal airway undergoing elective surgery under general anaesthesia.

**Methods:** 120 children of ASA grade 1 and 2, aged 5-12 years of either sex were randomized into 3 groups (Group ML, McL, VL)

All children were pre-medicated with Triclofos sodium, according to body weight 2 hours before induction. After securing the intravenous drip, Ringer lactate infusion was started at 4 ml/kg and Inj. glycopyrrolate 0.2mg was given pre-operatively.

In operation theater, monitors were attached, and baseline parameter were recorded after stabilization period of 3 minutes. Preoxygenation was done with 100% O₂ for 5 minutes using Ayer's T piece / Mapleson D circuit according to age and weight of the patient. Inj. Fentanyl 1 µg/Kg, Inj. Propofol 1.5-2.5 mg/Kg IV was given until loss of verbal command and maintained with 50 % O₂ +50 % N₂O and Isoflurane. Inj. Vecuronium 0.1mg/Kg was given and manually ventilated for 3 minutes.

Laryngoscopy was done by Macintosh, McCoy and C-MAC Video laryngoscope of size 2 blade. In all three groups after visualization of vocal cords, endotracheal tube with stylet of appropriate size was introduced into the trachea followed by cuff inflation. Heart rate, systolic BP, diastolic BP, MAP was noted at baseline at intubation and post intubation 1, 3, 5 minutes. Cormack-Lehane grading, ease of intubation, intubation time, number of attempts and any other assistance required like BURP were also noted.

**Results:** Haemodynamic parameters at baseline were comparable in all three groups i.e. heart rate, systolic BP, diastolic BP and MAP. P values were 0.375, 0.944, 0.234, 0.412. The change in heart rate was statistically significant between the three groups with P value of 0.001 at intubation, 0.001 at 1 minute post-intubation. Systolic BP, diastolic BP and MAP were statistically significant at intubation with P value of 0.001. Post-intubation at 1, 3, 5 minutes P value were comparable among three groups. Moreover, increase in heart rate was minimum in C-MAC Video laryngoscope followed by McCoy laryngoscope and maximum in Macintosh laryngoscope. Heart rate became normal 3 minutes post-intubation.

**Conclusion:** Video laryngoscope [C-MAC] in children had minimum haemodynamic response during intubation as compared to Macintosh and McCoy laryngoscope.

**References**

Comparison of Intranasal Midazolam and Intramuscular Ketamine for Pediatric Premedication
Dr Rooma Shazeen

**Introduction:** To compare the efficacy and side effects of intranasal midazolam and intramuscular ketamine administered for pediatric premedication.

**Methods:** In this double-blind trial 60 children of age group 1-10 years of American society of Anaesthesiologist Grade 1 and 2 scheduled for elective surgery were randomly assigned to two groups, group A to receive intranasal midazolam 0.3 mg/kg or group B 5 mg/kg intramuscular ketamine. We measured level of acceptance of medication, onset of sedation, sedation score, hemodynamic variables, reaction to separation from parents, intravenous cannula acceptance, mask acceptance, side effects and time until recovery from anesthesia.

**Statistical Analysis:** Unpaired t test and chi square test.

**Results:** The two groups were homogeneous. Acceptance of medication was good or adequate in all patients. The level of sedation was significant in both groups 10 min after premedication. Systolic arterial pressure was higher in the ketamine group 20 min after administration of the drug and upon arrival in the operating theater. Reaction to separation from parents was good in all groups. Secretions were higher in the ketamine group and hallucinations were experienced by three patients in the ketamine group. We found no difference in time until spontaneous eye opening after surgery. No complications were observed.

**Discussion:** Ketamine being a sympathomimetic drug causes hypertension, tachycardia, hallucinations observed mostly in elder age group which are not seen with intranasal midazolam. Group B with intramuscular ketamine were given intravenous midazolam to decrease hallucinations which were not given in Group A.

**Conclusions:** The nasal route is adequately accepted by children. The doses used have wide safety margins. As compared to intramuscular ketamine intranasal midazolam has better acceptance in older age group. Midazolam has an early onset of sedation and is associated with fewer side-effects.

**References:**
Comparison of phenylephrine and norepinephrine for treatment of spinal hypotension during elective Caesarean delivery
Dr Akshatha V. Rai

Introduction: Phenylephrine, currently the vasopressor of choice for management of post-spinal hypotension, causes a dose-related reflex decrease in heart rate and cardiac output that may adversely affect uteroplacental perfusion. Norepinephrine, an α-adrenergic agonist with weak β-adrenergic effect, is less likely to decrease heart rate and cardiac output. Maternal haemodynamic changes and neonatal well being following bolus administration of phenylephrine and norepinephrine were compared in ninety term parturients undergoing elective caesarean delivery under spinal anaesthesia.

Methods: In a randomized, double-blinded study, women received boluses of either phenylephrine 100 µg/ml (group PE; n = 45) or norepinephrine 7.5 µg/ml (group PE; n = 45) whenever maternal systolic blood pressure decreased to ≤ 80% of baseline. Maternal haemodynamic changes and neonatal outcome (umbilical cord blood gas analysis, Apgar scores, neonatal neurobehavioral response) were assessed. Statistical analysis was performed by SPSS version 17.0. For all statistical tests, a p value < 0.05 was considered significant.

Results: The number of vasopressor doses and time to first vasopressor requirement for maintaining systolic pressure ≥ 80% of baseline was comparable in both groups; both P > 0.05. Incidence of bradycardia (P = 0.009), reactive hypertension (P = 0.030) and requirement for atropine (P = 0.015) was higher in group PE compared with group NE. More women in group PE (n = 8) reported dizziness compared with group NE (n = 1); P =0.030. The Apgar scores and umbilical arterial and venous blood gas analysis were comparable between groups; (all P > 0.05). The neurobehavioral scale score was significantly higher in group NE compared with that in group PE at 24 ± 2h and 48 ± 2h; P = 0.007 and 0.002 respectively.

Conclusion: Norepinephrine has a similar efficacy for maintaining maternal blood pressure during spinal anaesthesia for caesarean delivery, with lower incidence of bradycardia, reactive hypertension and requirement for atropine compared with phenylephrine. Neonatal outcome was similar between groups with respect to Apgar scores and umbilical cord blood analysis. Neonatal neurobehavioral scores were higher in first 48 hours when norepinephrine was used compared with phenylephrine.

References-
The effect of two different techniques of spinal needle removal following spinal anaesthesia procedure for caesarean delivery on postdural puncture headache

Dr Shivanand Mishra

**Background:** Spinal anaesthesia is associated with postdural puncture headache (PDPH). This study investigated the effect of reinsertion of the stylet after spinal anaesthesia procedure, prior to spinal needle removal, on the incidence of PDPH in women undergoing Caesarean delivery.

**Methods:** In this prospective randomized double blind study, 870 parturients receiving spinal anaesthesia with 25G Quincke spinal needle were randomly divided into Group A = reinsertion of stylet before removing spinal needle and Group B = no reinsertion of stylet before removing spinal needle. The patients were inquired for incidence and characteristics of PDPH on days 1, 2 and 3 (personal visit) and days 5 and 7 (telephone interview). Statistical analysis was performed by SPSS version 17.0. Continuous variables were compared using unpaired t test (normal distribution) and Mann-Whitney U test (not normal distribution). For all statistical tests, a p value <0.05 was considered significant.

**Result:** Overall incidence of PDPH was 7.12%. Twenty seven of 435 (6.2%) patients in group A (reinsertion of stylet) and 35 of 435 (8.05%) patients in group B (no reinsertion of stylet) experienced PDPH; p=0.476. Mean onset time of PDPH in group A was significantly longer compared to group B; 16.15±6.66 h and 13.23±4.29 h, respectively; p=0.041. Patients in group A experienced greater severity of headache compared to group B; p=0.002. The duration and treatment required were comparable in both the groups.

**Conclusion:** Reinsertion of the stylet before spinal needle removal did not influence the incidence of PDPH in women undergoing Caesarean delivery under spinal anaesthesia using 25 gauge Quincke spinal needle. However, onset of PDPH was delayed and severity of headache was greater in women in whom reinsertion of stylet was done.

**References:**

Comparison of Ketamine-Propofol Combination with Or Without Fentanyl for Sedation in Children Undergoing Infraumbilical Surgeries Under Spinal Anaesthesia.

Dr Rohini Dubey

INTRODUCTION- This study was conducted to compare the efficacy of Ketamine-Propofol combination with or without Fentanyl for sedation during paediatric spinal anaesthesia.

METHODS- 50 Children aged 3-8 years undergoing spinal anaesthesia for lower abdominal surgeries were included. Participants were randomly allocated into two groups. Group KPF received bolus of Fentanyl at 2 mcg/kg followed by a bolus of Ketamine at 0.2 mg/kg and Propofol at 0.8 mg/kg which was followed by infusion of Ketamine and Propofol at 150 mcg/kg/hr and 600 mcg/kg/hr respectively. Group KPS received a bolus of normal saline followed by bolus of Ketamine at 0.2 mg/kg and Propofol at 0.8 mg/kg respectively followed by an infusion at 150 mcg/kg/hr and 600 mcg/kg/hr respectively. The infusion was titrated to keep the paediatric sedation state scale of 2. The heart rate, blood pressure, respiratory rate and oxygen saturation were recorded every 5 minutes intraoperatively and postoperatively. Any episode of spontaneous body movement and requirement of supplemental sedation were noted. Postoperative recovery was assessed using Modified Alderette Score.

RESULTS- 2 patients in KPF Group and 21 patients in KPS Group required 2 boluses of Ketamine-Propofol combination to prevent movement during lumbar puncture. During intraoperative period 7 and 12 Patients from KPF and KPS Group respectively required a single bolus and 5 patients from KPS group required 2 intraoperative boluses to prevent movement and maintain paediatric sedation state scale of 2. There were no episodes of respiratory depression or airway obstruction. Decrease in heart rate was seen in both groups but was statistically significant in KPF Group. Mean arterial pressures were lower than baseline in both groups but not statistically significant.

DISCUSSION- Decrease in heart rate from baseline values was found in both groups but it was more statistically significant in KPF group probably due to action of intravenous Fentanyl bolus administered at the beginning of anaesthesia. Group KPS showed a higher demand of Ketamine-Propofol bolus for maintaining adequate paediatric sedation state scale.

CONCLUSION- Ketamine-Propofol combination with intravenous Fentanyl provided better quality of sedation with no delay in recovery time than Ketamine-Propofol alone and thus can be a good option for sedation during spinal anaesthesia in children.

REFERENCES
Comparative Study with Two Doses of Phenylephrine Infusion for Management of Maternal Hypotension Under Spinal Anaesthesia for Caesarean Delivery.

Dr. Akshay R

Introduction: Sub-arachnoid block (SAB) is the anaesthetic technique of choice for elective / emergency caesarean section. Hypotension is a frequent intra-operative complication up to 80% that occurs following spinal anaesthesia. A prospective, randomized controlled study was conducted to compare the maternal haemodynamic stability and foetal acid balance under spinal anaesthesia using two doses of phenylephrine infusion prophylactically.

Methods: We analysed data from 100 ASA II parturients between 18-40 years of age divided randomly into two groups, receiving 25 and 50 mcg/min of phenylephrine infusion until the delivery of baby. Outcomes such as heart rate, BP, Apgar score at 1 and 5 min and umbilical arterial acid base were compared.

Results: The groups were comparable demographically. Parturients receiving 25 mcg/min infusion of phenylephrine had higher incidence of hypotension with 3/50 patients compared to group receiving 50 mcg/min infusion which 1/50 patients. The incidence of reactive hypertension was higher in 50mcg/min (10%) compared to 25 mcg/min infusion. The foetal ABG were comparable in both groups.

Conclusion: We concluded that phenylephrine infusion of 25 mcg/min was as effective as 50 mcg/min infusion in maintaining haemodynamic stability in parturients undergoing caesarean section and with reduced incidences of reactive hypertension.

References:
Comparative Evaluation of Insertion Characteristics of LMA ProSeal Using Different Techniques in The Paediatric Age Group

Dr Suman Tiwari

Introduction:

Aim: To compare the insertion characteristics of LMA ProSeal insertion using standard introducer, pharyngoscopic and 90° rotation techniques in children 3-10 years age undergoing elective surgery.

Method: a prospective comparative interventional randomised study was conducted in 135 children of either sex, in the age group of 3-10 years of ASA grade I or II, scheduled for elective surgery of less than 2 hours duration, with LMA ProSeal insertion under general anaesthesia. The patients were randomised by a random number table using the sealed envelope method into three groups of 45 patients each - a) standard introducer group, b) pharyngoscopic group and c) 90° rotation group. All the observations were recorded in the patient proforma. After completion of study, data was arranged in the master chart. The data was compiled in the form of tables, graphs and figures and analysed.

