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Research Paper

Anaesthetic Management Of A Patient With Idiopathic Intracranial Hypertension(IIH) For Caesarean Section- A Case Report.

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I. INTRODUCTION

Idiopathic intracranial hypertension (IIH) is defined as a neurological disorder characterized by raised cerebrospinal fluid pressure (CSF) in the absence of any intracranial pathology or secondary cause of intracranial hypertension. It was first described by Quinke in 1893 under the name of ‘‘meningitis serosa’’[1]. This condition was known as pseudotumor cerebri and benign intracranial hypertension until 1989 when Corbett and Thomson suggested its current term. IIH is rare, its incidence is estimated at 1/100 000. Risk factors include obesity, polycystic ovary syndrome, thrombophilia and hyperfibrinolysis. It is a condition that primarily affects obese women, particularly those who experienced a rapid increase in weight over a short period . This condition primarily presents as chronic diffuse headaches, and patients can experience other symptoms of increased intracranial pressure, such as pulsatile tinnitus and retrobulbar pain, and, left untreated, some patients can develop vision loss .Pregnancy can act as a crucible for IIH as it is often associated with rapid weight gain, increased vasodilation, increased cardiac output, increased blood volume, increased sodium and water retention, increased central venous pressure, and increased Valsalva maneuvers during labor, which, in turn, increase intracranial pressure. Thus, pregnancy is a unique and high-stakes time that demands careful and effective diagnostic and therapeutic action to best manage the safety of both the mother and the fetus.

II. CASE REPORT

28 year old G3P1L1A1 at 38 weeks of gestation weighing 82 kg height 155 cm posted for elective caesarean section. She had history of missed abortion 7 years back, D and C done, following which she started experiencing severe bursting type of headache. Consulted a neurologist and on evaluation MRI showed bilateral papilledema ,no other significant abnormalities, EEG normal, CSF opening pressure was 260mmHg and diagnosed IIH and started on Tab Acetazolamide250 mg. Then she was symptomatically better. During previous pregnancy 6 years ago she was asymptomatic, emergency caesarean section done under general anesthesia (indication: foetal distress).During this pregnancy patient was asymptomatic, neurologist advised to start T. Acetazolamide 250mg and to avoid BP fluctuation during surgery and ophthalmology evaluation was normal.

After we obtained informed consent, we placed an epidural catheter, on a single attempt, between the first and second lumbar vertebrae, using sterile technique. We threaded the epidural catheter, confirmed a negative aspirate for CSF or blood, and then administered a test dose of 3 mL of 1.5% lidocaine with adrenaline (1:200,000). Once inadvertent intravascular or intrathecal injection was ruled out, a bolus dose of 1.5% lidocaine with adrenaline total 12 mL was administered over 5 minutes and T6 dermatome level achieved. Thirty minutes after the initial bolus, epidural top up given with fentanyl 100 mcg. Intraoperative period was uneventful and she delivered a healthy baby without sequelae. The epidural catheter was removed after surgery and the patient recovered free of complications.

III. DISCUSSION

Idiopathic intracranial hypertension (IIH) is a neurological condition characterized by raised intracranial pressure of unknown etiology with normal cerebrospinal fluid (CSF) composition and no brain lesions. Theories of IIH pathophysiology include increased venous sinus pressure, decreased spinal fluid absorption, increased

spinal fluid secretion, increased blood volume and brain oedema.[2]The various treatment modalities used in patients include corticosteroids, acetazolamide, diuretics, repeated lumbar puncture and surgery. The goals of treatment of IIH involve a reduction of intracranial pressure to control symptoms and prevent pressure on the optic nerve and optic meninges, preserving vision.[3]Our patient had a history of IIH since 8 years, was on tablet acetazolamide and showed response to medical therapy and now clinically stable. From the literature, it has been found that IIH is more common in females in the age group 20‑45 years.[4]

The decision regarding the mode of delivery and anesthetic technique should be multidisciplinary and individualized for each patient. There is little evidence comparing the safety of neuraxial versus general anesthesia in this patient population. The primary aim of each technique should be to avoid surges in ICP . Neuraxial anaesthesia, spinal or epidural has been used successfully for caesarean section in patients with IIH. Since lumbar puncture for CSF drainage is a therapeutic modality for IIH, there is no indication to withhold spinal anaesthesia in these patients. Aly and Lawther reported a case of uncontrolled IIH successfully managed using an epidural catheter for analgesia in labour and delivery as well as temporary control of intracranial pressure.[5] In our patient we opted for graded epidural anaesthesia to avoid hemodynamic fluctuations.

In conclusion, although IIH is rare, there are special considerations for anaesthetic management in patients with this disorder. Even though, these patients have an elevated ICP, anaesthesia does not cause any detrimental effects in patients with IIH. So, we have to take measures to avoid increase in ICP during the perioperative period. Despite the presence of raised ICP in these patients, there is no specific contraindication to either spinal or epidural anaesthetic technique since uncal herniation does not occur in these patients. The main goal is to avoid further increases in ICP.

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