ORIGINAL RESEARCH PAPER

Anesthesiology

KEY WORDS: Back pain, spinal anaesthesia, caesarean section, parturients.

INCIDENCE OF BACKPAIN IN PATIENTS UNDERGOING LSCS UNDER SPINAL ANAESTHESIA

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ABSTRACT

INTRODUCTION: In developed countries, the number of Caesarean sections has increased over the past two decades. Spinal anaesthesia has been one of the most commonly used modalities to facilitate caesarean section. However the most common complication following spinal anaesthesia is believed to be back pain. Thereby, it seems appropriate to evaluate whether or not spinal anaesthesia is associated with persistent back pain(PBP).

MATERIALS AND METHODS: A prospective, observational study was done after obtaining ethical committee clearance and written informed consent. Parturients undergoing lower segment caesarean section under spinal anaesthesia in Yenepoya medical college for a period of 6 months were included in this study. A telephonic survey was done to evaluate the incidence of low back pain (LBP) following spinal anaesthesia in these patients.

RESULTS: In this study total 144 patients were included out of which, 5 (3.5%) patients reported with back pain at the end of one week and only 1(0.69%) patient was found to have persistent back pain at the end of two months. Patients satisfaction after experience of spinal anaesthesia, revealed 94.4% patients being satisfied and said to prefer spinal anaesthesia in future whenever required.

Conclusion: The incidence of persistent backache after spinal anaesthesia in the obstetrical setting is very low (0.69 %).

INTRODUCTION

The number of caesarean sections has increased over the last two decades, especially in the developed countries. Hence, it has increasingly become a greater challenge to provide care for the parturient, but this has given obstetric anaesthetists a greater opportunity to contribute to obstetric services. While caesarean deliveries were historically performed using general anaesthesia, there is a recent significant move towards regional anaesthesia. There are obvious advantages of regional anaesthesia, including avoiding the problem of a difficult airway and risk of pulmonary aspiration, avoidance of multiple drugs required for general anaesthesia as well as allowing the parturient to be awake to witness the delivery of her baby thus enabling her to participate and enjoy the birthing experience.

However one of the most common complications following spinal anaesthesia (SPA) is believed to be backache. Back pain is a relevant public health problem. It seems appropriate to evaluate whether or not spinal anaesthesia is associated with persistent back pain (PBP). Post-operative low back pain (LBP) is a relatively common minor post-operative complication. Its aetiology is probably multifactorial but if these patients received spinal anaesthesia for the operation, the natural "cause and effect" reaction of many patients and surgeons will be attributed to the spinal anaesthesia. As many of the recent studies have concentrated on the incidence of backache after spinal injection among non obstetric patients, the following study was designed to study the incidence of back pain post spinal anaesthesia among obstetric patients and the relationship of back pain with its various contributing factors including size of spinal needle, duration of surgery, position during procedure and the number of attempts at establishing the spinal anaesthesia.

MATERIALS AND METHODS

This study was conducted in the Department of Anaesthesiology, Yenepoya Medical College, Mangalore for a period of 6 months from June 2018 to November 2018. After ethics committee approval and informed consent, patients belonging to "American society of Anaesthesiology " (ASA) grade 2 &3, aged between 18 to 40 years, scheduled for elective lower segment caesarean section which require spinal anaesthesia were selected. Haemodynamically unstable patients, patients having impaired coagulation profile, patients with previous history of back pain and patients with marked spinal deformities or local sepsis at lumbar spine were excluded. Thorough pre-anaesthetic evaluation and routine investigations was carried out before taking up the patient for surgery.

On the day of the surgery, patients were positioned in either sitting position or lateral decubitus position for spinal anaesthesia. 2 ml of 1% lignocaine plain was used to infiltrate L4-L5 or L3-L4 intervertebral space. For spinal anaesthesia lumbar puncture was performed with Quincke-babcock spinal needle. Hyperbaric bupivacaine 0.5% 2 ml was injected in subarachanoid space to attain spinal anaesthesia. Sensory block was assessed 5-10 minutes after spinal anaesthesia with the help of hot & cold temp test while motor blockade was assessed by the Bromage scale At seventh post operative day patients were evaluated for back pain after spinal anaesthesia and were requested to report for follow up after two months. Pain was assessed by Visual Analog Scale (VAS) on a ten centimeter long line with no pain on one end and severe pain at the other end . At the end of two months patients were also asked about their choice of anaesthesia for similar surgical procedure in the future if required.

Patients pointing between 7-10 on VAS were labelled "severe back pain" on questionnaire proforma for presence of back pain. While patients pointing between 0-3 on VAS were labelled as having mild back pain and 4-6 as moderate. Those patients who reported back pain after two months of spinal anaesthesia were labelled as having persistent back pain after spinal anaesthesia.