Results: both rotational and pharyngoscopy techniques were found to have a higher 1st attempt insertion success rate of 44(97.78%) each as compared to the introducer group 42(93.33%), but the difference was not statistically significant. Rotational technique group was found to have the least LMA ProSeal insertion time (26.4± 2.66secs) and standard introducer technique was found to have the maximum insertion time (32.71± 3.29 secs). The pharyngoscopy technique insertion time was intermediate (27.73±2.44sec). The differences in insertion time was statistically very significant (p<0.0001). Ease of insertion score was found to have the best score of 3 in 97.78% patients in pharyngoscopy group whereas it was only 86.67% in introducer group. In rotational group 93.33% patients had score 3, but the difference was not statistically significant in all 3 groups.

Discussion: the insertion time is very significant in emergency situations where securing the airway is of prime importance.

Conclusion: as compared to introducer and pharyngoscopy group, rotational group had the best parameters in haemodynamic & insertion time (both statistically significant), ease of insertion score and complications, it may be considered as the preferred technique for LMA ProSeal insertion in the paediatric age group with normal airway.

References:

**I-gel vs Proseal laryngeal mask airway: A prospective randomized controlled study in mechanically ventilated children undergoing laparoscopic procedures**

Dr. Shruti Kumari

**Introduction:** Supraglottic airway devices (SGAD) are routinely used in anaesthesia practice. The development of second generation SGAD have further improved their clinical efficacy and safety and their use is now being extended to surgeries in the paediatric population. Higher incidence of hyperreactive airway leading to post intubation bronchospasm in children has increased the popularity of second generation SGAD as compared to endotracheal intubation in elective surgery. Amongst the SGADs, Proseal LMA (PLMA) and I-gel are routinely being used in paediatric surgeries. However, there is paucity of literature with respect to their use in paediatric laparoscopic procedure.

**Aim and Objectives:** To compare I-gel and PLMA in paediatric laparoscopic surgeries based on ease of insertion, oropharyngeal leak pressures (OLP), fiberoptic view and haemodynamic parameters.

**Material and Methods:** This prospective randomized controlled study was conducted on 60 children (1 to 10 years) who were randomly allocated to one of two groups (PLMA or I-gel group). Data analyzed using Chi-square test, Student’s t test and paired t test. P value < 0.05 considered significant.

**Results:** The first attempt success rate, OLP, fiberoptic view and haemodynamic parameters (>0.05) between the two groups was comparable. Mean insertion time for I-gel (21s) was significantly lower than for PLMA (28s), p = 0.001. There was statistically significant increase in OLP between pre and postpneumoperitoneum within the groups (p < 0.001).

**Discussion:** Both Proseal LMA and I gel have comparable ventilatory efficacy and haemodynamics in elective paediatric laparoscopic procedures. However, mean insertion time for I-gel was significantly lower than that of PLMA.

**Conclusion:** We conclude that PLMA or I gel can safely be used in paediatric laparoscopic surgeries.
Comparison of Propofol and Desflurane emergence and recovery characteristics in children of age 5-12 years of age underwent infraumbilical surgery

Dr. Preeti Raj Arya

**Introduction**: Anaesthesia Controlled Time and emergence time are two most important factors that regulate operation room efficiency. As in paediatric outpatient surgery the goal of anaesthesia are fast emergence and short recovery with minimal post-operative side effects, which permits rapid and safe discharge. Reducing these two factors will ultimately improve operation room efficiency. Propofol is used as intravenous and Desflurane is used as inhalational agent.

**Method**: This study was prospective randomized interventional comparative study that was conducted with 60 paediatric patients (5-12) years. Patients were allocated randomly into two groups of 30 each using computer generated random number table. Group P (Propofol intravenous infusion) and Group D (Desflurane inhalational agent).

**Results**: Mean value of emergence time was 6.48 ± 1.17 minutes in propofol group and 4.84 ± 1.17 minutes in desflurane group. Emergence time in patients of propofol group was significantly longer as compared to patients of desflurane group. (P<.05).

Significantly longer time was taken by the patients of propofol group for spontaneous breathing, spontaneous/command eye opening, recalling of their name, squeezing the investigator's hand as compared to patients of desflurane group. (P<.05).

Post-operative complications were not seen in any of the patient of propofol group whereas 36.67% of patients in desflurane group experienced complications. Incidence of post-operative complications was significantly higher in desflurane group as compared to propofol group. (P<.05).

**Conclusion**: Recovery of patients in the age group 5-8 years underwent infraumbilical surgery was faster in desflurane group. The emergence time was significantly longer in the patients of propofol group. Postoperative complications were not seen in any of the patients of propofol group.

**References**:

INTRODUCTION: The aim was to study the effect of Transversus Abdominis Plane Block in providing post-operative analgesia after Caesarean delivery.

METHODS: 158 patients (ASA PS II), aged 18 to 40 years, who underwent Caesarean delivery were randomly allocated into 2 groups by computer generated random number table with Group-A receiving Tramadol 100mg suppository & bilateral TAP block with 0.25%Bupivacaine 2mg/kg and Group-B Tramadol 100mg suppository. Sample size derived based on Joshi VS et al showing mean VAS score at 6 hours after surgery for patients treated with Tramadol alone is 2.93±1. Sample size of 158 patients has 80% power to detect >15% reduction in VAS score (VAS= 2.48) based on a 2-sided test with 0.05 α-level.

The measured parameters were time-to-first-rescue-analgesic-request, pain (VAS scale), satisfaction (Likert scale - rating the response “I am satisfied”), sedation (Four-point scale sedation score), post-operative nausea & vomiting (PONV Impact Scale Score), and adverse effects in first 12 hours. Statistical analysis done with SPSS version 11.5, Mean, Standard Deviation, Student’s t-test and Chi-square test with p-values (Mann-Whitney U test) of < 0.05 considered significant.

RESULTS:
Time-to-first-rescue-analgesic for Group-A: 23 hours (10-30) & Group-B: 6.5 hours (6-8)
No patients had sedation, PONV, complications or adverse effects.

DISCUSSION: The time-to-first-rescue-analgesic in our study was longer in accordance with the studies by Eslamian et al. The time-to-first-rescue-analgesic was prolonged when compared with studies of Mc Morrow et al possibly because of using ultrasound technique.

CONCLUSION: TAP block is an effective and reliable analgesic following Caesarean delivery.

REFERENCES
Ultrasound assessment of gastric antrum in parturients scheduled for elective caesarean section - A prospective cross-sectional study.

Dr. Sangeeta Dhanger,

**Introduction:** Term parturients are more prone for risk of aspiration due to physiological changes of pregnancy. The aim of this study was to assess the gastric antrum using ultrasound in parturients scheduled for elective caesarean section.

**Method:** After obtaining institutional ethical committee approval and CTRI registration, 204 parturients scheduled for elective caesarean section were included in this cross-sectional study. Premedication and fasting instructions were given as per departmental protocol. In the preoperative area, ultrasonographic examination was performed 15 minutes before surgery. Cross-sectional area (CSA) of the gastric antrum was measured in right lateral and supine position and gastric volume was calculated. Nature of gastric content was also assessed and was classified into 3 grades depending upon the content (empty, fluid, or solid content). Statistical analysis was done using SPSS version 16 and P < 0.05 was considered as statistically significant.

**Results:** Among 204 parturients, 169 (82%) had grade 0 antrum, 34 (16%) had grade 1 antrum and one had grade 2 antrum. The mean antral CSA was larger in RLD position as compared to supine position (4.50 [1.53] vs 4.35 [1.43], p < 0.05). Overall, 83% of participants presented with an antral CSA ≤ 4.25 cm² (95% CI, 2.52-5.67 cm²) in the right lateral decubitus position, corresponding to an estimated gastric volume of ≤ 43mL or ≤ 1.5 mL/kg.

**Conclusions:** Ultrasound measurement of antral CSA in the right lateral decubitus position more accurately describes the gastric volume in fasted term parturients.

**References:**
Efficacy of I-gel, a single use supraglottic airway device with a non-inflatable cuff and an esophageal vent in children

Dr. Sneha Gupta

**INTRODUCTION**: A supraglottic airway device can be defined as a device designed to maintain a clear airway which sits outside of and creates a seal around the larynx. The I-gel airway is a novel supraglottic device made up of thermoeластic elastomer with soft durometer and gel like feel. Primary aim was to determine the proportion of children in whom i-gel could be inserted without complications and enabling spontaneous and controlled ventilation. Secondary outcomes were number of attempts for insertion, insertion time, ease of insertion, efficacy of ventilation and stability after insertion.

**METHODS**: After approval of ethics committee, and written informed consent, study was conducted among 60 children (40 boys and 20 girls) of weight between 5-25kg. Device was inserted in these patients scheduled for elective surgery in operating room after induction of general anaesthesia. LMA of sizes 1.5-2.5 based on weight as per manufacturers recommendations were used.

**RESULTS**: Among total 60 children, insertion was successful on first/second/third attempt in 50/8/1 children and failed in one child. Insertion time was (20-30 secs) and I-gel was inserted without complications, enabling spontaneous and controlled ventilation in 54(94%) children.

**DISCUSSION**: The results demonstrated that i-gel was fit for purpose among 60 children in study. As per our primary aim, i-gel was inserted without complications, enabling spontaneous and controlled ventilation in 54 children (94%), in remaining 5 children i-gel had to be exchanged with other alternative device. Overall device was easier to insert in majority of children.

**CONCLUSION**: We concluded that I-gel effectively conformed to perilaryngeal anatomy and achieved proper

**REFERENCES**:

A COMPARATIVE STUDY OF EFFECT OF POSITION (SITTING IN COMPARISON TO LATERAL DECUBITUS) DURING SPINAL ANAESTHESIA ON THE INCIDENCE OF POSTDURAL PUNCTURE HEADACHE IN PATIENTS UNDERGOING ELECTIVE LSCS

Dr. Heena Naaz

INTRODUCTION: The objective of this study is to compare the incidence of Postdural puncture headache (PDPH) following spinal anaesthesia in left lateral decubitus position and sitting position in parturient who underwent elective lower section cesarean section (LSCS). Spinal anaesthesia is the most commonly used anaesthesia for caesarean section. Postdural puncture headache (PDPH) is the major complication and major cause of morbidity in parturient. Many attempts have been made to prevent it but till now we have succeeded in only minimizing it. The incidence of postdural puncture headache (PDPH) is decreased by gaining knowledge regarding pathophysiology and factors affecting it.

METHODS AND MATERIAL: A total of 100 parturient, without any significant medical and obstetric problems, were included. They were divided into two groups 'S' and 'L'. Following preparation, under aseptic conditions, spinal anaesthesia was performed with 25G Quinke’s spinal needle and 2cc of 0.5% hyperbaric Bupivacaine was injected in sitting position in S group and left lateral decubitus position in L group. Patients were interviewed for headache post surgery and followed up to discharge.

RESULTS: The overall incidence of PDPH was 13%. In the group S, 10 (20%) patients had PDPH compared to 3 patients (6%) in group L.

DISCUSSION: The study showed that the incidence of Postdural puncture headache is higher in sitting position than that of lateral decubitus position. The healing of the Dura is longer in sitting position than in left lateral decubitus position because intervertabral spaces are more evident in the sitting position. The higher CSF pressure (40 cm of water) in the sitting position can make a larger hole in the Dura and cause prolonged leak.

CONCLUSION: The incidence of PDPH is more after spinal anaesthesia in sitting position than that in the left lateral decubitus position for the patients undergoing elective LSCS.

REFERENCES: 1) Barash textbook of clinical anaesthesia 2) Miller’s Anaesthesia 3) Collin’s principles and anaesthesia: General and regional anaesthesia
Perioperative dextrose infusion for prevention of postoperative nausea and vomiting in patients undergoing laparoscopic cholecystectomy

INTRODUCTION: This study compared Post Operative Nausea and Vomiting (PONV) incidence, PONV severity, rescue antiemetics, intraoperative and patient characteristics in patients with and without PONV and optimum dose of dextrose for prevention of PONV in patients receiving perioperative intravenous dextrose 5%, dextrose 10% or normal saline infusion undergoing laparoscopic cholecystectomy (LC) under general anaesthesia.

