

ORIGINAL ARTICLE

SURGICAL ATTITUDES AND PREFERENCES REGARDING CHOICE OF ANAESTHESIA AMONGST ORTHOPAEDIC SURGEONS

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Background: Regional anaesthesia is choice of anaesthesia for orthopaedic surgery due to lower side effects such as nausea, vomiting, postoperative pain and early mobilization. Despite of this, some orthopaedic patients refuse this modality. This study was conducted to interrogate the surgeons about their choice of anaesthesia in order to gain some insights into the concerns of surgeons and to change their minds and choose a safer mode of anaesthesia. The aim of the study was to assess the surgeons' fears and their perception about regional anaesthesia. **Methods:** After institutional approval, thirty surgeons from three different tertiary care hospitals were interviewed. They were asked questions as per the questionnaire to choose choice of anaesthesia for their patients. **Results:** After regional anaesthesia, 27.6% of respondents were concerned about paralysis and neurological disorders, 34.5% about seeing and hearing whatever is happening in theatre, 17.2% about perioperative pain, 24.1% about backache and 24.1% about delayed discharge. The most important reason to change their mind was the reassurance that the complications are not as frequently as they thought their patient would receive after a block. **Conclusion:** Due to the lack of information on regional anaesthesia and the risks of general anaesthesia, orthopaedic surgeons' fears and conceptions about regional anaesthesia are distorted. Anaesthesiologists should be aware of the concerns of the surgeons as well as the patients and should be willing to discuss the concerns with them and suggest the safest way to receive anaesthesia with evidence-based data.

Keywords: Regional anaesthesia; General anaesthesia; Post-operative complications

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INTRODUCTION

Fears about surgery and anaesthesia are well known to cause preoperative anxiety. This can lead to autonomic nervous system hyperactivity observed in the form of hypertension, arrhythmia and palpitations.¹ It is also observed that these patients have increased postoperative complications especially nausea, vomiting, and pain with delay in recovery than patients who had less preoperative anxiety.^{2,3} Anaesthesia relieves the patients' intolerable pain during the surgical procedures. Regional anaesthesia (RA) provides excellent analgesia facilitating early rehabilitation and discharge. The benefits from recent advances in techniques and equipment for continuous peripheral nerve blocks have reduced risks, hence making RA more attractive to both patients and surgeons.⁴ Regional anaesthesia is a type of anaesthesia that affects lower limbs of the body, and it includes central or peripheral techniques. The central techniques include spinal and epidural anaesthesia while brachial plexus blocks and single nerve blocks are known as peripheral techniques. Regional anaesthesia has beneficial role in major orthopaedic surgical procedures.⁵ Adequate pain control for rehabilitation is one of the greatest benefits of regional anaesthesia.

In orthopaedic procedures regional anaesthesia bears the hallmark for adequacy of rehabilitation and

patient participation. Todd MM *et al* found in his study a strong correlation of decreased morbidity and rapid recovery with rehabilitation following major joint replacements.⁶ In the postoperative period, the immense benefit of regional anaesthesia has created a lot of awareness not only in the surgical community but in masses as well.⁷ For outpatient orthopaedic patients, the next wave in regional analgesia is the placement of peripheral nerve catheters. It has already begun to contribute as day case surgery to more orthopaedic procedures than in - patients in the US.⁸ Lack of awareness regarding the benefits conferred by the regional anaesthetic technique as compared to general anaesthesia has led to immense behavioural changes in patients.⁹ In acute pain management, regional analgesia plays an important part in multimodal analgesia. There is lack of work regarding the perspective of orthopaedic surgeons in their acceptance of regional anaesthesia in Pakistan. We conducted a survey amongst Orthopaedic Surgeons working in tertiary care settings to understand, acknowledge and recognize the awareness of role of regional anaesthesia in the conduct of all sorts of manipulative and surgical procedures.

MATERIAL AND METHODS

A cross-sectional analytical study carried out in three different tertiary care teaching hospitals; 30 survey forms were distributed using non-probability convenient

sampling technique. In the present study, Orthopaedic surgeons, who had completed their degree and licensed, were included. The study group excluded orthopaedic surgeons who did not consent to the study. In addition to the questionnaire distributed to the orthopaedic surgeons, a covering letter explaining the purpose of the study was attached. The questionnaire's first part included detailed demographics of the participants. The second part consisted of questions of multiple choices that asked about their anaesthesia plans in different procedures. Data was analysed using SPSS-20.0 and Chi square test was applied. Significance level was maintained at <0.05.