RESULTS:

The observations are based on the study conducted on 144 patients who required spinal anaesthesia for LSCS. In our study population, mean age was 24 years (95% CI, 23.70-24.74) and mean BMI was 23.51(95% CI, 22.79-24.23).

In this study, 5 (3.5%) patients reported with LBP at the end of one week and only 1(0.69%) patient was found to have persistent back pain at the end of two months. We observed that all of these patients with post spinal LBP had undergone spinal anaesthesia with 23G Quincke needle, although the association was not found to be statistically significant (p=0.064). We also found that mean duration of surgery was significantly high in patients with post spinal LBP ($P < 0.039$). We also observed that the incidence of LBP was higher in patients with advanced age ($p<0.001$), higher BMI ($p<0.001$), multigravida ($p<0.001$). Pearson chi-square test revealed significant association between post spinal back pain and multiple attempts taken to establish spinal anaesthesia($p<0.001$)

and with the previous history of LSCS under spinal anaesthesia{(p<0.001),likelihood ratio0.01}. Patients satisfaction after experience of spinal anaesthesia, revealed 94.4% patients being satisfied and also willing to undergo spinal anaesthesia in future whenever required.

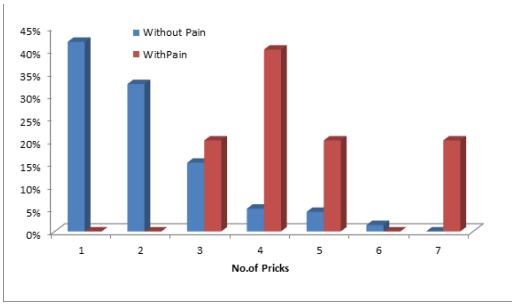

Fig 1: number of attempts taken to establish spinal anaesthesia and incidence of backpain

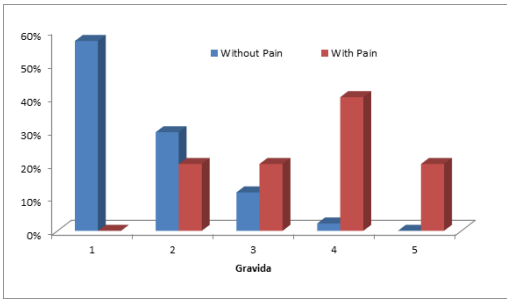

Fig 2: gravida of the patient and incidence of backpain

		Age_Grp				Total
		<20	>30	20-25	25-30	
PAIN	NO	15	1	84	39	139
		10.8%	.7%	60.4%	28.1%	100.0%
	YES	0	3	0	2	5
		.0%	60.0%	.0%	40.0%	100.0%
Total		15	4	84	41	144

DISCUSSION

Spinal anaesthesia has been used for decades as one of the modalities to facilitate caesarean section. There are multiple factors responsible for variable rate of utilization of spinal anaesthesia by pregnant women all over the world but the major concern being the fear of back pain following spinal anaesthesia.

In our study, 190 patients were included who underwent LSCS under spinal anaesthesia but at the end of two months only 144 reported for follow up. The response rate is 75.78% which is comparable to that of farhat et al[1]. In our study, patients with previous history of back pain were excluded. 3.5% of patients reported back pain at the end of one week with a VAS score of <4/10. This could probably be attributed to multiple factors like loss of paraspinal muscle tone supporting the lumbar spine, improper positioning during surgery, improper transfer of the patient from operation table to shifting trolley.

The incidence of new onset of persistent back pain following spinal anaesthesia was found to be 0.69% which is consistent with the observations made by k.schwabe et al[2] in their study of back pain following spinal anaesthesia in a non obstetric population.

Our results suggest that older women are more likely to have LBP than younger women probably owing to the degenerative changes in the spine which was also observed by yuan-yi chia et al[4]. Our study also finds that there is increase in incidence of LBP in patients with prolonged duration of surgery which was also explained by Rafique MK et al[7]. Our study indicates the presence of increased incidence of backache following repeated spinal needle insertion which was also observed by shut and colleagues[8] and was presumed to be due to soft tissue or periosteal trauma. This often neglected additional cause of LBP can be reduced by the use of atraumatic techniques. Our study also reveals that the incidence of LBP following spinal anaesthesia was found to be higher in parturients with increased BMI, multigravida and prior history of LSCS. Future studies are required to confirm these observations.

Our study also shows that most patients do not link their post-operative complaints of LBP to the spinal anaesthetic. In fact, only one of 5 patients with LBP and 2 of 19 patients who had undergone multiple attempts for the establishment of spinal anaesthesia said they would refuse spinal anaesthesia when operated on again. Similarly, k.schwabe et al[2] observed that only two of 15 patients with persistent back pain in their study said they would refuse spinal anaesthesia for future surgeries.

CONCLUSION

The incidence of persistent backache after spinal anaesthesia in the obstetrical setting is very low(0.69 %) and is a rare event.

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