

Once a post-dural puncture headache patient always post-dural puncture headache patient ?

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Summary : It is well known that symptoms of post-dural puncture headache (PDPH) are more likely if there has been a preceding PDPH. We herein present a patient who developed a PDPH following each of two dural punctures separated by 9 years.

Key words : Post-dural puncture headache ; Dural puncture ; Wet tap ; Obstetric anesthesia.

Post-dural puncture headache (PDPH) continues to be an important morbidity of spinal anesthesia. Two reports have recently raised the issue of long-term implications of a dural puncture (2, 5). Increased individual susceptibility to a second PDPH, if such susceptibility exists, would be another important long-term implication of a previous dural puncture complicated by a PDPH (3). We encountered a patient who had a PDPH following each of two dural punctures separated by 9 years.

REPORT OF CASE

A 22 year-old, 162 cm, 65 kg G2 P1 otherwise healthy female underwent an elective primary Cesarean section for fetal breech presentation under single dose spinal anesthesia performed with 25 GA Pencan needle. Her pregnancy had been uneventful. The patient had no drug allergies and no history of prior anesthesia. However, her past medical history was significant for severe PDPH following diagnostic lumbar puncture performed with 22GA Whitacre needle to aid the diagnosis of a severe headache (rule out meningitis) 9 years ago (at the age of 13).

The single dose spinal anesthesia consisting of 12 mg of 0.75% bupivacaine, 10 mcg of fentanyl and 0.2 mg of morphine was injected after a technically flawless single dural puncture performed with a 25-GA Pencan needle at the L3-L4 vertebral interspace in the sitting position. The abdominal delivery and the immediate post-operative course were uneventful. However, ten hours after the sur-

gery she developed nausea, vomiting, neck stiffness and severe frontal headache with radiation to the occiput. The headache was positional in nature with increasing intensity in vertical position. The neurological examination revealed no deficits. The patient consented to epidural blood patch (EBP), which, was performed through the L3-L4 vertebral interspace, with the patient in sitting position, using an 18 GA Tuohy-Schiff needle. Twenty milliliters of autologous blood was slowly injected, providing immediate relief of headache and other associated symptoms. The remainder of her hospital course was uneventful and she was discharged home 2 days later.

DISCUSSION

More than 100 years have passed since the initial description of PDPH (1), however, this unique clinical entity still continues to fascinate anesthesiologists, and numerous studies on its pathophysiology, prevention, and treatment, have been published (4). There seems to be considerable variability in the incidence of PDPH, which is affected by many factors such as age, gender, pregnancy, and needle type and size (6).

VALLEJO *et al.* in a prospective blinded and randomized study compared the incidence of PDPH rate for five spinal needles (two cutting edge needles : 26-gauge Atraucan and 25-gauge Quincke, and three pencil-point needles : 24-gauge Gertie Marx, 24-gauge Sprotte, and 25-gauge

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Whitacre) when used in obstetric patients (6). The incidences of PDPH were, respectively, 5%, 8.7%, 4%, 2.8%, and 3.1% for Atraucan, Quincke, Gertie Marx, Sprotte, and Whitacre needles. The authors concluded that the Quincke needle had a more frequent PDPH rate than the Sprotte or the Whitacre needle. However, the PDPH rates did not differ among the pencil-point needles (6).

In clinical practice the signs of PDPH may be observed following intentional dural puncture associated with the administration of spinal anesthesia or diagnostic lumbar puncture, as well as unintentional (accidental) dural puncture during administration of epidural anesthesia.

The most widely accepted theory concerning the cause of PDPH is based on the concept of the continuous leakage of cerebrospinal fluid (CSF) through the hole made by the spinal needle. However, we speculate that the increased incidence of PDPH in "PDPH-susceptible" patients may imply contribution of other factors (cerebrovascular changes) in the pathophysiology of this clinical entity. In general PDPH is more common in young women, particularly in pregnancy.

In obstetric population of patients there are many causes of headaches, which may include caffeine withdrawal, pregnancy induced hypertension, infectious disease, migraine and intracranial pathology. Timely and careful differential diagnosis of postpartum headache is therefore necessary.

It is well known that symptoms of PDPH are more likely if there has been a preceding PDPH (3).

KUCZKOWSKI and BENUMOF have recently described an elderly female patient with a remote history of a previous PDPH (in pregnancy) who developed another PDPH following "uneventful" spinal anesthesia for cystoscopy 50 years later (3). The authors have concluded that this general rule applies even after the passage of 50 years.

In summary this case report provides one more piece of evidence that patients with a history of previous PDPH should be considered at high risk for subsequent PDPH most likely indefinitely.

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