METHODS: In a randomised, double-blind, interventional, comparative study, 255 ASA I and II adults aged 18-65 years, into three groups (n=85) for LC were included. 250ml study fluid (Normal saline, Dextrose 5%, Dextrose 10%) was given at surgical closure at 100ml/hr. All patients received IV dexamethasone 4mg. PONV score, early (0-2h) and late (2-24h) PONV, rescue antiemetic treatment, pain VAS scores, various patient and anaesthetic factors in patients with and without PONV and patient satisfaction were noted.

RESULTS: The incidence of early (0-2h) and late (2-24h) PONV, postoperative nausea and PONV scores at all time-points, severity of nausea, need for antiemetic treatment, number of antiemetic drugs administered were significantly less in D5 and D10 groups compared with group NS. Patients in group D10 had significantly higher blood sugar levels compared with those who received NS or dextrose 5%; P<0.001. Significantly more patients in groups D5 and D10 reported less fatigue, hunger and thirst and greater satisfaction compared to patients in group NS; all P<0.05. A positive correlation was seen with age, height, BMI, female gender, STAI score, Apfel score, postoperative opioids, previous PONV and blood sugar after study fluid; all P<0.05.

DISCUSSION: The groups were comparable with regard to gender, height, weight, ASA status, Apfel score, intraoperative opioid, 24h opioid and weight-based fluids, duration of anaesthesia and surgery. The incidence of both early (0-2h) and late (2-24h) PONV was significantly less in groups D10 and D5 compared with group NS. Administration of dextrose 5% and 10% decreased the incidence of early PONV by 17.7% and 35.3%, respectively and that of late PONV by 9.5% and 24.7%, respectively. Postoperative nausea and PONV VAS scores at all time points were significantly less in D5 and D10 groups compared with group NS. Severity of nausea was significantly less in groups D5 and D10 compared with group NS.

CONCLUSION: Administration of dextrose 5% at the time of surgical closure can be considered for reducing PONV and requirement for antiemetics in patients undergoing laparoscopic cholecystectomy.

References
COMPARISON OF EFFICACY OF DEXMEDETOMIDINE VERSUS NITROGLYCERINE AS A HYPOTENSIVE AGENT IN SPINE SURGERY

Chandrika Priyadarshini

Introduction: Spinal stabilization surgeries are associated with significant blood loss. A blinded prospective, randomized controlled study was conducted to compare the efficacy of dexmedetomidine (DEX) versus nitroglycerine (NTG) on intra-operative hemodynamics, blood loss and recovery characteristics in such surgeries.

Methods: We analyzed data of forty ASA I&II patients between age 18-65years, divided randomly into two groups. After induction of anaesthesia, DEX group was administered loading dose of 1 mcg/kg over 10 minutes, followed by maintenance dose of 0.2-0.7 mcg/kg/hr, whereas group NTG received 0.5-5mcg/kg/min. Both infusions were titrated to achieve a target MAP of 65-70 mm Hg. Outcomes compared were heart rate, MAP, blood loss (volumetric & gravimetric) and recovery characteristics.

Results: The groups were comparable in basic demographics. It was found that both drugs were effective in achieving target MAP, although the time required was less in group DEX. Group DEX achieved significantly better heart rate control (from mean baseline of 102.5 to 73.9 bpm) compared to group NTG (102.5 to 88.1 bpm), p <0.05. Mean blood loss was significantly less in group DEX (516.75 ml) compared to NTG (763.5 ml), p < 0.001, which is in accordance with previous literature1,2. Ramsay sedation score was significantly higher with group DEX (3.15 vs 2.35 in NTG), p=0.009 at extubation.

Conclusion: We conclude that dexmedetomidine is an effective alternative in achieving a target MAP with better control of heart rate and decreased blood loss. Although a higher sedation score was seen with dexmedetomidine, it improved in the immediate post-operative period.

References:
A STUDY OF RENAL MANIFESTATIONS IN SUBCLINICAL HYPOTHYROID PATIENTS FOUND DURING PRE ANESTHETIC CHECK UP

DR SHIFA IFTEKHARUDDIN

Introduction: Thyroid hormone influences renal development, kidney structure, renal hemodynamics, GFR, the functions of many transport system along nephron, sodium and water homeostasis. Disorder of thyroid function can result from any abnormality that leads to insufficient synthesis of thyroid hormone. Subclinical hypothyroidism is defined as asymptomatic patients with high thyroid stimulating hormone levels (4.6-10 miu/L) with normal T3 and T4 levels. Full blown hypothyroidism is 10 miu/L or higher. The most common primary hypothyroidism is linked to immune mediated glomerular injury and alteration in the production of thyroid hormone. The presence of hypometabolic state thus necessitates careful perioperative renal, cardiovascular monitoring and judicious use of anaesthetic drugs.

Aim: The present study is aimed to analyse renal parameters – blood urea, serum and urinary creatinine, serum and urinary electrolytes in patients diagnosed with subclinical hypothyroidism posted for elective surgery during the year 2018 at Deccan college of medical sciences, Hyderabad.

Material and method: The biochemical parameters estimated were glomerular filtration rate (eGFR) and fractional excretion of sodium (FeNa). 50 people were taken as controls that had no medical illness and 50 cases of incidental subclinical hypothyroidism were taken as case study group. Mean and Standard deviation was assessed and p value ≤0.05 was considered significant.

Result: The mean and SD of blood urea (mg/dl) in controls is 28.2±4.75 as compared to 27.29±8.1 in case study group. The P value is >0.05 and hence not significant. The mean and SD of serum creatinine (mg/dl) in controls was 0.7±0.15 as compared to 1.10±0.24 in case study group. The P value was <0.01 which is significant. The mean and SD of electrolytes sodium, potassium and chlorides in controls were 140.4±2.15, 4.06±0.25 and 98.3±2.25 respectively as compared to case study group of 147.93±6.98, 4.15±0.42 and 107.81±10.35. The P value of serum sodium and chloride is <0.01 which is significant. The p value of potassium is not significant.

Discussion: Subclinical hypothyroidism is a laboratory diagnosis. In present study, in addition to estimation of blood urea, serum creatinine, two important renal function test; Estimated glomerular function test and Fractional excretion of sodium are done to find out the renal hemodynamics and sodium handling capacity of kidney in subclinical hypothyroid state. The results indicate that out of 50 cases of subclinical hypothyroid patients investigated, 32 cases have reduction in estimated glomerular filtration rate values than control group (64%) and 50% cases fractional clearance of sodium being less.

Conclusion: Subclinical hypothyroid state affects renal function in significant percentage of affected subjects. As these changes in kidney function are reversible, it is necessary to identify subclinical hypothyroid state in person at the earliest and institute treatment immediately.

References:
Awareness With Recall During Major Abdominal Cancer Surgery Under General Anaesthesia: An Observational Study

Dr. Ipsita Chattopadhyay

Introduction
Awareness under general anaesthesia and a later recall of what happened intra-operatively is a rare, but extremely unfavourable event during general anaesthesia. Intra-operative awareness with recall in India has rarely been studied. This study was conducted with the aim of detecting awareness in patients who were at high risk of experiencing awareness intra-operatively under general anaesthesia in our population.

Methods
We conducted a prospective single-center observational study at a tertiary care cancer hospital. We recruited adult patients posted for major abdominal cancer surgery, considered to be at high risk for awareness. Anaesthesia depth was monitored clinically using measurements of end-tidal concentration of volatile anaesthetic agent. These patients were interviewed at 2 hours and 24 hours post-surgery using the structured modified Brice questionnaire.

Results
Data from 100 patients were analysed. None of them experienced awareness during general anaesthesia. Seven patients (7%) experienced intra-operative dreaming.

Discussion
Awareness is related to a temporary insufficient depth of anaesthesia. Its incidence is estimated at 0.1% to 2% of anaesthetic procedures in the general population. Our study attempts to address if the real incidence of intra-operative awareness has been overestimated by evidence-based criteria or vastly underestimated due to the absence of routine structured interviews.

Conclusions:
The incidence of intra-operative awareness in our study was low. Monitoring by clinical analysis of anaesthetized patients and measurement of end-tidal concentration of volatile anaesthetic agent seems to be sufficient for prevention of episodes of awareness during general anaesthesia.

References:
A STUDY TO EVALUATE OCULAR CHANGES IN PATIENTS UNDERGOING SPINE SURGERY IN PRONE POSITION

DR NEETU KHANDURI

Introduction: Prone position is associated with many important and catastrophic complication. Hence the present study was conducted to evaluate the ophthalmic changes in patients undergoing spine surgery in prone position.

Material and methods: In this prospective study, 44 patients were enrolled, aged between 18-60 years belonging to ASA grade I or II scheduled for spine surgery in prone position. Intraocular pressure (IOP) and mean arterial pressure (MAP) were measured prior to and after induction of anaesthesia, at the end of surgery, 30 mins after extubation. Ocular perfusion pressure (OPP) was derived using the formula (MAP-IOP). Ophthalmic examination was done using ophthalmoscope one day prior to surgery and on first postoperative day.

Results: Mean age of patients (n=44) was 37.36 ± 13.89 years. Nineteen (43.2%) were females and 25 (56.8%) were males. Mean IOP was significantly increased (18.91 ± 3.56 mmHg) (p<0.001) at the end of surgery as compared to the baseline value (12.85 ±3.07 mmHg). As a result mean OPP significantly reduced (75.12 ± 16.45 mmHg) (P=0.0018) at the end of procedure.

Discussion: Postoperative visual loss might occur after spine surgery, though incidence is quiet less ranging from 0.019% to 0.2%. Prone operative position, prolonged surgical time, excessive blood loss, obesity and male sex are few predisposing factors. Prolonged prone position results in decreased perfusion pressure of optic nerve head.

Conclusion: Careful patient positioning, minimal surgical time, and prevention of intraoperative hypotension and minimal loss of blood during surgery should be maintained to avoid alteration of IOP and OPP.

REFERENCES:
EVALUATE EFFICACY OF THREE DIFFERENT DOSES OF FENTANYL TO PREVENT HEMODYNAMIC STRESS RESPONSE DURING LARYNGOSCOPY AND INTUBATION.

DR.ARUNNYA GANESAN

INTRODUCTION
Laryngoscopy and intubation produces hemodynamic stress response in the form of tachycardia and hypertension. Study is to evaluate efficacy of three different doses of fentanyl to prevent this response.

Fentanyl 1.5mcg/kg - Group A
Fentanyl 2mcg/kg - Group B
Fentanyl 3mcg/kg - Group C

METHODS AND MATERIALS
• Prospective, Randomized, double blinded study.
• Study population – 90 patients
• Sample size calculated based on previous study with systolic blood pressure as primary outcome with 80% power.
• Parameters (Heart rate, Systolic blood pressure, Diastolic blood pressure, Mean arterial pressure) were recorded at baseline, 5 minutes after fentanyl administration (Preinduction value), at the time of intubation and then at 1, 3, 5, 10, 15, 20 minutes after intubation.

RESULTS
Fentanyl 3mcg/kg could prevent the hemodynamic stress response effectively as studied parameters remained below baseline as well as preinduction value statistically.

DISCUSSION
Stress response to laryngoscopy may adversely affect the patients. Fentanyl is used as it has rapid onset, short duration of action, no histamine release and bronchospasm.

CONCLUSION
Fentanyl 3mcg/kg administered 5 minutes before intubation is the most appropriate dose in terms of efficacy to prevent hemodynamic stress response.

REFERENCE
Comparative study of dexmedetomidine and tramadol for prevention of post anaesthetic shivering: a randomised, double blind, placebo controlled study.

Sudha Puhal

Aims of study
To compare and evaluate the effect of dexmedetomidine and tramadol in the prevention of post anaesthetic shivering. To observe for side effects arising from administration of drug.

Material & methods
After taking ethical clearance for the study, 90 patients undergoing elective surgery under general anaesthesia were randomly given either 10 ml of normal saline or 10 ml of normal saline containing 50 mg of tramadol or 10 ml of normal saline containing 50 microgram of dexmedetomidine around 30 minutes before completion of surgery by an anaesthetist not knowing the content of the syringe. Patient was observed for postoperative shivering every 10 minutes over 60 minutes stay in PACU and was graded as per the bed side shivering assessment scale.

Results & discussion
There was no significant difference among the groups in terms of sex and age distribution. There was significant reduction in patients having shivering in dexmedetomidine group than tramadol group at 0, 10, 20, 30 minutes (p value 0.001, <0.001, 0.005, <0.001). There was no statistical difference at 40, 50 and 60 minutes interval. Pruritis, nausea and vomiting was more in tramadol group whereas sedation was more in dexmedetomidine group.

