Sphenopalatine Ganglion Block: A Novel Treatment for Postdural Puncture Headaches

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Introduction: We evaluated a 26-year-old healthy female approximately 24 hours after cesarean section who complained of a clearly positional headache—a moderate-severe, throbbing frontal headache, worse while standing, and improved when supine. (Visual analog scale [VAS]: 7-8) She denied any visual changes or any ringing in the ears. Spinal anesthesia had been performed for her c-section at the L3-4 interspace with a single pass using a 24-gauge Gertie-Marx needle. Physical and neurological examination including cranial nerves was unremarkable. The patient had received several liters of fluid post-operatively and was on bed rest for her post-dural puncture headache.

Methods: The patient refused an epidural blood patch but agreed to a sphenopalatine ganglion block. (1) Informed consent was obtained and performed at bedside with blood pressure and pulse oximetry. Using a transnasal approach, a device consisting of a cotton-tipped applicator slid into a cut IV tubing with a port was inserted into each nostril until it came into contact with the posterior nasopharynx in proximity to the sphenopalatine ganglion. After attaching a 3mL syringe to the port, 1-2 mL of 2% viscous lidocaine was injected into each nare. The patient was redosed at 15 minutes and the applicator was left in place for a total of 30 minutes. The device was then removed. The patient was asked to sit up and reported that the headache was much improved. (VAS: 1-2) The patient was seen the following day and reported that there was no recurrence of headache. The patient continued to do well and was discharged at the appropriate time.

Conclusion: Postdural puncture headache (PDPH) is a common occurrence after spinal anesthesia or inadvertent dural puncture during epidural placement in parturients. The patient refused a therapeutic epidural blood patch (EBP), but we were able to provide relief with a sphenopalatine ganglion block. EBP is currently considered the most effective and definitive treatment for PDPH, but its use is variable based on practitioner, severity of patient’s symptoms, and patient acceptance. The sphenopalatine ganglion consists of the largest aggregate of neurons in the head outside of the brain. It is located in the sphenopalatine (pterygopalatine) fossa which makes it readily accessible to be blocked transnasally. Sphenopalatine blocks are effective in the treatment of various types of headaches including cluster, tension and migraine headaches. (2) It is a quick, relatively uninvasive procedure with few side effects. Little work has been done to assess its effectiveness in PDPH. Further well-designed studies may be able to ascertain whether this is truly an effective treatment for postdural puncture headaches.