ost dural puncture headache (PDPH) is a frequent complication of spinal anesthesia. Conservative treatment may generally be ineffective. Headache developing after dural puncture may be due to many clinical conditions including pregnancy-related hypertension, meningitis, and sinus venous thrombosis. Subdural hematoma (SDH) after spinal anesthesia is rare but can potentially be life-threatening. Symptoms include sudden and localized headache, altered consciousness, sensorimotor deficits, diplopia, personality change and aphasia. This paper presents a case of a patient suspected of a PDPH who continued experiencing symptoms after medical treatment with oral analgesic medication, and was later diagnosed with SDH.
CASE REPORT

A 28-year-old female patient underwent a cesarean section with spinal anesthesia 20 days prior to presentation. Twenty days after her discharge from the gynecology service, the patient presented to the emergency department with complaints of persistent headache. The evaluation in the emergency department revealed that she was experiencing persistent headache and three days of diplopia. Although her pain was occasionally relieved with rest, fluid intake and use of analgesics, there was no complete resolution. She had no history of a known disease or medication use. In the single shot spinal anesthesia performed in another medical centre, a 25 G Quincke-tipped needle was used via L3-L4 level. There was no complication during and after the spinal anesthesia. There was no report of head trauma, use of acetylsalicylic acid or any anticoagulants in the 20 day period since the spinal anesthesia. The physical examination revealed a well-appearing, conscious and cooperative female. Her neurological examination revealed diplopia with no evidence of meningeal irritation. Laboratory findings (complete blood count, glucose, sodium, potassium, blood urea nitrogen, creatinine, C-reactive protein), Chest Radiograph and Electrocardiogram were normal. Headache was localized in the left parietal area. Uncontrasted brain CT was obtained because of new neurological findings. An emergency Cranial Computerized Tomography (CCT) scan revealed subdural hematoma in the left frontoparietal region with midline shift (Figure 1). Neurosurgery service was consulted and the patient underwent emergency burr-hole opening on the left parietal side. The vital signs recorded shortly before the operation showed a blood pressure of 110/65 mmHg and a pulse rate of 100/min. There was no significant hemodynamic change during the operation. An CCT scan conducted after the operation revealed regression of the hematoma and midline shift (Figure 2). On post-operative day 10, the patient had no neurological deficit, and was discharged with clinical recovery.

DISCUSSION

The complications of spinal anesthesia include headache, hypotension, low back pain, infective complications, and intracranial hemorrhage.² Any dural damage after intervention may cause headache. PDPH usually resolves within a couple of days using oral analgesic therapy, oral or intravenous fluid hydration along with bed rest.

PDPH frequently occurs at frontal and occipital sites, with a possible radiation to shoulders. It is aggravated by the upright position and sudden...
movement, but is usually alleviated with bed rest. Nausea, vomiting, depressive mood and anorexia may accompany pain. It is more common among young women.3

Initially, PDPH was considered to be the most likely cause of the patients headache in this case as there were no neurological signs and the pain responded intermittently to treatment. However, upon obtaining further history and progression of symptoms and findings of diplopia on neurological examination led to a broader differential diagnosis and further testing uncovered an intracranial hemorrhage.

SDH after spinal anesthesia is a rare anesthetic complication which may be accompanied by headache and neurological findings. Any prolonged or unresolved headache due to dural irritation, alteration in pain profile, and development of new neurological findings may all indicate SDH or other intracranial hemorrhage.4,5 Dural damage and leakage of cerebrospinal fluid may also arise along with intracranial SDH after rupture of veins between cortical and dural sinuses based on stress.6 CT or MRI can be used for diagnosis. Small SDH in the late subacute phase may be missed as it is likely to be observed as isodense areas in CT. In such cases, MRI may yield the definite diagnosis.

Diagnosis could be made in our case during the subacute phase, followed by discharge after recovery. Therefore, intracranial hemorrhage, with its high mortality rates, should be considered in any patient with prolonged and unresolved headache after spinal anesthesia despite medical therapy. Patients with PDPH after spinal anesthesia should be monitored for neurologic signs and symptoms that could herald SDH.

Conflict of Interest
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