RESULTS

The survey was carried out to explore the surgeon's preferences and attitudes regarding regional anaesthesia among Pakistani orthopaedic surgeons. Surveys were returned by orthopaedic surgeons of three different tertiary care setups. The patient's choice of anaesthetic was directed by 90% of the respondents. Most surgeons chose regional anaesthesia for their patients. Less postoperative pain was the main reason for encouraging regional anaesthesia (17.2%) followed by less nausea and vomiting (13.4%), and safety of the procedure (24.1%). Reasons for failing to promote regional

anaesthesia were delay in anaesthesia induction (24.1%) and an unanticipated success rate (24.1%). This survey suggests that regional anaesthesia is supported by orthopaedic surgeons. Both perceived delays and unreliability are barriers to increased popularity. At present, regional anaesthesia (RA) is frequently refused by elderly population. Previous bad experiences of RA, fear of having backache or headache during operation might be some of the reasons for choosing GA in our population. It has also been observed that patient's preference for the type of anaesthesia is based on many misconceptions regarding the safety of conduct of RA.

Most of the orthopaedic surgeons were convinced to precede the surgery with RA as compared to the GA. 27.6% of the interviewees were frightened about paralysis and neurological disorders, 34.5% about seeing and hearing the surgical procedures, 17.2% for peri-operative pain, and 24.1% were worried about backache and 24.1% delayed discharge. The risk of aspiration and other risks of general anaesthesia were not known to any of the participants.

The most important reason to change their minds was the reassurance that complications aren't as frequent as they thought their patient would receive after a block.

Table-1: Survey Questionnaire showing responses from the three Tertiary Care Set ups

		Hospital 1		Hospital 2		Hospital 3		p-value
		Yes	%	Yes	%	Yes	%	
1	Do you think regional anesthesia is a safer option for anesthetizing a patient rather than general anesthesia?	6	20.7%	5	17.2%	9	31.0%	0.032
2	Does preoperative planning of regional anesthesia increases patients anxiety regarding the procedure	7	24.1%	6	20.7%	4	13.8%	0.535
3	Is regional anesthesia more effective than general anesthesia in reducing the operative blood loss?	3	10.3%	7	24.1%	8	27.6%	0.025
4	Is regional anesthesia associated with less pain scores in Post surgical period?	5	17.2%	5	17.2%	6	20.7%	0.705
5	In your opinion is the use of regional anesthesia associated with less confusion and sedation in elderly population as compared to general anesthesia?	6	20.7%	6	20.7%	8	27.6%	0.298
6	Do you think regional anesthesia to be beneficial in reducing the risk of deep vein thrombosis?	6	20.7%	7	24.1%	6	20.7%	0.892
7	Does regional anesthesia play a role in increasing patient satisfaction regarding post anesthesia experience?	6	20.7%	8	27.6%	8	27.6%	0.316
8	Does complaint of post operative nausea and vomiting improves after regional anesthesia?	4	13.8%	8	27.6%	8	27.6%	0.046
9	Do you think that planning and conduct of regional anesthesia is responsible for delays in OR lists?	7	24.1%	5	17.2%	2	6.9%	0.114
10	Does the unpredictability of the success of regional anesthesia deter you in favoring the regional anesthetic technique over general anesthetic?	7	24.1%	5	17.2%	3	10.3%	0.277
11	Is the side effect profile of regional anesthesia better than general anesthesia?	7	24.1%	8	27.6%	9	31.0%	0.216
12	Does use of regional anesthesia rather than general anesthesia delays the neurological assessment post procedure?	8	27.6%	8	27.6%	3	10.3%	0.050
13	Do you think that regional anesthesia often requires supplementation with general anesthesia	10	34.5%	7	24.1%	6	20.7%	0.134

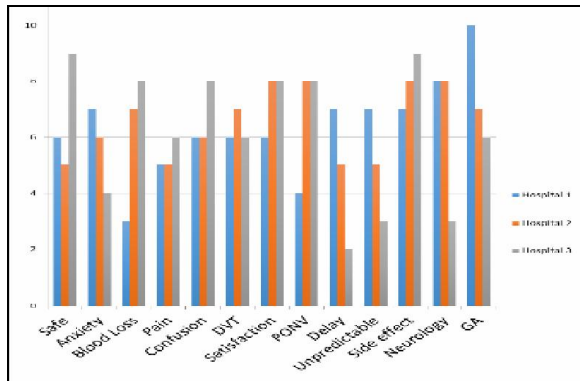


Figure-1: Comparative analysis of responses obtained from three different tertiary care set ups

