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Acute thalamic haemorrhagic stroke after combined spinal–epidural anaesthesia in pregnancy

A case report

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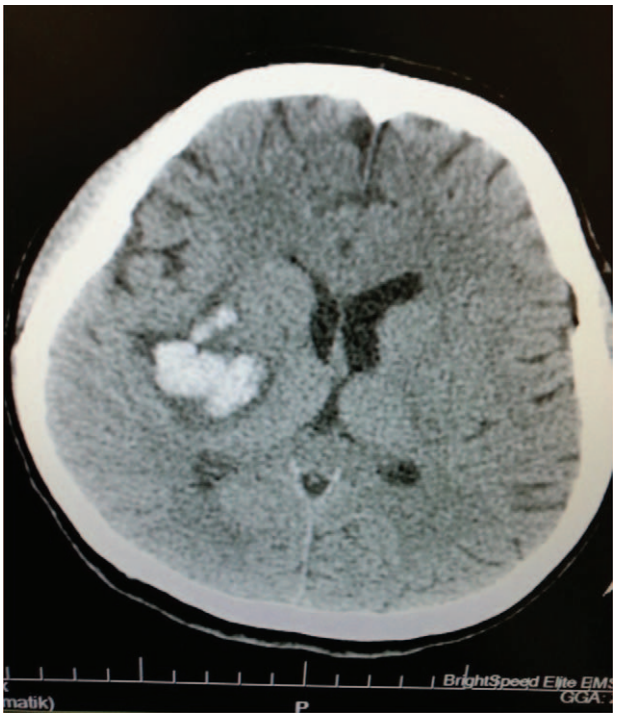
Editor,

Intracerebral haematoma is an exceptionally rare but life-threating complication of lumbar puncture, myelography, spinal anaesthesia and spinal surgery.[1–5] Unless the patient takes anticoagulants, the pathophysiology and cause of this condition are unknown.[3,4] We present a case of acute thalamic haemorrhage associated with nonpostural headache complaints starting 4 h after combined spinal–epidural (CSE) anaesthesia.

A previously healthy 36-year-old pregnant woman was delivered of twin babies by caesarean section under CSE anaesthesia. There was no history of preeclampsia, anticoagulation or haemorrhagic diathesis. The physical examination and pre-operative blood tests including coagulation profile, urine analysis, chest radiograph and ECG were all within normal limits. When the patient arrived in the operating room, the L4 to L5 epidural space was accessed at the first attempt using a Tuohy 18-gauge needle; a 27-gauge needle was used to deliver bupivacaine 12 mg with fentanyl 20 μg into the subarachnoid space, followed by the insertion of a 20-gauge epidural catheter for postoperative analgesia. During the operation and in the postoperative recovery unit, her blood pressure (BP) and heart rate were within normal limits. Four hours after delivery, her moderate headache progressed to a severe nonpostural headache associated with increased BP, numbness at the edge of the lips, left hemiplegia and aphasia. Computerised tomography (CT, Fig. 1) showed a thalamic haemorrhage consistent with the diagnosis of stroke. The patient was managed by careful neurological follow-up associated with conservative treatment and physical therapy. After 6 months, there were no abnormalities in the CT scan (Fig. 2) and the patient recovered except that power in the upper left arm was reduced to 3/5. In the literature, we were not able to find any information on acute thalamic haemorrhagic stroke after CSE anaesthesia.

The incidence of intracranial intracerebral haematoma after epidural and spinal anaesthesia in obstetric practice has not been estimated because only a small number of cases have been reported. Until now, only four cases of intracerebral hematoma were reported, the first in 1981 and the last in 2002.[4,5] None of the four patients had an

Fig. 1



Plain computerised tomography head scan: right-sided acute thalamic haematoma following combined spinal–epidural anaesthesia.

Fig. 2

Computerised tomography scan showing resolution of the thalamic haematoma after 6 months.

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antenatal history of hypertension, diabetes, headache, seizure, eclampsia or bleeding disorder. Three were admitted for elective caesarean section, and one had removal of a retained placenta.

Acute cranial subdural haematoma after obstetric regional anaesthesia is more common than intracerebral haematoma. Subdural haematomas in all reports were attributed to a cerebrospinal fluid (CSF) leakage through the hole site, resulting in intracranial hypotension, caudal displacement of the brain and rupture of the tension-sensitive dural vessels. However, in our patient, acute thalamic haematoma developed within 4 h after surgery. The procedure itself was completed at the first attempt and a 27-gauge hole in the dura could not have caused significant CSF loss within 4 h. We did not observe any CSF leakage through the catheter either.

The cause of acute thalamic haemorrhage within hours after CSE anaesthesia is unknown in our patient. Haematological investigation of the patient did not reveal any abnormalities in blood clotting profile. Although no traumatic CSF leak was observed during the procedure, undesired effects of dural tap, intrathecal opioids, epidural local anaesthetic or a Valsalva manoeuvre may have triggered secondary intracranial hypotension. Any decrease in CSF volume is estimated to cause a decrease in intracranial pressure, altering the transmural pressure in the arterial wall. To compensate for reduced CSF pressures, vasodilation will occur making bleeding more likely when vascular damage occurs during labour and delivery. Additional risk factors related to pregnancy in our patient may have contributed to the formation of bleeding. This case was a twin pregnancy and therefore increased intra-abdominal and caval pressure, increased force of a Valsalva manoeuvre and intracranial pressure during the caesarean section, may have contributed to the formation of the thalamic haematoma compared with a primiparous pregnant woman.

The thalamus is one of the areas most affected by intracerebral haemorrhage.[6] Hypertension, diabetes mellitus and previous anticoagulant or antiplatelet use are some of the risk factors for thalamic haemorrhage. It is accepted that hypertension is the most important risk factor.[6] In our case, BP was at normal limits before and during pregnancy in line with hospital records and information received from the patient. However, postoperative headache, hypertension and neurological insult developed.

Thalamic haemorrhage after CSE anaesthesia in a healthy pregnancy is extremely rare but may result in serious complications. In obstetric practice, if nonpostural and persistent headache develop during and after dural puncture, the patient should be monitored closely for early diagnosis and treatment of thalamic haemorrhage.

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Efficacy of incisional infiltration and intraperitoneal instillation of ropivacaine for the management of pain after laparoscopic sleeve gastrectomy

A randomised trial

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Editor,

Although the induction of laparoscopy in bariatric surgery has led to faster recovery, postoperative pain remains an issue.[1] The aim of this prospective, randomised, double-blinded, placebo-controlled trial was to evaluate incisional infiltration and intraperitoneal installation of ropivacaine on optimising analgesia after laparoscopic sleeve gastrectomy (LSG).

The study was approved by the Ethics Committee of Hippokration General Hospital (no. 75/2011) on 2 December 2011 and was carried out according to the principles of the Declaration of Helsinki, 7th revision, Fortaleza 2013. Informed consent was signed pre-operatively by all patients. Patient enrolment is depicted in

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