ABSTRACT

BACKGROUND: Two female patients presented with postdural puncture headaches (PDPH) following lumbar punctures for headaches associated with idiopathic intracranial hypertension (IIH). While blood patch is a commonly utilized technique to treat PDPH, the literature is scant regarding its safety and effectiveness in the IIH population. Some Neurologists doubt that PDPH can even occur in the setting of IIH.

OBJECTIVE: To examine safety and efficacy of epidural blood patch to treat low pressure headache in the setting of idiopathic intracranial hypertension.

METHODS: Approximately 20mL of autologous blood was removed with sterile technique while the patients’ epidural spaces were accessed with a 17G Tuohy needle at the L3-L4 interspace using LOR technique. A total of 1mL of blood was injected into the epidural space in each patient. Within 24 hours the patients’ headache had completely resolved. Neither patient suffered any complications from the procedure. Both complained of mild post-voidural low back pain at the site of injection which resolved within 24 hours.

CONCLUSIONS: Although PDPH is a rare complication in a patient with IIH receiving therapeutic lumbar punctures, epidural blood patch should be considered a safe and effective treatment when it occurs.

INTRODUCTION

Idiopathic intracranial hypertension (IIH) is a neurological condition characterized by chronically elevated intracranial pressure (ICP) typically > 200-250 mmH2O. Although the etiology of IIH remains poorly understood, it likely results from an imbalance of cerebrospinal fluid (CSF) production and its absorption. IIH occurs in one per 100,000 people, and while it can occur in children and adults of both sexes, women between the ages of 20-45 are eight times more likely than men to be affected, with obesity strongly associated with overweight and obesity. While there are a number of clinical signs and symptoms in patients with IIH resulting from elevated ICP, headache is the most common complaint. In addition to headache, patients with IIH may also experience visual disturbances, delayed visual responses, and papilledema. While there are a number of clinical signs and symptoms in patients with IIH resulting from elevated ICP, headache is the most common complaint. In addition to headache, patients with IIH may also experience visual disturbances, delayed visual responses, and papilledema. While there are a number of clinical signs and symptoms in patients with IIH resulting from elevated ICP, headache is the most common complaint. In addition to headache, patients with IIH may also experience visual disturbances, delayed visual responses, and papilledema.

METHODS

The option of an epidural blood patch was fully discussed with each patient including the potential benefit of resolution of PDPH and the associated risks and alternatives. Each patient was transported to the PACU to undergo the procedure under ASA monitored anesthesia care. Anesthesiology service complaining of acute, severe, positional headaches that are treated and resolved the pain.

Epidural Blood Patch for Low CSF Pressure Headache Following a Lumbar Dural Puncture in Two Patients with Idiopathic Intracranial Hypertension

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Two patients with a known history of IIH meeting Dandy criteria, one a 33-year-old Caucasian female with a BMI of 37 and the other a 30-year-old black female with a BMI of 32 presented to the Hunter Holmes McGuire Veterans Hospital Anesthesiology service complaining of acute, severe, positional headaches that began shortly after a therapeutic and diagnostic lumbar puncture, respectively. Both patients suffered from chronic migraine-type headaches characterized by localized, bi-frontal and not exacerbated by position. The headache each patient experienced after lumbar puncture was distinct from these usual headaches. The first patient took acetazolamide 250mg daily, but had not been able to tolerate higher doses. Under the care of her neurologist, she had undergone multiple LP’s with a high volume of CSF removal (20-30mL) with transient improvement each time. Her most recent LP was performed at the L3-L4 interspace with an opening pressure of 55cmH2O. Thirty mL of CSF were removed, and she experienced almost immediate relief. Shortly afterwards she developed the clinically distinct, positional headache described above. The second patient had undergone a diagnostic lumbar puncture after complaining of new visual changes associated with her usual migraine headaches. Shortly after completion of a lumbar puncture, she complained of a severe headache and was admitted to the Interventional Radiology suite where she complained of a new and severe positional headache. Both patients underwent a work-up for headache and Anesthesiology was consulted for PDPH after they failed conservative medical therapy consisting of IVF’s, caffeine and NSAID’s.

RESULTS

Within 24 hours the patients’ headaches had completely resolved. Neither patient experienced any complications from the procedure. Both complained of mild post-voidural low back pain at the site of injection which resolved within 24 hours.

CONCLUSIONS

This case describes a rarely reported, although it is possible under-reported, paradoxical headache secondary to abnormal CSF pressures in a patient with IIH. The literature is scant regarding its safety and effectiveness in the IIH population. Some Neurologists doubt that PDPH can even occur in the setting of IIH. But, when it does, it can be a difficult and potentially dangerous situation that can lead to serious complications.

REFERENCES