Conclusions
Dexmedetomidine provide effective prophylaxis against post anaesthesia shivering and has early onset of action.
INTRODUCTION: Laryngoscopy and tracheal intubation is a noxious stimulus which causes undesirable increase in heart rate and blood pressure. The aim of the study was to evaluate the effect of pregabalin premedication on hemodynamic responses to airway instrumentation in controlled hypertensive patients.

METHODS: A total of 60 controlled hypertensive adult consented patients were randomly allocated to two groups of thirty each. Group PL received oral placebo and group PB received oral pregabalin 75 mg one hour prior to induction. Heart rate, systolic, diastolic and mean arterial blood pressure were recorded at baseline, before induction, before intubation and at 1, 3, 5, 7, 9 min after tracheal intubation. Ramsay sedation scoring was used for sedation levels. Data were analysed using SPSS version 21 and p value <0.05 was considered statistically significant.

RESULTS: The patient demographic data were comparable in both the groups. There was significant attenuation of systolic, diastolic and mean arterial blood pressure in pregabalin group as compared to placebo group. Preoperative sedation levels were higher with pregabalin premedication. Attenuation of heart rate response was variable in relation to time with pregabalin group.

DISCUSSION: The increase in systolic, diastolic and mean arterial blood pressure were better attenuated in pregabalin group as compared to placebo group. Preoperative sedation were better in pregabalin group. No postoperative delay in recovery time, sedation or complications were seen.

CONCLUSION: Oral pregabalin 75mg has attenuation effect of hemodynamic pressor response following laryngoscopy tracheal intubation with adequate preoperative sedation with minimal effect on attenuation of heart rate response.

REFERENCES:
ASSESSMENT OF ROLE OF PREGABALIN ON HAEMODYNAMIC PARAMETERS IN PATIENTS UNDERGOING SUPRATENTORIAL CRANIOTOMY: A PROSPECTIVE RANDOMISED COMPARATIVE STUDY
Maj(Dr.) Navneet Kaur

Background: Patients undergoing supratentorial craniotomy produce significant haemodynamic response after airway instrumentation and after induction of anaesthesia. The present study evaluated the role of oral Pregabalin premedication in attenuation of haemodynamic pressor response, analgesia requirement and anaesthesia recovery profile. Extensive literature review did not reveal any study in which the Anaesthesia recovery profile has been studied in patients undergoing Supratentorial craniotomy in whom, Pregabalin was used as a Premedication agent.

This study includes the effect of pregabalin on recovery time.

Methods: The sample size is calculated by appropriate formula  60 patients were randomly assigned in two groups of 30 patients each; Group A received 150 mg Pregabalin and Group B received Placebo 90 minutes before the surgery. Both groups were assessed for haemodynamic changes, intraoperative Fentanyl requirement, emergence, extubation and recovery time after the premedication at regular intervals. Statistical analysis was performed using SPSS software 21.0 version. Continuous data were presented as mean ± SD. Statistical tests applied were Student t-test for comparison of mean between two groups and Pearson chi-square test for nominal data. P-value less than 0.05 was considered statistically significant at 95% confidence level

Results: Significant attenuation in Heart rate, Mean Arterial Pressure, Blood Pressure was seen in the Pregabalin group. Reduced Fentanyl consumption, emergence time, extubation time and recovery time were found to be significantly less in patients receiving Pregabalin.

Discussion: The study was carried out at Neurosurgery OT, Army Hospital Research and Referral, New Delhi from May 2018 to March 2019. The primary aim of the study was to assess the effect of the doses of oral dose Pregabalin,150 mg on hemodynamic parameters (Heart Rate, Mean Arterial Pressure, SBP, DBP) throughout surgery on patients with Supratentorial tumours undergoing craniotomy under general anaesthesia. The secondary aim was to assess the total requirement of Fentanyl during the surgery. To assess post operative emergence in terms of: Emergence time, Tracheal extubation time & Recovery time

Conclusion: Pre-operative administration of pregabalin in patients with supratentorial brain tumours undergoing craniotomy under general anaesthesia minimized the fluctuations in haemodynamics, reduced the requirement of fentanyl and Emergence time, Extubation time and Recovery time also decreased significantly with pregabalin group.

References:
COMPARISON OF INFUSION DEXMEDETOMIDINE WITH MAGNESIUM SULPHATE FOR ATTENUATION OF THE HAEMODYNAMIC RESPONSE DURING ENDOTRACHEAL INTUBATION IN ADULT PATIENTS

Dr Nikita Choudhary

BACKGROUND: Laryngoscopy associated with increased circulating catecholamine leading to hemodynamic and cardiovascular responses. Many prophylactic drugs & methods has been used to alleviate the cardiovascular response to laryngoscopy & intubation. Aim of this study is to compare effectiveness of Dexmedetomidine 1μg/kg and Magnesium sulfate 50 mg/kg in attenuating cardiovascular response during laryngoscopy and intubation. METHODOLOGY: 156 adult consented patients from ASA grade I & II, of either sex were included in study and randomly allocated into three groups. Group D received Dexmedetomidine 1μg/kg, Group M received Magnesium sulfate 50 mg/Kg & Group C received normal saline, over 10 minutes before induction & haemodynamic parameters were noted till 10 min after intubation. Two tailed unpaired t test used for comparison between groups & p value < 0.05 was considered as statically significant.

RESULTS: Patient’s demographic data, characteristics & surgical procedure were comparable between three groups. There was significant increase in heart rate, systolic blood pressure, diastolic blood pressure & mean blood pressure after intubation in groups C & M as compared to group D. Hypotension was seen in six patients of each group D & M and in three patients of group C. Bradycardia was seen in one patient of each group D & M.

CONCLUSION: Dexmedetomidine is better drug for attenuation of haemodynamic response to laryngoscopy & intubation, as compare to magnesium sulphate. Dexmedetomidine also produces more sedation which resembles to normal sleep & thus lead to anxiolytic effect on patients, as compare to magnesium sulphate.

REFERENCES:
A COMPARATIVE STUDY TO EVALUATE LONG AXIS, SHORT AXIS AND MEDIAL OBLIQUE AXIS APPROACH FOR ULTRASOUND GUIDED INTERNAL JUGULAR VEIN CANNULATION

Dr. MEENAKSHI VERMA

AIM: To compare the long, short and medial oblique axis group for ultrasound guided internal jugular vein cannulation.

METHODOLOGY: A Prospective study was conducted in patients aged 18 yr or above, who were undergoing ultrasound-guided internal jugular cannulation, were randomly assigned to one of three groups: SAX, LAX and M-OAX group. The main outcome measure was successful cannulation on first needle pass and the Overall success rate. Incidence of mechanical complications was also recorded.

RESULTS: There were 108 patients of 36 in each group. Cannulation was successful on first needle pass in 97.2% in M-OAX patients, 88.9% in SAX patients and 77.8% in LAX patients. Overall success rate was comparable among all the groups. A higher mechanical complication rate was observed in LAX group as compared to SAX and M-OAX group (p>0.05).

CONCLUSIONS: Medial oblique axis group is better approach than short and long axis group in terms of higher first pass attempt, overall success rate and lesser incidence of mechanical complications.

ABSTRACT DESCRIPTION: Ultrasound, Internal jugular vein, Short axis, Long axis, Medial oblique axis.
HYPERGLYCAEMIC AND ANTI INFLAMMATORY EFFECTS OF DEXAMETHASONE IN NEUROSURGICAL PATIENTS

Renu Bala

Introduction- Improvement in neurological status following dexamethasone administration is dramatic, however it has potential to cause hyperglycemia and anti inflammatory effects. The present study was planned to evaluate the variations in blood glucose levels and anti inflammatory mediators in response to single dose of dexamethasone in neurosurgical patients.

Methods- The present prospective, non-randomized, single blind study was conducted in sixty four adult patients of either sex, belonging to ASA I to III scheduled to undergo elective craniotomy under GA. A standard protocol for induction of anaesthesia was followed. The decision to administer 8mg dexamethasone was taken by operating surgeon and consultant anesthesiologist depending upon the need, administered at time of dural incision. Patients were divided into 3 groups: DD-Patients already on dexamethasone and recieving intraoperatively, ND - not on dexamethasone but recieving intraoperatively, NN- neither on dexamethasone nor recieving intraoperatively. Venous sample was taken for blood sugar estimation at 1hr, 2hr, 3hr,4hr after administrating dexamethasone, then every 4 hrs till 24 hrs. WBC count with neurophil percentage, haematocrit, serum lactate and C-reactive protein were measured at baseline, 12 hours and 24 hours.

Results- All three groups showed rise in blood glucose with peak at 4hours and returning to baseline values at 24 hours. On comparing groups DD and NN, there was significant difference of blood glucose values at all times. On comparing group ND and NN, blood glucose levels were higher in group ND at all times, although statistically significant difference was found at 4 hours only. Significant difference in anti-inflammatory mediators was seen in group DD.

Conclusion- Single dose of dexamethasone administered intraoperatively induces increase in blood sugar levels and changes in anti-inflammatory mediators.

References-
A Comparison Of Effect Of Lignocaine And Fentanyl Versus Diltiazem And Fentanyl On Haemodynamic Response During Laryngoscopy And Intubation

Dr. Lalit Kumar Raiger (Ica No. 0117), Dr. Snigdha Singh, Dr. Ritu Verma
RNT Medical College, Udaipur

INTRODUCTION- Endotracheal intubation has been suggested to be one of the most invasive stimuli in anaesthesia particularly during induction and after tracheal intubation. Several pharmacological methods have been advocated to minimize the extent of haemodynamic events.

AIM- To compare the effect of intravenous lignocaine plus fentanyl with intravenous diltiazem with fentanyl on attenuation of haemodynamic response to laryngoscopy and endotracheal intubation.

MATERIAL AND METHODS- 60 patients, ASA I,II , 18-60 years were randomly assigned into 3 groups. Following drug preparations were given 3 minutes prior to laryngoscopy and intubation:
Group S (control- single dose of normal saline),
Group LF (single bolus of lignocaine 1.5mg/kg plus fentanyl 2mcg/kg),
Group DF (single dose of diltiazem 2mg/kg plus fentanyl 2mcg/kg)
And the haemodynamic parameters were recorded just after laryngoscopy 1,3,5 and 10 minutes after intubation. p<0.05 is considered significant.

RESULT- maximum attenuation in heart rate after intubation was seen in group DF followed by group LF. Maximum increase in SBP, DBP and MAP was observed in group S> group LF> group DF after intubation. RPP was minimum in group DF.

CONCLUSION- Diltiazem and lignocaine with fentanyl both causes attenuation of haemodynamic response during laryngoscopy and intubation. Diltiazem causes maximum attenuation in HR, SBP, DBP, MAP, RPP as compared to lignocaine.
INTRODUCTION: The aim of this study is to evaluate the effectiveness of single dose of dexamethasone (8mg IV) in preventing postoperative nausea and vomiting in patients undergoing laparoscopic surgery under general anaesthesia. Patients undergoing laparoscopic surgeries are at increased risk of experiencing postoperative nausea vomiting. In the absence of any antiemetic prophylaxis, the incidence of nausea vomiting can range from 40% -75%. Dexamethasone has been reported to be effective in reducing the incidence of postoperative nausea and vomiting.

METHODS AND MATERIAL: A total of 50 patients without any major medical problems were included. They were divided randomly into two groups - A and B. Preoperatively, Group A patients received 8mg Dexamethasone IV and Group B patients received normal saline through identical 2ml syringes. Premedication was standardized with glycopyrrolate 0.2mg, ranitidine 50mg, midazolam 0.05mg, fentanyl 1.5mcg/kg. Propofol was used for induction, vecuronium (0.08mg/kg) loading dose for muscle relaxation and patients intubated. Anaesthesia was maintained with N20:O2 (5:3) and connected to ventilator. Glycopyrrolate 0.5mg and Neostigmine 2.5mg was used for reversal and patient extubated.

RESULTS: The total incidence of nausea vomiting was 28% in Dexamethasone group as compared to 70% in normal saline group.

DISCUSSION: The study showed that dexamethasone is prevented the incidence of post operative nausea vomiting by various mechanisms such as central or peripheral inhibition of production of serotonin, central inhibition of synthesis of prostaglandins by inactivating phospholipase A2, changes in the permeability of blood brain barrier.

CONCLUSION: Prophylactic administration of single dose of dexamethasone 8mg IV when given just before induction significantly reduced the incidence of nausea vomiting after laparoscopic surgery under general anaesthesia.

REFERENCES:
1. BARASH TEXT BOOK OF ANAESTHESIA, MILLER'S ANAESTHESIA
Evaluation of diffusion hypoxia following administration of nitrous oxide in patients undergoing surgical procedures – An interventional study.

