Cerebral venous thrombosis following spinal anesthesia

Madam,

Cerebral venous thrombosis (CVT) is an unusual complication after spinal anesthesia. We report a case who after an uneventful vaginal hysterectomy under spinal anesthesia developed cortical vein thrombosis which got confirmed by computed tomography (CT) angiography. The patient treated with anticoagulants, physiotherapy, and made complete recovery.

Postdural puncture headache (PDPH) was common in 10–30% of patients, usually has a benign course most patients making a complete recovery. Cortical vein thrombosis is an unusual complication characterized by headache, nausea, vomiting, and focal deficits with epileptic seizure. We describe a patient who presented with signs and symptoms of PDPH but on CT angiography turned out to be a case of cortical vein thrombosis, after an uneventful vaginal hysterectomy under spinal anesthesia.

A 43-year-old, 70 kg, female with a history of dysfunctional uterine bleeding was operated for vaginal hysterectomy under spinal anesthesia with 0.5% bupivacaine 15 mg + fentanyl HCl 10 mcg at L3–L4 level. Surgery completed uneventfully with hemodynamics maintained with intravenous (IV) fluid, Ringer’s lactate 1.5 L.

On 2nd postoperative day, patient complained of headache and vertigo, referred to anesthetist and neurophysician. Neurophysician transferred under and was advised plain CT brain and CT angiography neck and brain. Treatment included Injection Fosolin 150 mg BD, injection mannitol 100 ml TDS, injection Clexane 0.6 ml s/c BD, injection Lopez 10 mg, tablet acitrom 3 mg OD, and tablet Ace-proxyvon BD, with antibiotic cover.

CT angiography [Figure 1] showed as CVT involving superior sagittal sinus, right transverse, and sigmoid sinus extending in upper cervical part of the right internal jugular vein with a paucity of cortical vein on the right side.

CT plain [Figure 2] brain revealed hyperdense hematoma with mild perifocal edema in parietotemporal lobes causing effacement of the right atrium; small hematoma was also seen in right superior parietal lobe with mild perifocal edema. There was minimal midline shift to the left side, diffuse cerebral edema and normal brain and cerebellar hemispheres.

On 3rd postoperative day, patient had one episode of focal seizure involving left arm. For that injection Epsolin 100 mg was advised. On 5th postoperative day, patient was fully conscious, moving all limbs, and had no neurological deficit. Physiotherapy was continued. On 8th postoperative day, patient was discharged with the advice to regular follow-up.

There is reported relationship with spinal anesthesia, the loss of cerebrospinal fluid (CSF) leading to dilatation and venous stasis in patient with prothrombotic conditions. Our patient had no coagulation disorders. Surgery was done in lithotomy position which lasted for about 90 min.

CVT has been recognized with increasing frequency in recent years as a result of heightened clinical awareness and advances in diagnostic technology, in particular the advent of magnetic resonance imaging (MRI). MRI is the technique of choice for the immediate evaluation of CVT. But should be considered in patients in whom intracranial pathology is suspected. The pathogenesis of CVT can be explained by the Monro-Kellie-Abercrombie
doctrine. This suggests that the skull is a rigid structure,[4] and the brain volume, venous blood, and CSF are in a state of equilibrium, so reduction or increase of either element leads to alteration in the volume of the other two. There is currently no consensus on the specific therapy for CVT. Anticoagulation with IV heparin (low-molecular-weight heparin) is generally considered to be the first line treatment and is continued until an appropriate partial thromboplastin time is obtained.[5] Our patient also responded to this treatment.

Since patient had complete recovery, so control imaging and coagulation pattern including protein S and C were not done because patient was not willing to bear the expense.

A thorough history is important to exclude other possible diagnoses before assuming that headache is of spinal origin. CVT should be considered if the characteristics of headache are changing, or if neurological signs are present. The long-term prognosis for patients with CVT from all causes is good. Early diagnosis and treatment will promote optimal medical care and are associated with better functional recovery.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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