DISCUSSION

The idea of orthopaedic and traumatology as subspecialty with designated anaesthetists and surgeons for the two is still undergoing evolution. During their postgraduate training, a large proportion of Pakistani Orthopaedic Surgeons become aware of the skills of regional anaesthesia.

After surgery, pain relief remains a major challenge and majority of the respondents agree that post-operative pain reduction is provided by regional anaesthesia. This is in line with Yunus *et al*'s findings, the residual effects of anaesthetic agents used in the regional technique, overlap for a long time in the patient's postoperative period. Therefore, the need for top ups with postoperative analgesics will not be mandatory. Postoperative pain is associated with delayed discharge recovery and rehabilitation of patient.^{10,11} One third of the respondents agreed that regional anaesthesia techniques provide a safe form of anaesthesia for major orthopaedic surgical procedures. This safety profile is further augmented by the use of imaging modalities in contrast to the peripheral nerve stimulator technique commonly employed in Pakistan.^{12,13}

As performance of regional anaesthesia under imaging guidance confers increased safety benefits, equally rare are the medical complications of regional anaesthesia. Our survey was in congruence with this as well with respondents in agreement that medical complications with regional anaesthesia were reduced. This means that overall mortality has a positive outcome.^{14,15} Our survey is in line with the previous works which determines the cost effectiveness of regional anaesthesia.¹⁶ In the literature, there are flaws in the methodology used to develop and to prove patient satisfaction surveys, our respondents say their patients were willing to accept regional anaesthesia and they were satisfied with

the procedure even if a second surgery was needed.^{17,18}

Anaesthesia induction delay, evaluation of postoperative neurological complication, and the possible requirement of conversion to general anaesthesia were reasons why orthopaedic surgeons did not favour regional anaesthesia. Oldman *et al* believed that anticipated delays in the operating room and lack of reliability were a barrier to regional anaesthesia's popularity.¹⁹ Delay in anaesthesia is itself one of the several factors that results in operative delays. Other causes include improper planning amongst the team members, communication barriers, scarce trained personnel and time spent on teaching post graduate residents.²⁰

As per George Stavrou *et al*, complex techniques including nerve blocks and an epidural catheter placement were excluded as they consume a lot of time as compared to general anaesthesia.²¹ This induction delay has consequences not only for the surgeons, but also for the patients thereby resulting in an extended stay in the operating room and economic consequences for the healthcare facility, particularly where costs are not covered by insurance companies or national health schemes. The consequences on operating theatre list management is noticeable in hospitals where the facility of separate induction rooms is not available.

Surgeons appear to be well aware of the several advantages of RA for their procedures. Increasing exposure and concentrating experience, e.g., by a regional block room, should improve the proficiency of future generations of anaesthesiologists in RA techniques.^{23,24} As exposure of the residents to regional anaesthesia techniques is not frequent and therefore, not enough for them to develop competency.²⁵⁻²⁸

Babita Gupta *et al* suggest that the use of new technology will make it possible to book and schedule cases in good time. Enhanced inter-departmental coordination, compliance with the preoperative guidelines, effective and timely done theatre proceedings will help to reduce theatre delays.²⁹

CONCLUSION

Pakistani orthopaedic surgeons are well aware and knowledgeable regarding effectiveness of regional anaesthesia and their attitudes favoured the practice. Although the benefits of regional anaesthesia are commonly agreed, however, delays in the pre-operative and post-operative evaluation of neurological outcomes seem to diminish approval of regional anaesthesia and analgesia.

Despite of all these shortcomings, the cost effectiveness cannot be overlooked in a resource -challenged community.

AUTHORS' CONTRIBUTION

SHM: Conception, design, drafting, data collection, acquisition, write-up and analysis of data. HS: Contributed to concept development, data collection, write up, proof reading. ADA: Supervised the study and proof read the manuscript. NHM: Write up, literature search, analysis and interpretation of data. TA: Supervised the study and proof read the manuscript.

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