ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 6, Issue – 5, October – 2021 , Page No. : 129 - 131

Postdural puncture headache: a comparative study with using 25g & 26g spinal quincke needle and median and paramedian approaches

[1]Dr Arvind Sanadhya, Principal specialist, Anesthesiology

[2]Dr Dinesh Chandra Vaishnav, Principal Specialist, General surgery

[3]Dr Anil Kumar Saini, Principal Specialist, Pathology

[1-3]Shri Sanwaliya Ji Government General Hospital Chittorgarh (Associated with Government Medical College, Chittorgarh)

Corresponding Author: Dr Anil Kumar Saini, Principal Specialist, Pathology, Shri Sanwaliya Ji Government General Hospital Chittorgarh (Associated with Government Medical College, Chittorgarh)

Citation this Article: Dr Arvind Sanadhya, Dr Dinesh Chandra Vaishnav, Dr Anil Kumar Saini, "Postdural puncture headache: a comparative study with using 25g & 26g spinal quincke needle and median and paramedian approaches", IJMSIR- October - 2021, Vol – 6, Issue - 5, P. No. 129 – 131.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

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

Methods: In the hospital based prospective study 60 subjects of ASA grade I and II ranging from 18 to 45 years who underwent lower segment caesarean section under spinal anesthesia were taken into consideration.

Results: In comparison there was no significant difference from that of 25- and 26-gauge Quincke needles (6.67% and 3.33%, respective).

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

Keywords: Spinal anesthesia, LSCS, Postdural Puncture headache (PDPH), 25Gauge Quincke needle, 26Gauge Quincke needle

Introduction

Postdural Puncture headache (PDPH) remains the most frequent complication of central neuraxial blockade. It can occur following uncomplicated spinal anesthesia as well as accidental dural puncture in epidural anesthesia. The International headache society has defined PDPH as a bilateral headache that develops within 7 days after lumbar puncture and disappears within 14 days.The headache worsens within 30 minutes of assuming the upright position and disappears or improves within 30minutes of resuming recumbent position. PDPH is associated with any one of the symptoms like neck stiffness, nausea, vomiting, tinnitus, photophobia, decreased hearing.[1]

In a comparative study of the 25 gauge whitacre with 25 and 26 guage 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 Whitcare 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 anesthesia.

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 60 subjects of ASA grade I and II ranging from 18 to 45 years who underwent lower segment caesarean section under spinal anesthesia 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 anesthesia was given using 50patients used 25G Quincke needle and 50patients 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 fulfills the key features of PDPH were taken into consideration[3].

Data Analysis

Data was recorded on a Performa. The data analysis was computer based; SPSS-22 was used for analysis. For categoric variables chi-square test will be used. For continuous variables independent samples's *t*-test was used. *P-value* <0.05 was considered as significant.

Results

Table 1: Age wise distribution

Age	25 gauge Quincke group	26 gauge Quincke group
Mean	21.23	22.36
SD	2.11	3.15
P-value	>0.05(NS)	

In present study mean age in 25 gauge Quincke group was 21.23±2.11Yrs and in 26 gauge Quincke group was 23.36±3.15 Yrs.

Table 2: Incidence of PDPH

PDPH	25 gauge Quincke group	26 gauge Quincke group
Present	2(6.67%)	1(3.33%)
Absent	28(93.33%)	29(96.67%)
Total	30(100.00%)	30(100.00%)
P-value	>0.05(NS)	

In comparison there was no significant difference from that of 25- and 26-gauge Quincke needles (6.67% and 3.33%, 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 anesthesia by using different needles.

In a study at Magee-Women's Hospital at Pittsburgh, the incidences of PDPH following administration of spinal anesthesia 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 Whitacreneedles[4].

In an in vitro study[5] 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.

References

1. Smith EA, Thorburn J, Duckworth RA, Reid JA. A comparison of 25G and 27G Whitcare needles for caesarean section. Anaesthesia 1994; 49:859-62
2. Hwang JJ, Ho ST, Wang JJ, Liu HS. Postdural puncture headache in caesarean section: comparison of 25G Whitcare and 25G and 26G Quincke needles. Acta Anaesthesiol Sin 1997; 35:33-7.
3. Rushman GB, Davis NJH, Cashman JN. Lee s' Synopsis of Anaesthesia.12th ed. Oxford: Butterworth –Heinemann, 1989; 685.
4. Vallejo MC, Mandell GL, Sabo DP, Ramanathan S. A randomized comparison of five spinal needles in obstetrics patients. Anaesth Analg.2000; 91:916-20.
5. Reina MA, de Leon –Casasola OA. Lopez A, De Andres J, Martin S, Mora M. An in vitro study of dural lesions produced by 25G Quincke and Whitcare needle evaluated by scanning electromicroscopy. Reg Anaesth Pain Med.2000; 25:393-402