

**Incidence of Post Dural Puncture Headache in the Obstetric Patient:
25 Gauge Whitacre vs 26 and 27 Gauge Quincke Tip Needles**

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Introduction: Post dural puncture headache (PDPH) is a common complication of subarachnoid anesthesia in obstetric patients. Recently, 27 gauge Quincke and 25 gauge Whitacre spinal needles have become available for clinical use. This study, approved by the hospital's IRB, evaluates the incidence of PDPH after subarachnoid anesthesia in patients using the 25 gauge Whitacre and the 26 and 27 Quincke point needles.

Methods: 2892 patients received subarachnoid anesthesia for cesarean or vaginal delivery from October 1988 to August 1991. 26 g Quincke point needles were used exclusively from October 1988 to September 1989. From September 1989 to September 1990, nearly all anesthetics were done with 27 g Quincke needles and from September 1990 to August 1991 25 g Whitacre needles were used for nearly all anesthetics. Most blocks were performed by residents in training under the direct supervision of the attending anesthesiologist. Quincke point needles were inserted with the bevel parallel to the longitudinal axis of the body. No attempt was made to orient the orifice of the Whitacre needle in any particular direction. Post operative visits were made by a nurse (LMH) employed for this purpose. Chi-square analysis (with Yate's correction) was used to evaluate statistical significance. A p value of <0.05 was considered significant.

Results: The rates of PDPH are shown in the Table.

| Group | PDPH | Total | % PDPH |
|-------------------------|------|-------|--------|
| A - 26 g Q (10/88-9/89) | 57 | 1184 | 4.8% |
| B - 27 g Q (9/89-9/90) | 21 | 847 | 2.5%* |
| C - 25 g W (9/90-8/91) | 10 | 861 | 1.2%** |

* statistically significant reduction in PDPH compared to group A ($p < 0.01$)

** statistically significant reduction in PDPH compared to group A ($p < 0.001$) and group B ($p < 0.05$)

Discussion: Many factors are involved in the development of PDPH. Needle diameter is probably most important¹. We found that a small reduction in diameter (26 to 27 gauge) caused significantly fewer headaches. More importantly, our results indicate that needle tip design^{2,3} can further reduce the incidence of PDPH. We conclude that 25 gauge Whitacre and 27 gauge Quincke needles markedly reduce the incidence of PDPH in obstetric patients.

1. Vandam LD, Dripps RD. JAMA 1956;61:586

2. Philips OC, Ebner H, Nelson AT, Black MH. Anesthesiology 1969;30:284

3. Hart JR, Whitacre RJ. JAMA 1951;147:657