Dr. Ali Furquan

**Introduction:** Fink effect is the occurrence of diffusion hypoxia during the recovery period after administration of nitrous oxide. Many authors recommend administration of 100% oxygen during post operative period to prevent diffusion hypoxia.

**Aim:** To evaluate the occurrence of diffusion hypoxia among study subjects.

**Methods:** A total of 40 patients were enrolled into the study, who were divided randomly into two groups. Group I patients were allowed to breathe room air and group II patients were given 100% oxygen for 5 minutes after extubation. Oxygen saturation of all patients was assessed with pulse oximetry at 1 min, 3 min, 5 min, 7 min, 10 min, 12 min and 15 minutes after extubation.

**Results:** There was no clinically significant hypoxia among study subjects of both the groups. The oxygen saturation of group I patients was 2-3% less than their pre operative saturation. There was no fall in oxygen saturation among group II patients who received 100% oxygen. When the saturation levels of both the groups were compared, the difference was statistically significant at 3 min, 5 min, 7 min, 10 min, 12 min with P value of <0.05.

**Discussion:** Clinically significant hypoxia does not occur in young patients after nitrous oxide anaesthesia. Hornbein et al, opined that diffusion does decrease the oxygen saturation but if there is no respiratory obstruction, then diffusion hypoxia is of little clinical significance. Many other studies also proved the same.

**Conclusion:** When nitrous oxide is used for anaesthesia, administration of 100% oxygen will not be required in healthy patients.
Dr Naseeba Fatima

INTRODUCTION: Aim of the study is to compare the hemodynamic responses following induction and tracheal intubation with Etomidate- Fentanyl and Sevoflurane- Fentanyl.

METHODS: Forty ASA Grade 1 and 2 normotensive patients aged 18-65 years posted for elective surgical procedures were divided randomly into two groups twenty each to receive 6% Sevoflurane 50% N2O + 50% O2 through a prefilled circuit or Etomidate 0.3mg/kg. 2 mcg /kg Fentanyl was given in each group. Vecuronium 0.1 mg/kg used for muscle relaxation. Haemodynamic variables recorded at baseline, induction upto 5 minutes after intubation.

RESULTS and CONCLUSIONS: Study done for a period of two months. Results will be discussed in.

DISCUSSION: Laryngoscopic manipulation and endotracheal intubation are noxious stimuli capable of producing tachycardia, hypertension and arrhythmias. Craido et al observed a significant fall in blood pressure with 0.45mg/kg dose of Etomidate at basal, 1, 3 and 10min. R. Walpole observed a reduction of arterial pressure in 8% Sevoflurane group greater than 4% group. Cheong K F et al observed that effect of Sevoflurane-Fentanyl is similar to Etomidate-Fentanyl induction in patients undergoing CABG.

Keeping in view above studies and relevant literature we have planned our study.

REFERENCES:
1. Efficient inspired concentration of sevoflurane for vital capacity rapid inhalation induction (VCRII) technique [Author links open overlay panel Masaki Yurino Hitomi Kimura ]
2. Induction of Anesthesia and Tracheal Intubation with Sevoflurane in Adults Muzi; B.J. Robinson, T.J. Ebert, MD; T.J. O'Brien
3. Small-dose fentanyl: optimal time of injection for blunting the circulatory responses to tracheal intubation. Ko SH, Kim DC, Han YJ, Song HS
Introduction: Swapping of endotracheal tube with laryngeal mask airway (LMA) before emergence from anaesthesia is one of the methods employed for attenuation of pressor response at extubation, also seen in previous literature.\(^1\,\(^2\)\) We compared extubation using Bailey’s manoeuvre (i-gel) versus standard endotracheal extubation in controlled hypertensive patients scheduled for elective surgeries under general anaesthesia.

Methods: Sixty consenting adult patients were randomly allocated to two groups of thirty each; Group E in whom extubation was performed using standard technique and Group I in whom i-gel was inserted before endotracheal extubation (Bailey’s manoeuvre). The primary outcome parameters were heart rate (HR) and blood pressure. The secondary outcomes were electrocardiogram and oxygen saturation. Two-tailed paired Student’s t-test was used for comparison between two study groups. The value of \(P < 0.05\) was considered as statistically significant.

Results: The patient characteristics, demographic data and surgical procedures were comparable in the two groups. A statistically significant increase was observed in HR in Group E compared to Group I. Other parameters such as blood pressure (more increase in group E) and secondary outcomes depicted a statistically insignificant difference.

Discussion: Both endotracheal extubation and Bailey’s manoeuvre were associated with increase in Heart Rate and Blood Pressure but the rise was higher in group E as compared to Group I.

Conclusion: Bailey’s manoeuvre attenuates increase in heart rate when compared to endotracheal extubation but it insufficiently mitigates increase in blood pressure. We cannot solely depend on Bailey’s manoeuvre as an effective method to attenuate haemodynamic response at extubation.

References:
2. Dr. Murali Prabhakar, Dr. Raghu Praveen Kumar. A Randomized Clinical Trial Of Comparison Of Pressor Responses During And After Tracheal Extubation And Lma (Laryngeal Mask Airway) Removal In Controlled Hypertensive Patients. Indian Journal Of Applied Research. 2015;2:549-55.
Comparison of ultrasound examination and fiberoptic laryngoscopy for confirmation of laryngeal mask airway placement

Dr. Priti Malik

Introduction: Aim of this study was to compare ultrasound (US) examination and fiberoptic laryngoscopy (FOL) to determine the placement of laryngeal mask airway (LMA).

Methods: This cross sectional study included 100 adult patients of ASA (American Society of Anesthesiologists) Grade I and II, undergoing elective surgery under general anaesthesia requiring ProSeal LMA placement as an airway device.

LMA placement was first confirmed by chest rise. Clinically acceptable patients were further assessed by ultrasound (US) and categorized as acceptable (US-A) or unacceptable (US-U)\(^1,2\) and then by fiberoptic laryngoscopy as (FOL-A and FOL-U).\(^3\) We also evaluated the need for reinsertion of LMA based on FOL assessment.

Categorical variables presented in number and percentage (%) and continuous variables presented as mean ± SD and median. Inter rater kappa agreement was used to find out the strength of agreement of acceptability between FOL assessments and US examinations.

Results: In our study, LMA placement was clinically acceptable (C-A), after first attempt, in 82% patients. Fiberoptic laryngoscopy had 63% (FOL-A) acceptable LMA placement as compared to 56% (U-A) as found by ultrasound examination.

In all patients of fiberoptic laryngoscopy unacceptable (FOL-U) category (37%), LMA was exchanged with ETT. In 85% patients, ultrasound and fiberoptic laryngoscopy findings were in good agreement with each other for LMA placement (\(\kappa=0.690\) and \(P<0.05\)).

The sensitivity and specificity of ultrasound examination was 82.54% and 89.19% respectively with diagnostic accuracy of 85%, taking FOL as gold standard for confirmation of LMA placement.

Discussion and Conclusion:
Ultrasound provides a safe, non-invasive and real time dynamic assessment as compared to fiberoptic laryngoscopy.\(^4\)

Ultrasound has 85% diagnostic accuracy for confirmation of LMA placement as compared to fiberoptic laryngoscopy.

References:
Oxygen Insufflation Through Nasopharyngeal Airway V/S Nasal Cannula During Anesthesia In Endobronchial Ultrasound-guided Trans-bronchial Needle Aspiration (EBUS-TBNA) Procedures
Dr. Sayandeep Mandal

Introduction:
Anesthesia for EBUS-TBNA procedures poses a challenge for intra-procedural oxygenation and ventilation due to the shared airway, need for deep sedation, multiple pulmonary and non-pulmonary comorbidities. [1],[2] We have developed a technique of giving high-flow oxygen from the existing anesthesia machine through the nasopharyngeal airway during EBUS-TBNA. This method is cheap, uses familiar resources and is better tolerated by the patients. [3],[4] This study compares the efficacy of high flow oxygenation via Nasopharyngeal Airway with conventional oxygenation via Nasal Cannula during anesthesia in EBUS-TBNA.

Methods:
Patients were randomized and allocated in two groups: NA and NC. Baseline characteristics noted and pre-procedural preparation was done. Nasopharyngeal Airway of proper size was inserted in Group NA. A universal connector of Endotracheal tube of appropriate size was fitted to the outer end of the airway. A standard closed circuit of an Anesthesia Machine was attached to the connector, which delivered 100% oxygen flow @ 10-15 Liters/min for pre and intra-procedural oxygenation according to the arterial saturation and tolerance of the patient.

In Group NC, patients were administered oxygen @ 3-6 Liters/min via a nasal cannula. Translaryngeal block and sedation titrated with the target of 'Deep Sedation' were given. [5]

Results, Discussion and Conclusion:
Outcome was measured as the proportion of patients experiencing desaturation (SpO2 below 92%), lowest SpO2 during the procedure, number and duration of hypoxic episodes, need for definitive airway management, number of interruptions to allow anaesthetic management or any other complications. This is a ongoing study, results will be analysed statistically and presented.

References:
Comparison of Oxygenation in Pressure-Controlled versus Volume-Controlled One-lung Ventilation in patients undergoing Video-Assisted Thoracoscopic Surgery

Dr. Megha Agrawal

**INTRODUCTION:** To compare pressure-controlled ventilation (PCV) versus volume-controlled ventilation (VCV) in patients undergoing one-lung ventilation (OLV) during video-assisted thoracoscopic surgery (VATS) with respect to oxygenation as primary objective and static and dynamic compliance as secondary objectives

**METHODS:**

- **Study population:** 80 patients, 18-60 years age
- **Sample size and technique:** Estimated by detecting a minimum difference of 20% in the mean values of PaO₂/FiO₂ ratio in the two modes of ventilation using standard Student's t test. Patients assigned into groups, using computer generated random number sequence contained in sequentially numbered envelopes.
- **Data collection technique:** After initiation of OLV, patients ventilated with either PCV or VCV mode. The haemodynamics, arterial blood gas analysis, airway pressures, oxygenation and compliance values recorded at 20 minutes after induction of anaesthesia, 20 minutes after starting OLV and every hour thereafter till OLV continued.
- **Data analysis conducted with statistical package for the social science system**

**RESULT & DISCUSSION:**

Measure of oxygenation (PaO₂/FiO₂) showed no significant difference between PCV and VCV modes. The mean PaO₂/FiO₂ ratio after 20 min of initiating OLV was >200 with subsequent readings <200 till the end of OLV. Poor oxygenation levels might have resulted from ventilation of partially healthy dependent lung. The site of surgery was also not taken into consideration as right lung resections are associated with increased intrapulmonary shunt.

Both static and dynamic compliance reduced drastically in both the groups during OLV. Patients on PCV had a significantly lower static compliance at 80 minutes and 200 minutes post OLV, whereas, dynamic compliance was significantly lower in patients on VCV at 20 minutes, 80 minutes, 140 minutes, 200 minutes and 260 minutes post OLV.

**CONCLUSION:**

Both PCV and VCV decreased oxygenation, in comparable proportions, during OLV in VATS as compared to two-lung ventilation (TLV).

PCV was found to have significantly worse effect on static compliance whereas VCV on dynamic compliance. Thus none one of these modes can surely prevent development of ALI.

**REFERENCES:**

A study to compare air-Q intubating laryngeal airway with Ambu Auragain laryngeal mask for blind tracheal intubation using Parker flex tip tube

Dr Somesh

INTRODUCTION: Airway management is a crucial skill for clinical anaesthesiologist. Significant morbidity and mortality in anaesthesia have been shown to result from inadequate knowledge and experience in airway management.\(^1\) Hence Supraglottic airway devices (SGADs) have gained wide popularity as alternative airway management and potential lifesaving tools integrated into various difficult airway management algorithms. Ambu AuraGain (Ambu A/S Ballerup, Denmark) is a recently introduced phthalate free, magnetic resonance safe, single use, anatomically curved 3rd generation laryngeal mask.\(^2,3\)

METHODS: The present prospective, randomised, single blinded study was conducted in the Department of Anaesthesiology and Critical Care, PGIMS Rohtak. One hundred twenty patients of either sex, aged 18-60 years, belonging to ASA I or II were included in the study.

RESULTS: The mean time for insertion of ETT through air-Q ILA in group A was 17.85 ± 6.25 sec with a minimum of 11 sec and maximum of 36 sec while in group B it was 30.19 ± 10.97 sec with a minimum of 10 sec and maximum of 46 sec.

DISCUSSION: air-Q ILA and Ambu AuraGain were used as a conduit for blind tracheal intubation in adults patients using Parker Flex-Tip tube and compared with regards to attempts, ease and insertion time of devices, ease, no of attempts and insertion time for blind tracheal intubation, manoeuvres used and total time of intubation.

