

Incidental Diagnosis Of Sphenoid Meningioma After Spinal Anaesthesia

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Citation

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Abstract

We report a case of a 49 year old previously fit female patient who underwent left total knee replacement under spinal anaesthesia with an uneventful intraoperative course. The patient received continuous femoral nerve infusion for postoperative analgesia. Six hours later the patient developed behavioural changes, incontinence of urine and investigations revealed marked hyponatraemia. Following an urgent neurology opinion, computed tomography of the brain revealed a medial sphenoid wing meningioma. Fundoscopy showed right sided optic atrophy. We suggest that any patient exhibiting neurological changes after central neuraxial blockade should undergo fundoscopy and CT scan brain besides a thorough neurologic evaluation for these rare incidents to be detected. The patient was immediately referred to neurosurgical unit for surgical management of the intracranial tumour.

INTRODUCTION

Several anaesthesia techniques have been described for total knee replacement. Most frequently spinal anaesthesia is used in these surgeries. It is associated with fewer incidence of neurological complications like post dural puncture headache, transient neurological disturbances, seizures and rarely radiculopathy and myelopathy.

Diagnosis of a brain tumour after spinal anaesthesia is rare but a few cases have been mentioned in the literature. We present a case report a sphenoid meningioma manifested after spinal anaesthesia. Preoperatively patient had no neurological complaints

We suggest that for these rare incidents to be detected, fundoscopy and CT brain should be an integral part of a neurologic evaluation protocol in any patient exhibiting neurologic changes after neuraxial blockade.

CASE REPORT

A 49 year old female patient weighing 75 kg with complaints of pain in both the knees and limitation of movement since 6 years was diagnosed to have osteoarthritis and posted for left total knee replacement. On thorough preoperative evaluation the patient was assigned ASA grade III in view of hypertension and exertional dyspnoea. All preoperative investigations were within normal limits. Pulmonary function tests done for exertional dyspnoea

revealed mild restriction of small airway, decreased functional residual capacity, and minute ventilation adequate for general anaesthesia. Spinal anaesthesia was given for left total knee replacement with monitoring of blood pressure, heart rate, oxygen saturation, electrocardiogram and end tidal CO₂ levels. Continuous femoral nerve infusion was given with 0.2% bupivacaine through an elastomeric infusion pump @ 5 ml/hr in the post operative period. Assessment of postoperative pain 3 hours later revealed mild pain at rest (score=1) and moderate pain on movement (score=2). There was no motor or sensory blockade. Six hours later patient developed neurologic symptoms comprising of disorientation, irrelevant talk, altered behaviour, loss of recent memory and urinary incontinence. There was no complaint of headache, vomiting, limb weakness, convulsions, facial asymmetry and visual diminition. The continuous femoral nerve infusion was stopped and patient was given intramuscular NSAIDS. Neurologists on evaluation found reduced visual acuity and only perception of light in the right eye. Fundoscopy showed right sided optic atrophy. A computed tomography of the brain showed a homogenously enhancing lesion measuring 30×32×28 mm in the suprasellar region. There was mild compression of ipsilateral ventricle with prominent sylvian fissure and displacement of right internal carotid artery most suggestive of medial sphenoid wing meningioma. Mild hydrocephalus without any intrasellar extension was noted.

Blood investigations revealed marked hyponatraemia (serum sodium < 120 meq/litre). Patient could not be subjected to magnetic resonance imaging of the brain because of the metallic implant. The patient was immediately referred to neurosurgical unit for surgical management of the intracranial tumour.

Figure 1

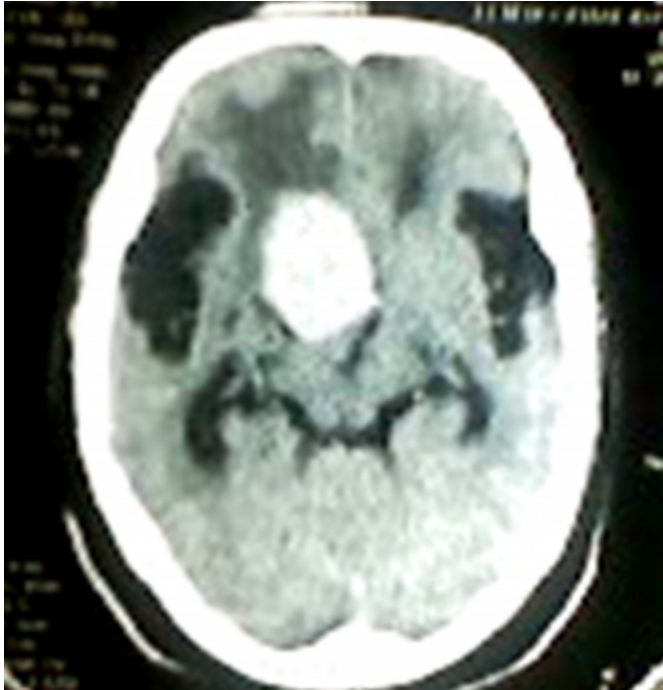


Figure 2



DISCUSSION

Central neuraxial blockade although a safe procedure can be associated with neurological complications like post dural puncture headache, transient neurological disturbances, seizures and rarely radiculopathy and myelopathy (1, 2, 9). Diagnosis of a brain tumour after spinal anaesthesia is rare (3). However a few cases have been mentioned in the literature (3, 4, 5, 7). These include pituitary tumours due to apoplexy or necrosis (3, 7) and pineal tumours (4). The present case is of a sphenoid meningioma manifested after spinal anaesthesia. The standard literature search done did not yield a single case of sphenoid meningioma. Supratentorial intraxial tumours tend to raise the intracranial pressure by virtue of tumour mass and the surrounding oedema. Occasionally there is ventricular dilatation as a result of direct or indirect compression of cerebrospinal fluid pathways (9). In large hemispheric tumours contralateral ventricular dilatation is frequently seen (6). Our patient, inspite of having mild compression of ipsilateral lateral ventricle and mild hydrocephalus had no signs or symptoms of raised intracranial tension whatsoever preoperatively. Changes in cerebrospinal fluid pressure due to central neuraxial blockade with associated tumour movement may be responsible for initiation of symptoms of incidental tumours (6, 8). Probably the effects of the cerebrospinal fluid pressure difference are more pronounced in the midline structures (7). Tumour movement and alteration of the delicately balanced intracranial pressure have been implicated as the cause of clinical worsening (6, 8).

We suggest that for these rare incidents to be detected, fundoscopy and CT brain should be an integral part of a neurologic evaluation protocol in any patient exhibiting neurologic changes after neuraxial blockade.

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