



POSTDURAL PUNCTURE HEADACHE

Anaesthesiology

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ABSTRACT

BACKGROUND: To study the incidence of post puncture headache in spinal anaesthesia.

METHODS: In the hospital based prospective study 100 subjects of ASA grade I and II ranging from 18 to 45 years who underwent lower segment caesarean section under spinal anaesthesia were taken into consideration.

RESULTS: In comparison there was no significant difference from that of 25- and 26-gauge Quincke needles.

CONCLUSION: No significant difference from that of 25- and 26-gauge Quincke needles was observed

KEYWORDS

Spinal anaesthesia, LSCS, Postdural Puncture headache (PDPH), 25Gauge Quincke needle, 26Gauge Quincke needle

INTRODUCTION

PDPH is more common in women, younger ages (20 to 40 years), those with prior headaches (especially prior PDPH), and low body mass index. PDPH is uncommon in the elderly, likely because of brain atrophy. Other risk factors include caliber of the needle, use of a cutting needle, especially if inserted or rotated perpendicular to the long axis of the dural fibers, whereas use of a small caliber pencil-tipped needle decreases the risk, as does reinsertion of the stylet. The experience of the physician, the number of punctures, and removal of large amounts of CSF fluid may or may not be related to PDPH incidence. Positioning during (sitting versus decubitus) or after (bedrest or upright) the LP is unrelated to PDPH.¹

In a comparative study of the 25 gauge whitacre with 25 and 26 gauge Quincke needles for the production of PDPH at National Defense Center at Taipei, it was found that the incidence of PDPH was 1.06% with 25 G Whitacre which was of no significant difference from that of 25 and 26 G Quincke needles 3.65 and 2.06% respectively. Although the difference was not statistically significant, it was concluded that the 25 gauge Whitacre spinal needle caused a lower incidence and less severity of PDPH than the 25 and 26 gauges Quincke needles.²

Due to limited study in our region the present study was conducted with the aims of study the incidence of PDPH with 25 and 26 gauges Quincke needles.

MATERIAL AND METHODS

Type Of Study: Hospital based prospective

Inclusion Criteria:

ASA grade I and II ranging from 18 to 45 years who underwent lower segment caesarean section under spinal anaesthesia.

Exclusion Criteria:

Patient who had history of allergic rhinitis, ophthalmic or neurological problems along with otolaryngological problems and those with history of acute-chronic headache were excluded from the study

In the hospital based prospective study 100 subjects of ASA grade I and II ranging from 18 to 45 years who underwent lower segment caesarean section under spinal anaesthesia were taken into consideration. These patients were given pre operatively i.e., about 30 minutes prior to operation, injection atropine 0.6 mg. IM and intravenous line using 18G IV cannula was established and Ringer lactate solution started.

Under thorough aseptic precautions spinal anaesthesia was given using 50 patients used 25G Quincke needle and 50 patients used 26G Quincke needle using midline approach. Injection of 0.5% bupivacaine (sensorcaine-Heavy solution) 1.8ml was then injected in the space

between the third and fourth lumbar vertebrae. All post-operative headaches of patients who had undergone operation under spinal analgesia were not taken as PDPH. In this study only those patients who have post-operative headaches which fulfill the key features of PDPH were taken into consideration³

RESULTS

In present study mean age in 25 gauge Quincke group was 20.23±2.45 Yrs and in 26 gauge Quincke group was 21.24±2.56 Yrs.

Table-1. Incidence Of PdpH

PDPH	25 gauge Quincke group	26 gauge Quincke group
Present	3(6.00%)	2(4.00%)
Absent	47(94.00%)	48(96.00%)
Total	50(100.00%)	50(100.00%)
P-value	>0.05(NS)	

In comparison there was no significant difference from that of 25- and 26-gauge Quincke needles (6.00% and 4.00%, respective).

DISCUSSION

A PDPH is usually a self-limiting process. If left untreated 75% of them will resolve within the first week and 88% will have resolved by 6 weeks. The incidence of PDPH after the use of a standard spinal needle (Quincke) is dependent on the size of the needle. In young female patient's incidence of PDPH is approximately 15% when using 25 G needles and 5% when using 26 G needle. A significant reduction in PDPH from 6.3% to 2.5% is seen if using 27 G needle instead of 26 G needle in obstetric patients. Many workers have studied the development of PDPH following spinal anaesthesia by using different needles.

In a study at Magee-Women's Hospital at Pittsburgh, the incidences of PDPH following administration of spinal anaesthesia in obstetrics cases using five different needles namely, 26G Atrucan, 25G Quincke, 24G Gertie Marx (GM), 24G Sprotte and 25G Whitacre were 5%, 8.7%, 4%, 2.8% and 3.1% respectively of the 1002 cases studied. The use of 25G Quincke had a higher incidence of PDPH than the Sprotte or Whitacre needles⁴.

In an in vitro study⁵ of dural lesions produced by 25G Quincke and Whitacre needles, it was found that the area of the dural lesions produced by 25G Quincke needles 15 minutes after they have been withdrawn was 0.023 mm in the external aspect (epidural surface) and 0.034 mm in the internal aspect (arachnoid surface), whereas the areas of lesions produced by 25G Whitacre were 0.026 mm and 0.030 mm in the external and internal surfaces respectively

CONCLUSIONS

No significant difference from that of 25- and 26-gauge Quincke needles was observed.

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