CONCLUSION: The two supraglottic devices were observed to be of same efficacy with regard to the number of attempts, ease and time of device insertion. However the patients with grade I fiberoptic view of glottis were significantly more in air-Q ILA as compared Ambu AuraGain. air-Q ILA is superior to Ambu AuraGain in terms of significant high first attempt success rate, easier intubation with low failure rate.

REFERENCES:

Dr Gurpreet Kaur

**Introduction** - We aim to compare the intubating conditions and hemodynamic alterations in patients for cervical spine surgery following induction with propofol alone vs propofol-sevoflurane combination and intubation with video laryngoscope without use of muscle relaxant.

**Methods** - 80 consenting adult patients between the age of 18-75 years, scheduled for cervical spine surgery under general anaesthesia, were divided randomly into one of the two groups. Group P received inj propofol 2.5mg/kg for induction while the Group S received inj Propofol 1.5mg/kg and 4% sevoflurane inhalation agent for induction of general anesthesia following which the patients were intubated using King Vision Video Laryngoscope. The ease of intubation in both the Groups was assessed with the help of Steyn’s modification of Helbo-Hansen scoring system. Hemodynamics were monitored in both the groups in the form of heart rate, systolic blood pressure, diastolic blood pressure and mean arterial pressure before induction, after induction, post intubation at 1 minute, 3 minutes, and 5 minutes & were compared to the baseline readings.

**Results** - A combination of 4% sevoflurane and propofol 1.5mg/kg without muscle relaxants provided more acceptable intubating conditions compared to propofol 2.5 mg/kg.

**Discussion** - We chose to do this study as the patients for cervical spine surgery are both an anticipated difficult airway cases and the associated quadriplegia/paraplegia is a contraindication for short acting depolarising agents like succinylcholine. In addition many of the cases are done with simultaneous intraoperative neuromonitoring which again requires neuromuscular blocking drugs to be omitted. Moreover most such studies have been done in pediatric population only.

Tracheal intubation was accomplished in 100% of patients in both the groups. In Group P only 80% of the patients had acceptable and remaining 20% of patients had unacceptable intubating conditions. In group S 97.5% patients had acceptable intubating condition, which was very much statistically significant.

**Conclusion** - We concluded that combination of inhalational 4% sevoflurane with IV propofol 1.5mg/kg is superior to IV propofol 2.5mg/kg with respect to quality and ease of intubation and less significant with respect to hemodynamic response.

**References**

Is Melatonin as good as Oral Clonidine for Attenuation of Hemodynamic Response to Tracheal Intubation?

Dr Swathi B Kalluraya

**Introduction:** Melatonin is an endogenous hormone secreted by pineal gland which helps in regulation of sleep has been recently used for attenuation of hemodynamic responses to laryngoscopy and intubation [1]. Clonidine an α-2 adrenoreceptor is known to blunt the stress response to laryngoscopy and intubation [2]. We wanted to compare the effect of melatonin to oral clonidine in attenuation of the hemodynamic response to laryngoscopy and intubation.

**Methods:** 60 ASA grade I and II patients aged 20-60 years of either gender scheduled for elective surgery under general anesthesia were randomly divided into 2 equal groups (30 each) and received 6 mg oral melatonin (M group) and 0.15 mg oral clonidine (C group) 120 min before induction of anesthesia. Sedation score, hemodynamic parameters and adverse effects were recorded at predetermined intervals and analyzed using appropriate statistical methods.

**Results and Conclusion** will be discussed at the time of presentation.

**References**

Prediction of difficult endotracheal intubation by different bedside tests - an observational study.
Dr. Divya Rani

INTRODUCTION: The term “Difficult Airway” is used when it is impossible to secure airway with mask or artificial airway devices to achieve or maintain gas exchange with normal physiology. Difficulty in airway management has been an important cause of morbidity and mortality. Many clinical investigations have been used for airway assessment which includes bedside tests, radiographs, ultrasound, computed tomography, MRI, nasendoscopy but the bedside tests are easier, cheaper and simple methods for predicting the difficult endotracheal intubation. Hence this study was done to predict the incidence of difficult intubation in Indian population and to determine the diagnostic accuracy of various bedside tests for predicting difficult intubation in patients without airway pathology.

METHODS: This prospective randomized double blind study was conducted in the Department of Anaesthesiology and Critical care, Pt. B. D. Sharma PGIMS, Rohtak. 170 patients, aged between 20-50 years, of either sex, belonging to ASA I and II, without airway pathology scheduled for elective surgery under general anesthesia requiring endotracheal intubation were included in the study. Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables using SPSS software. Non normally distributed quantitative variables were summarized by median and interquartile range (IQR).

RESULTS: Highest sensitivity was seen in Interincisor Gap (100.00%), IDS score (100.00%), Cormack and Lehane grade (83.33%), TMD (83.33%) and MPG (75%). Highest specificity was seen in Han’s Scale (100.00%), Wilson’s risk sum total score (93.03%), TMD (92.55%), SMD (98.40%), AOE (97.34%), MPG (90.96%), Neck Circumference (94.68%) and ULBT (94.68%). Highest positive predictive value was seen in TMD (41.67%) and MPG (34.62%) whereas rest all the preoperative tests had high negative predictive value.

DISCUSSION: Overall incidence of difficult intubation was observed as 6% in our study. The highest sensitivity to predict difficult intubation was seen in interincisor gap (100.00%), thyromental distance (83.33%) and Mallampati grading (75%). Highest positive predictive values were seen in TMD (41.67%) and MPG (34.62%). Therefore IIG <4 cms, TMD < 6.5 cms and MPG III and IV can be used to predict difficult intubation in patients without airway pathology. The results were comparable with most of the similar studies conducted in past.
Comparative Evaluation of Conventional to Left Molar and Right Molar Laryngoscopy and Endotracheal Intubation

Dr. Anup Nisti

Background: Difficulty in visualizing the glottis may cause difficulty, even failure in endotracheal intubation. The present study was planned to compare conventional midline approach of laryngoscopy to left molar and right molar approach of laryngoscopy (using Macintosh blade) and endotracheal intubation.

Material and methods: In this prospective randomized double blind controlled study, 120 ASA grade I and II patients of 18-60 years age, belonging to either sex, undergoing general endotracheal anaesthesia were randomly divided into three groups of 40 each into Group M (midline approach), Group L (left molar approach) and Group R (right molar approach). Predictors of difficult intubation (Modified Mallampati grading, Thyromental distance, abnormal Dentition) and their association with unsuccessful intubation, Cormack lehane grading, attempts of intubation, duration of intubation, success rate of intubation, adjuvant measures needed (stylet, retraction of mouth) for intubation were noted.

Results: Patients having predictors of difficult intubation had significant risk of unsuccessful intubation with midline approach (p=0.01 for MPG III/IV, p=0.04 for TMD <6.5 cm) as compared to molar approaches (p>0.05). Presence of tooth lesion significantly increased risk of unsuccessful intubation in all the three groups(p<0.05). Mean time for laryngoscopy and intubation was significantly longer in molar approaches (right>left). Retraction of angle of mouth was used an adjuvant measure during laryngoscopy by 95% patients(n=38) in group R as compared to group L (n=2,5%) and group M (0%)(p <0.0001). Stylet was required as an adjuvant in significantly higher number of patients in group L (n=37,92.5%) to facilitate successful intubation as compared to group M (n=5,12.5%) and group R (n=1,2.5%)(p<0.0001).

Conclusion: The success rate of laryngoscopy and intubation via midline, left molar and right molar approach is high and comparable. Molar approaches provide a better laryngeal view as compared to midline laryngoscopy especially in cases predicted to have difficult intubation( MPG II/IV, TMD<6.5). Molar intubations were associated with prolonged intubation time and increased use of stylet and retraction of angle of mouth.
Intraocular pressure changes in response to intubation with the intubating laryngeal mask airway compared with direct laryngoscopy
Dr Rupali Arora

Introduction
The aim of this study was to evaluate and compare the intraocular pressure (IOP) and hemodynamic changes following intubation using intubating laryngeal mask airway (ILMA) compared with direct laryngoscopy.

Methods
In a randomized controlled study, fifty adults, scheduled for elective surgery under general anaesthesia were randomly allocated to one of the two techniques of intubation. Anaesthesia was induced with thiopentone followed by vecuronium. Tracheal intubation was done using either the ILMA or Macintosh laryngoscope. Intraocular pressure was measured as baseline (Premedication room), before induction, after endotracheal intubation, at 2 and 5 minutes after intubation. Haemodynamic parameters were measured as baseline, before induction, before device or endotracheal tube insertion, just after ILMA insertion, just after endotracheal intubation, at 2, 5, 7, 10, 15 and 30 minutes after endotracheal tube insertion.

Results
Patient characteristics, baseline haemodynamic parameters and baseline IOP were comparable in the two groups. In the Group DL, there was a significant increase in intraocular pressure (12.48 ± 2.28 to 13.72 ± 2.85 mmHg just after intubation (p=0.070) and from 12.48 ± 2.28 to 14.68 ± 3.2 mmHg at 2 minutes after intubation (p=0.001). The rise was statistically significant at 2 minutes. In Group IL, there was a statistically significant fall in IOP from after ILMA insertion, from 12.04 ± 1.65 mmHg to 10.52 ± 2.06 mmHg (p=0.002). IOP remained below the baseline value and did not change significantly after endotracheal intubation.

Conclusion
As ILMA is associated with minimal changes in intraocular pressure and haemodynamics, we conclude that the ILMA has an advantage over direct laryngoscopy for tracheal intubation.
EVALUATION OF LOW DOSE HYPERBARIC BUPIVACAINE WITH OR WITHOUT TRAMADOL IN PERIANAL SURGERIES: A PROSPECTIVE, RANDOMIZED, DOUBLE BLIND TRIAL
Dr. Krishna Boliwal, Co-authors: Dr. Lalit Kumar Raiger, Dr. Sandeep Sharma

Introduction
Spinal anaesthesia is ideal for perianal surgeries due to its quick and smooth onset, intraoperative analgesia, good surgical condition, short recovery time and rapid turnover time.

Aims and objectives
To evaluate the efficacy of low dose bupivacaine 3 mg, ultra low dose bupivacaine 2mg alone or with tramadol for perianal surgeries.

Materials and methods
Inclusion criteria: 90 ASA grade I and II patients aged between 15 to 60 years of either sex scheduled for perianal surgeries
Exclusion criteria: Contraindications to spinal anaesthesia, Patient refusal, Uncooperative patient, Co-morbid illness.
Group LB (n=30): 0.6ml of 0.5% hyperbaric bupivacaine (3mg)
Group ULBT (n=30) : 0.4ml of 0.5% hyperbaric bupivacaine (2mg) + 0.2 ml of tramadol (10mg)
Group ULB (n=30): 0.4ml of 0.5% hyperbaric bupivacaine (2mg) + 0.2ml of saline

Discussion
• Anorectal surgery requires deep level of anaesthesia, achieved by either regional block alone or in combination of monitored anaesthesia care, or general anaesthesia.
• Regional anaesthesia provides preemptive analgesia. It can reduce or avoid the hazards and discomforts of general anaesthesia.
• Ben David et al noted that small dilute dose of bupivacaine (3 ml of 0.17%) is inadequate to provide reliable spinal anaesthesia, but addition of 10 mcg of fentanyl enhance intensity and duration of analgesia without intensifying motor blockade.
• Similar findings were noted by Mysliwy P et al on using 1ml of 0.5% hyperbaric bupivacaine with 10 mcg of fentanyl in subarachnoid block for perianal and genital surgeries.

Conclusion
Low dose (3mg) bupivacaine alone or ultra low dose(2mg) bupivacaine with 10mg tramadol is recommended for perianal surgery for their good analgesia, lesser or no complications, good patient satisfaction and early patient discharge.

References:
A COMPARATIVE STUDY OF EFFICACY AND DURATION OF EPIDURAL ANALGESIA WITH TRAMADOL-BUPIVACAINE VERSUS FENTANYL-BUPIVACAINE IN POST-OPERATIVE PERIOD FOR LOWER LIMB SURGERIES.

DR. MD. IRFAN AZIZ(JUNIOR RESIDENT,DCMS), DR. MD. SIRAJUDDIN, DR.SARAT BABU CHEVURI(PROF), DR. JAVED ZS.

