

were similar with the findings of our study.

We also found a significant longer duration of motor block in our study. Duration of analgesia in our study is significantly longer in Group C as compared to other groups. The results are in agreement with the various studies conducted by Mahima Gupta et al in 2014<sup>12</sup> (who found that duration of analgesia with intrathecal dexmedetomidine 5 mg with 15 mg bupivacaine was 493.56 min), MS Saravana Babu et al in 2013<sup>20</sup> (who found duration of analgesia prolonged in dexmedetomidine group in epidural anesthesia; mean 407.00 min) and Rajni Gupta et al in 2011<sup>8,10</sup> (duration of analgesia in their study was prolonged in Dexmedetomidine 5mg group 478.4 min). The total bupivacaine used in these studies was 15 mg as compared to 12.5 mg in our study which was responsible for some more prolongation of duration of analgesia with 5 mg dexmedetomidine.

Incidence of hypotension was more in Group C as compared to other groups. Each episode of hypotension was managed with intravenous mephentermine 6mg bolus. No other significant side effects were noted in all the groups during the study (Table 3). Patients in group A, B and C had a median Ramsay Sedation Scale of 2 at all assessment times ( $p > 0.05$ ). No significant difference in the sedation scores between the groups was found. Complete recovery of sensory and motor function was observed in all studied patients. Two weeks after surgery at the postoperative follow up visit, patients did not show any neurological deficit related to spinal anesthesia such as any new onset of back, buttock or leg pain or paresthesia.

In our study the haemodynamic parameters with respect to PR, MAP and SpO<sub>2</sub> were comparable in both the groups with no significant difference ( $p$ -value  $> 0.05$ ). However there were more episodes of hypotension in group with dexmedetomidine 10 mg which appears to be a dose related trend, but

not statistically significant. There was a single episode of bradycardia in one patient in both the groups, but no significant trend was seen.

#### CONCLUSION

Thus we conclude that in our study, administration of dexmedetomidine intrathecally prolongs the duration of analgesia, sensory and motor blockade in a dose dependant manner. Haemodynamic stability is maintained without any other significant side effects. Both doses of dexmedetomidine 5 mg and 10 mg are associated with significant prolongation of sensory and motor blockade but dexmedetomidine 5 mg is associated with lesser side effects. Intrathecal dexmedetomidine should be used with caution in patients with hepatic or renal impairment, valvular heart disease, advanced heart block, severe hypovolemia or hypotension.

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# “REPLY.... THE EFFECT OF PREMEDICATION OF INJECTION DEXMEDETOMIDINE HCL ON HEMODYNAMIC STRESS RESPONSE DUE TO LARYNGOSCOPY AND INTUBATION IN PATIENT UNDERGOING CRANIOTOMY”

Summit Dev Bloria

1. The investigators used different doses of fentanyl in 2 groups. Fentanyl by itself has been found to attenuate the pressor response to laryngoscopy and 2 different doses of fentanyl have been found to have different effects on pressor response to laryngoscopy.<sup>1</sup> Therefore, **to exclusively describe the effects of dexmedetomidine on pressor response, equal doses of fentanyl should have been used in the 2 groups.**

2. They have not described **whether they used invasive or non-invasive BP monitoring.** Invasive BP monitoring is said to be the gold standard for BP measurement and though non invasive BP monitoring using oscillometry has been found to co-relate well with invasive BP, it can fail to reveal momentary high spikes of BP associated with laryngoscopy. Therefore these results might carry more weight if the investigators used invasive monitoring

3. The use of **Glycopyrrolate** at time of induction in neurosurgery. Use of anticholinergics for premedication during craniotomy **might mask the cardiovascular response to surgical stimulation of brainstem structures.**<sup>2</sup>

4. **Age group** of the patients included for study (25 – 50 years). Age has not been found to affect pharmacokinetics of dexmedetomidine and various other similar studies have used a patient population between 18-60 years.<sup>3</sup>

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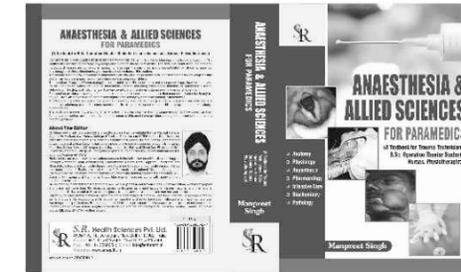
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#### BOOK REVIEW

**ANAESTHESIA AND ALLIED SCIENCES FOR PARAMEDICS, 2013, first edition**

**Editor-Dr Manpreet Singh, MD, FCCP, FIMSA, FACEE, MAMS**

**Publisher : Mr Rahul Jain - SR health Sciences, (CBS Publishers, India)**

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The editor of this book, Dr Manpreet Singh is involved in teaching the students of BSc Medical Technology and Operation Theatre, Trauma Technician courses, MBBS and MD (Anaesthesiology and Intensive care) at Government Medical College, Chandigarh, India.

'ANAESTHESIA AND ALLIED SCIENCES FOR PARAMEDICS' is first book of its kind and comprises of six sections. All sections are colour coded for easy identification.

Section one consists of anatomy, physiology and clinical biochemistry for paramedics. Details of all muscles, bones and joints along with their actions, nerves and vessels are compiled in a tabular form so that it can be easily learnt and recapitulated by students. Essential physiology and clinical biochemistry are concised subsections of this section.

Second section provides every detail about anaesthesia and its various sub-specialities. This section has 40 chapters i.e from history of anaesthesia till modular operation theatre suit details. Apart from basics of anaesthesia and sub-specialities of anaesthesia, it highlights operation theatre suit, air-conditioning of Operation theatre and ICU, sterilization, pain management, dialysis room management and transportation of patients and anaesthesiologists.

Third section, 'Pharmacology in Anaesthesia' describes intricacies of all anaesthetic drugs and emergency drugs. These drugs are described in tabular forms in easy language. This section will help the students to explain the drugs that are asked in table viva during examination.

Section four covers all the anaesthesia instruments. These includes anaesthesia machine , automated external defibrillator, sutures, vaporizers and all airway management equipments. The details of instruments will be very beneficial for the students during training periods, examination, table viva and day-to-day practice.

Fifth section provides knowledge of 32 unique topics of modern anaesthetic practices that requires utmost attention. It highlights brief knowledge about clinical audit, hospital waste management, ECG, EMG, cardiopulmonary resuscitation 2010 guidelines, intensive care topics and physics in anaesthesia.

The final section 6, highlights all the scoring systems, algorithms and grading in anaesthesia. The students will be elated to read this section as they will feel comfortable to find all gradings at one place.

This book will be extremely useful to all residents of anaesthesiology and paramedics i.e MSc. Operation Theatre, BSc Medical Technology students, operation theatre technicians nurses, physiotherapists and trauma technicians. I assure that the student will not move away from this comprehensive book that will be useful in all types of examinations, skill development and knowledge augmentation.

The book is a sincere tribute to my father who had this dream for me. I am fortunate enough to have blessings from Almighty, my teachers and parents. All the contributors of this book have provided me a great support and deserve my heartfelt gratitude.

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