Introduction
• Pain is a consistent and predominant complaint of most individuals following most surgical interventions.
• The disadvantages of pain are unable to breathe adequately and cough effectively, unable to carry out their daily activities.
• Various modalities have been tried to relieve the post operative pain. Epidural analgesia with various drugs have been tried.
• Tramadol, an opioid agonist and monoamine reuptake blocker has been shown to be a peri operative analgesic without respiratory depression. Its analgesic potency is 1/5\textsuperscript{th} to 1/10\textsuperscript{th} as morphine. Side effects like nausea, vomiting, urinary retention and hypotension are common.
• Fentanyl is a phenylpiperidine-derivative synthetic opioid agonist. It is 75-125 times as potent as morphine for the relief of post-operative pain.
• It has a ceiling effect on respiratory depression, low addiction potential, lesser nausea, vomiting, pruritus and urinary retention.

Methods
Study population: 100 patients undergoing lower limb surgeries who were randomly allocated into two groups of 50 each.
Study area: Princess Esra hospital
• Inclusion criteria:
  o Age: 21-60 years
  o Healthy patients of ASA grade I and II
  o Who were willing to participate in the study.
• Exclusion criteria:
  o Age: less than 21 years and more than 60 years with ASA grading more than 2.
  o Who are not willing to participate in the study.
  o Patients with spine deformities and neurological deficits.
  o Patients with bleeding disorders.
  o Patients with local sepsis around the site of epidural needle insertion.
  o Those cases where epidural blockade was inadequate with the need to supplement general anesthesia.
First group received 0.1% bupivacaine plus 1mg/kg tramadol (total 10ml) through epidural catheter. Second group received 0.1% bupivacaine and 2mcg/kg fentanyl (total 10ml) through epidural catheter.
Procedure: With all aseptic precautions, epidural space was found with 18G Tuohy needle at L2-L3 space by loss of resistance using air injection technique and epidural catheter was fixed. 3ml of 2% lignocaine with adrenaline 1:200000 was injected through the catheter as a test dose and observed for any intravascular or intrathecal injection. After confirming the correct placement of catheter, 0.5% bupivacaine was injected intrathecally in L3-L4 space. Dose of the drug was according to the patient, type and duration of surgery. No narcotics were administered throughout the intra operative period. At the end of the surgery a single dose of tramadol 1mg/kg or 2mcg/kg of fentanyl in 10ml of 0.1% bupivacaine was injected through the epidural catheter and repeated 6\textsuperscript{th} hourly till 48 hours. When the patient complained of pain.
Visual analogue scale was used to assess the pain severity.
The need for rescue analgesia was taken when a patient complained of pain more than VAS 4 on the scale was noted.
Statistical test applied: T test.
P value of <0.05 was considered statistically significant.

The maximum and minimum VAS score of first group was 6.24+-1.55 and 4+-0.2 at the 18\textsuperscript{th} hour and 48\textsuperscript{th} hour, respectively.
The maximum and minimum VAS score of second group was 7.22+-0.81 and 4.4+-0.5 at 12\textsuperscript{th} hour and 48\textsuperscript{th} hour, respectively.
Discussion
Management of post-operative pain still poses a lot of challenge for anesthesiologists paradoxically after all the efforts taken to make the intra-operative period pain free and stress-free.
Uncontrolled pain in post-operative period can have detrimental physiological effects.
Pain can greatly impede the return of normal pulmonary function, inability to cough, bronchospasm which all leads to atelectasis and hypoxemia especially in upper abdominal surgeries.
Pain promotes immobility and hence the development of deep vein thrombosis.
Alteration in stress response to surgery, increased catecholamine release and increase oxygen demand.
Increased catabolic response to surgical trauma and impaired immune mechanism and delayed wound healing.
Hence its relief undoubtedly decreases morbidity and mortality.
In recent time the role of epidural and subarachnoid opioids for relief of post-operative pain promotes a new platform in this field. This is because of the direct action of opioids on specific receptors that are richly distributed in the posterior horn of the spinal cord and epidural opioids have a wider margin of safety against systemic opioids.

Conclusion
Epidural fentanyl provides a rapid onset, excellent but shorter duration of analgesia when compared to epidural tramadol.
Both have equal efficacy except duration of action which is shorter for fentanyl.
Fentanyl also has mild degree of sedation which is an additional advantage in post-operative period.

References
EFFECT OF DEXMEDETOMIDINE AS AN ADJUVANT TO ROPIVACAINE IN TRANSVERSUS ABDOMINIS
PLANE BLOCK FOR POSTOPERATIVE ANALGESIA IN PATIENTS UNDERGOING ABDOMINAL
HYSTERECTOMY

Dr Ravi Bhat SDM college of medical sciences and hospital, Dharwad, Karnataka

Objectives and methodology:
Compared analgesic effect of dexmedetomidine added to ropivacaine in TAP block vs dexmedetomidine given intravenously at the time of TAP block in patients undergoing abdominal hysterectomy.
Secondary outcomes measure duration of analgesia, quality of analgesia, analgesic requirements in first 24h, sedation scores and any adverse outcomes.
A randomized double blind study was performed with sixty patients of ASA I and II undergoing abdominal hysterectomy under subarachnoid block.

At the end of surgery TAP block was performed either with 0.375% ropivacaine 20 ml along with 0.5 mcg/kg dexmed as additive in Group DL, N = 30) or with 0.375% ropivacaine 20 ml along with 0.5 mcg/kg intravenous dexmedetomidine in 100ml NS (Group DS, N=30).

Time of TAP block to first rescue analgesia was duration of analgesia.

Conclusion: Dexmedetomidine added to ropivacaine in TAP block for patients undergoing abdominal hysterectomy provides better quality of analgesia, reduced consumption of analgesics and prolonged duration of analgesia when compared with intravenous dexmedetomidine.
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Expanding horizons and current guidelines in ambulatory surgery

Raju. V.S.N. Kalidindi
B.Sc,.MBBS.,MD.,FFARCSI.,FICA
Medway NHS Foundation Trust
Gillingham,
United Kingdom
8th Sept 2019
Thanks

• Thanks to Organising committee
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1986-89

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NIIMS
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Iran at Izeh, Khuzesthan, Iran
1990-94
Consultant Anaesthetist
Dept. of Health, Ireland (Kilkenny) 1999 to 2003

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FFARCSI
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Dublin 1998

Republic of Ireland
Consultant Anaesthetist
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Gillingham, UK
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All specialities except cardiac & Neuro
Regional referral centre for Obstetrics (5000 Deliveries)
Trauma
Vascular surgery
Paediatric surgery
Associated teaching hospital to Guy’s, St.Thomas and King’s college Hospital
A little bit about me and relevance to talk

• Substantive Consultant & Educational Supervisor in NHS
• Sub Specialty: Obstetric Anesthesia
• Working in a London University affiliated DGH
• One of the consultants doing lists in ASU
• Ours is dedicated 4 theatre ASU unit with 2 theatre endoscopy unit
• Information for this presentation has been obtained from the following sources:
  • AAGBI, RCOA, IAAS, BADS, ACSA, IAAS Guidelines
  • Conferences in 2019 → ESA 2019, BDA 2019, IAAS 2019

❖ I do not have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

IAAS: International Association for Ambulatory Surgery
BADS: British Association Of Day Surgery
ACSA: Anaesthesia Clinical Services Accreditation
Overview

• Expanding Horizons
• Current guidelines (RCOA 2019, AAGBI 2019)
• Special groups (Age, ASA, Obese, OSA, Emergency surg, HTN, IDDM)
• Surgical and anaesthetic criteria and techniques
• Litigation and safety limitations aspect
• Current practice, Where we are, Scope of predictable practice
• How we can reach there *Getting It Right First Time (GIRFT)*
• What is the future
• Summery
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Guidelines for day-case surgery 2019
Guidelines from the Association of Anaesthetists and the British Association of Day Surgery

C. R. Bailey, 1 M. Ahuja, 2 K. Bartholomew, 3 S. Bew, 4 L. Forbes, 5 A. Lipp, 6 J. Montgomery, 7 K. Russon, 8 O. Potparic 9 and M. Stocker 10

Guidelines for the Provision of Anaesthesia Services for Day Surgery 2019

Guidelines for the Perioperative Care of Patients Selected for Day Stay Procedures
Changing concepts in anaesthesia for day care surgery

• Changing concepts in anaesthesia for day care surgery, Editorial www.ijaweb.org: DOI: 10.4103/0019-5049.72635,
• Dr SS Haroor, Editor Indian Journal of Anesthesia
• It is essential to define safe practice standards based on regional needs and economic considerations
Extensively written with all available guidance as per local needs

- As a first step, it needs a multi-pronged approach to expand the scope of day-care surgeries in India and to fine tune the aspects of anesthesia in day-care surgeries. In future, the consensus statement can be revised or replaced by guidelines for Indian conditions based on additional evidences.
Expanding Horizons: Definitions

- The definition of day surgery in Great Britain and Ireland is:

- “the patient is admitted and discharged on the same day, with day surgery as the intended management for an elective or semi elective procedure.

- If the patient remains in a hospital bed overnight on the day of their surgery they are classed as inpatient surgery.
Expanding horizons

• Current trend is to do more procedures in DSU (Day Surgery Unit)
• Limitations in previous guidelines are removed
• Means 75% surgical procedures in a hospital can be carried out in DSU: RCOA, AAGBI, BADS
• Wider range of patients could be considered and included:
  eg. Obese, OSA, Children, Elderly, Emergency, ASA 3> above
Expanding horizons : Reasons :

• Evidence in favours of
• Pt operated under DS are doing well
• Less dependent on hospital and more independent and quickly return to normality
• Established facts: Less HAI, More mobile, low DVT etc
• Improved patient safety benefits
• Financial: Reduces health care costs to both patient and system
• Improved hospital productivity and efficiency
• Improved patient satisfaction
Overview

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Current guidelines AAGBI/ (RCOA 2019,AAGBI 2019, BADS – British Association of Day Surgery)

• AAGBI: Patient journey starts and ends in primary care:
• DSU as One-stop clinic
• Paper and web based leaflets focusing on journey, procedure specific and aftercare information including source of advice
• Effective pre-anaesthetic assessment and preparation with
• Protocol-driven Nurse-led discharge

→ are fundamental to safe and effective day surgery.
Current guidelines AAGBI *(RCOA 2019,AAGBI 2019, BADS – British Association of Day Surgery)*

- Standardised anaesthetic techniques for procedures (lap.chole., hernia, spinal, RA usage)
- Standardised pain and PONV approach
- 2 stage recovery
- 24hr helpline
- Education
- Continuous Performance audits
AAGBI Patient selection and Staffing

• Fitness: Fitness for a procedure should relate to the patient’s functional status rather than ASA physical status, age and BMI

• Target 75% of elective procedures

• Staffing:
  • Clinical lead with a specific interest in day surgery. Responsibilities include the development of local Policies, guidelines and clinical governance, and job plans should reflect this responsibility

• British Association of Day Surgery Directory of procedures 2019 ➔ provides targets for day surgery rates covering many different procedures [14].
12 Subspecialties
180 procedures

more than 200 procedures
Staffing : AAGBI and ACSA (Anesthesia Clinical Services Accreditation)

• Day surgery should be represented at Board level
• Clinical lead ➔ should be supported by a Unit manager with managerial, secretarial support
• Staff ➔ Specifically trained in day surgery care.
• Each unit ➔ Multidisciplinary operational group
• Consultant led service from both anaesthetists and surgeons
• Continuous education, competencies
### What is changed: Patient selection

<table>
<thead>
<tr>
<th></th>
<th>RCSA 1980</th>
<th>1990</th>
<th>2016</th>
<th>2019</th>
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<tbody>
<tr>
<td><strong>Age limit</strong></td>
<td>60-70 years</td>
<td>70</td>
<td>No limit</td>
<td>No limit</td>
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<tr>
<td><strong>BMI</strong></td>
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<td>30</td>
<td>35-40</td>
<td>No Limit</td>
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<tr>
<td></td>
<td></td>
<td>35-40 (2002 NHS MA)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Operating time</strong></td>
<td>Max 60 mins</td>
<td>No</td>
<td>No limit</td>
<td>No limit</td>
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<tr>
<td><strong>IDDM</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
What is changed: Patient selection

- Are this patient’s risks increased in any way by treatment on a day stay basis?
- Would management be different if he/she were admitted as an inpatient?

**If the answer is no**

- the patient is probably suitable for day surgery

Consider day surgery as default for elective surgery
(Day surgery development and practice: key factors for a successful pathway CEACCP, [https://doi.org/10.1093/bjaceaccp/mkt066](https://doi.org/10.1093/bjaceaccp/mkt066))

- Default to Day Surgery
- “Patients should only be excluded from day surgery after full pre-operative assessment shows a contraindication” Day Surgery: Operational guide. DoH, London (2002)
Pre-operative preparation: 3 essential components

• To educate patients and careers regarding day surgery pathways

• To impart information regarding planned procedures and postoperative care to help patients make informed decisions; important information should be provided in writing

• To identify medical risk factors, promote health and optimize the patient’s condition
Overview

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Selection of Patients: Obesity

1992: RCS UK Acceptable BMI for DS is <30 kg.m²
2019: BADS and AAGBI: No limit

• Complications → “Most potential complications of obesity are limited to the intra and immediate post operative environment
• Common IV, Airway, Resp, Surgical access, positioning, Manual handling
• Challenges > Problems occur early (induction/primary recovery)
• Plan for difficult airway, long instruments, special table etc..
• Everything may be more difficult and take longer
• Senior staff required, Additional kit

• The Pathway to Success – Management of the Day Surgical Patient. BADS Publication 2012
Davies, Houghton and Montgomery, Anaesthesia 2001
Patients requiring special consideration: OSA

- May require CPAP post-op
- Can this be given at home or in hospital?
- Beware of strong opiates

Patient selection based on combined factors could be helpful in screening

STOP Bang score combined with invasiveness of surgery, Co morbidities, type of anaesthesia, post operative requirements, adequacy of post discharge observations: Anaesthesiology 2008:108(5): 812-821
Patients requiring special consideration

• IDDM
   If HbA1c greater than 69mmol.mol-1 delay elective surgery until controlled
2016, AAGBI

Hypertension
BP >180/110:
• Refer to GP for assessment
• Aim to control to <160/100
On day of surgery
• BP >140/90 but less than 180/110:
• Refer to GP but no reason to postpone surgery
Special groups : ASA III

• Studies show ASA III does not predict unplanned admissions

• Low incidence of unplanned contact to hospital

• Low post operative complication rate

• Ansell and Montgomery (BJA, 2004)
Elderly

- Decreased impact on patient and family
- Usually better managed in their own environment
- Maintains daily routine and autonomy
- Decreases cognitive dysfunction and delirium
- Resumption of ‘active mobility’
- Follow standard protocols for evaluation and preparation
- Consider ‘frailty’ scores, use of these is increasing
- Social planning: Allow involve family and primary care physicians and other allied health professionals
Emergency day surgery: Essential components

• Ambulatory emergency surgery is the management of an emergency patient according to an ambulatory surgical pathway, avoiding overnight stay following their surgical procedure.”

• Identification of appropriate procedures

• Identification of a theatre list

• Ensuring clear pathways are in place

• Determining whether the condition is safe to be left untreated for up to 24 h and manageable at home with Oral analgesia

Table 1  Types of urgent surgery suitable for day case procedures.

<table>
<thead>
<tr>
<th>General surgery</th>
<th>Gynaecology</th>
<th>Trauma</th>
<th>Maxillofacial</th>
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<tbody>
<tr>
<td>Incision and drainage of abscess</td>
<td>Evacuation of retained products of conception</td>
<td>Tendon repair</td>
<td>MUA fractured nose</td>
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<td>Laparoscopic cholecystectomy</td>
<td>Laparoscopic ectopic pregnancy</td>
<td>MUA of fracture</td>
<td>Repair of fractured mandible</td>
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<td>Laparoscopic appendicectomy</td>
<td>Plating of fractured bone</td>
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<td>Temporal artery biopsy</td>
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Surgical criteria

• **Oral nutrition** → Can the patient be expected to manage oral nutrition post-operatively?

• **Oral analgesia** → Should be able to manage with oral analgesia supplemented by RA

• **Post operative complications** Should be low risk of for immediate post-operative complications (e.g. catastrophic bleeding)?

• **Mobile** : Is the patient expected to mobilise with aids post-operatively?
2019 criteria

• Abandon universal selection criteria

• Adopt an inclusion rather than an exclusion philosophy

• Apply limitations to the procedure rather than the patient
Exclusion

• Any unstable ASA III, ASA IV/V
• Any poorly controlled abnormality
• Neonates
• Ex-prem infants < 60 wks. post conceptual age
• Young sibling of SIDS child
• Specific to Emergency Surgery pathways:
• Sepsis or haemodynamic instability
Surgical and anaesthetic strategies

• Avoid prolonged fasting
• Employ minimally invasive surgical options
  ▪ No drains, No catheters (if so remove early)
  ▪ Meticulous homeostasis
  ▪ Careful surgery
• Avoid opiates
• Local anaesthetics as far as possible
• Maintain temperature
Discharge and DSU pathway

• Written information to patients
  warning signs of possible complications and when to seek help.
  Intervention specific, multilingual leaflets
  Written and web based information for postop care
• Pain and PONV advice, Pain prescription policies, PONV policies etc.
• Notice to GP
• Printed discharge letter
• Discharge criteria
• Difficult patient DS facilitation
• Performance audits
Carer pathway
Norfolk and Norwich University Hospitals NHS Foundation Trust ‘Self Care Pathway’ following day surgery
https://daysurgeryuk.net/en/resources/dilemmas/

Do you live alone?

- No
  - As per standard discharge protocol

- Yes
  - Is it laparoscopic or airway surgery?*
    - No
      - Do you want someone at home with you?
        - No
          - Meet criteria for home without carer and has confirmed escort home
            - No
              - Inpatient
            - Yes
              - Home
    - Yes
      - Can you get someone?
        - No
          - Inpatient
        - Yes
          - Home

All patients must have a responsible adult escort for the journey home

*Airway surgery includes nasal and neck procedures and any other surgery that may cause bleeding or swelling around the airway

Please discuss with an anaesthetist if the patient has multiple co-morbidities or you have any concerns
Information for Patients
What information can we give?

YOUR PROCEDURE

It is important that you understand the procedure you are undergoing, the expected outcome and the possible complications and/or side-effects. There will be several opportunities for you to ask questions or obtain information.

Surgery

The outpatient's clinic is the best place to have an in-depth discussion about your procedure with your surgical team. They should discuss with you what the procedure involves, what they expect the outcome to be and what the risks are. You may be asked to sign the consent form at this point too (see the "consent" section below for details).

However, should you have any further questions or need more information, there will be opportunities to ask at the Pre-operative Assessment Clinic and on the day of surgery.

Anesthesia

You are likely to meet your anaesthetist either at the Pre-operative Assessment Clinic or in the Day Surgery Unit itself, depending upon your hospital. They will discuss with you the method of anaesthesia (and the relative pros and cons should more than one way be available) and any common side effects, such as a sore throat afterwards. Sometimes, they may recommend a specific procedure such as a regional nerve block for limb surgery. If so, they will discuss with you why and how it is performed and any potential complications or side-effects. They may ask you to sign a separate consent form for such a procedure.

The anaesthetist will tell you about the monitoring they use while you are asleep and the pain relief they will use during the procedure. They are also the best person to talk about post-operative pain relief and anti-nausea.
BADS : HANDBOOKS
Overview

- Expanding Horizons
- Current guidelines (RCOA 2019, AAGBI 2019)
- Special groups (Age, ASA, Obese, OSA, Emergency surg, HTN, IDDM)
- Surgical and anaesthetic criteria and techniques
- Litigation and safety limitations aspect
- Current practice, Where we are, Scope of predictable practice
- How we can reach there Getting It Right First Time (GIRFT)
- What is the future
- Summery
Safety limitations and litigation

• Could compromise patient safety if not chosen carefully and planned

• Could lead to litigation and patient harm. *BJA Education | Volume 17, Number 9, 2017*

• Regional anesthesia is increasing on frequency but is associated with more Litigation (UK)

• RCOA Medico legal statement: *The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available.*
Litigation and complaints associated with day-case anesthesia
A, Pearson BMedSci BMBS(Hons) FRCA1,* and T Cook BA(Hons) MBBS FRCA FFICM, BJA Education | Volume 17, Number 9, 2017

- Increasingly complex and longer procedures are being performed in DS on older, higher risk patients.

- Before DS procedures, anesthetists must ensure that patients have read, understood, and agreed to comply fully with postoperative instructions.

- Regional anesthesia is associated with relatively more litigation than general anesthesia.
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Where we are? and How we are approaching : Grift recommendation

• Reduce the number of inpatient conversions and improve DC listing for indexed procedures
• National average 55% Indexed Procedures average 17.99%
• Increase day case commitment
  **Ringfenced** capacity (Dedicated Day Case facility required)
  Change staffing **mindset** about managing patients on DC pathway
**Medical and nurse leads for Day Case provision**
• Tackle specific reasons for low day case rates
• Investigate readmissions on common procedures
• Close audit of on day cancellations to identify any key issues.
• Set up a dedicated emergency day surgery list
• Revise day case pathway
Where we are?

and

How we are approaching

**Pathway**
- One stop assessment clinic
- Nurse led
- Written advice on warning signs
- Pain advice
- Notice to GP
- Printed discharge letter

**Facilities**
- Rooms for private preoperative consultation
- Ring fenced beds
- The day surgery unit should have no capacity to accept overnight admissions
- 2 stage recovery
- Single sex 2nd stage
- Consultant led, at least initially
- 24hr helpline

**Anaesthetic**
- Standardised anaesthetic techniques for procedures (lap.chole, hernia, spinal, RA usage)
- Standardised pain and PONV approach

**Staffing**
- Nurse led discharge
- Job planned consultant clinical lead
- Managerial, secretarial support
- Consultant led service from both anaesthetists and surgeons – at least in the beginning
- Continuous education, competencies

**ACSA/BADS/AAGBI recommendations**

Is the patient’s risks increased in any way by treatment on a day stay basis?

Would management be different if he/she were admitted as an inpatient?

**Target 75% of elective procedures as day case**
Surgical procedures indexed

• Breast surgery,
• TURBT/TURP,
• Arthroscopic procedures,
• Tonsillectomy,
• Haemorrhoids/fissures/skin tags,
• Hemithyroidectomy,
• Anterior cruciate ligament (ACL) reconstruction,
• Mastectomy
• Laparoscopic hysterectomy
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Future

• Unlimited potential: More surgical procedures on DSU

• Use of technology and apps in patient education, follow up could change the outcomes

• Closed loop systems, artificial intelligence at some stage in future: Already used in ICU’s CCU’s, Identifying sick patients

• Day care surgery Specialisations, Trained persons, Units, Organisations.
13th International Congress on Ambulatory Surgery, Porto in 2019

• **Mobile Apps and new technologies can help patients and clinicians (advantages vs ethical issues)**
  • Nightmare to dreams: The timeline of technology - *Ian Jackson*
  • The power of a digital community of medical doctors - *Daniela Seixas*
  • Follow-up of Ambulatory Surgery patients using WhatsApp - *Naresh Row*

• **New insights on head and neck procedures**
  • Video-assisted thyroidectomy in Ambulatory Surgery - *Jaime Vilaça*
  • ENT procedures in Ambulatory Surgery – are we pushing too far or can we go further ahead? - *Karianne Hostmark*
  • Dealing with the predictable Difficult Airway in Ambulatory Surgery - *Jorge Órfão*

• **MSD Symposium - Neuromuscular Blockade Management in Ambulatory Surgery**
  • Laparoscopic hemicolecystectomy – is it feasible in the Ambulatory Surgery setting? - *Ana Povo*
  • Thoracoscopic procedures in Ambulatory Surgery - is one lung ventilation a major problem? - *Xavier Falières*
  • Paediatric laparoscopic surgery in Ambulatory Surgery – the experienced scrub nurse is vital! - *Anabela Garcia*

• **The obese patient in Ambulatory Surgery**
  • No patient too large? - *Silva Pinto*
  • Surgical strategies feasible in Ambulatory Surgery - *Sebastiaan Van Cauwenberge*
  • Patient education for obesity procedures: Role of nurses - *Mariann Aaland*
Overview

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Summery and Conclusions

• Recent guidelines now allow more surgical procedures to be carried out in DSU.
• This in turn will allows higher volumes of surgery with better outcomes.
• Individual units and health care professionals should develop appropriate systems and pathways without compromising patient safety.
• This needs specialized units with appropriate structures, dedicated staff and appropriately trained personal specific to these goals to achieve targets.
• Patient selection, education and preparation are crucial for successful outcomes.
• This will benefit everyone including patients, System, Hospital and Health care.
References

1. RCOA: Guidelines for the Provision of Anaesthesia Services for Day Surgery 2019
2. RCOA: Guidelines for the Provision of Anaesthesia Services (GPAS) Chapter 6


5. Anaesthesia Clinical Services Accreditation (ACSA): https://www.rcoa.ac.uk/acsa
• Thank you

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