

Meningioma in pregnancy: a case report and discussion of fetal and maternal considerations

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Introduction

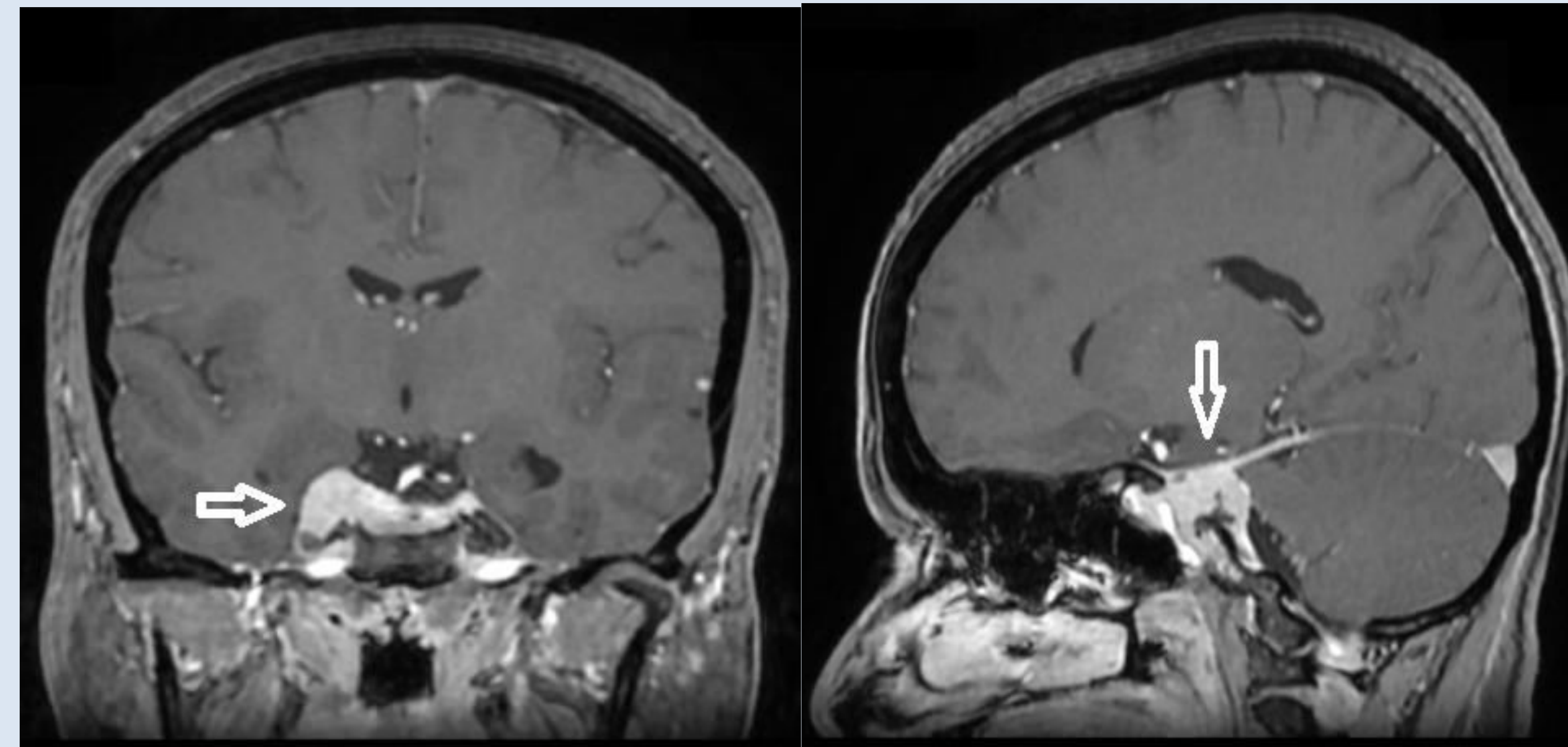
Meningioma in pregnancy is a rare occurrence and often presents with headache, vomiting, visual disturbances, seizures or altered sensorium. Management of such cases is often challenging as effects on both maternal health with on-going pregnancy and potential delays in treatment need to be balanced with implications on foetal wellbeing. We report here a case of meningioma diagnosed in the third trimester in an otherwise healthy pregnant mother.

Case

Mrs F, a 28 year old primip, presented to maternity triage at 38 weeks gestation, with a 3 week history of headache, diplopia on right lateral gaze and unilateral facial numbness. On examination there was evidence of a right sixth nerve palsy and right-sided reduced sensation to the jaw in a V3 trigeminal nerve distribution. She was diagnosed with GDM but had otherwise had an uneventful antenatal course. Her observations, blood tests and CTG were normal, the remainder of her neurological examination was unremarkable.

She underwent a CT head which showed a subacute/chronic hypodense foci in the right subcortical white matter, one in the anterior limb of the right internal capsule and the other one close to the lentiform nucleus.

An MRI revealed a right petrous apex lesion which was likely to represent a petroclival meningioma with right cavernous sinus involvement.



Management

The patient was originally planned to undergo an induction of labour for GDM. There were no signs of hydrocephalus on imaging and no signs of raised intracranial pressure, therefore an MDT meeting concluded an induction with regional anaesthesia was safe.

The patient delivered via emergency caesarean section due to fetal distress in the 1st stage of labour, under epidural anaesthesia. There were no immediate fetal or maternal complications.

Postnatally, a CT angiogram was performed and confirmed a right petrous apex meningioma. The patient was discharged and referred to the Skull Base MDT. Due to worsening symptoms the patient underwent stereotactic radiosurgery (cyberknife), commonly used in complex skull base tumours, 3 months after delivery and is awaiting follow up.

Discussion

Meningiomas are the most common benign primary brain tumours of the CNS. Although the incidence of intracranial tumours during pregnancy is extremely low, meningiomas can undergo accelerated growth during pregnancy. This is thought to be secondary to haemodynamic changes in pregnancy with subsequent increases in vascularity as well as hormonal changes, including increases in progesterone, human placental lactogen and prolactin.

MDT discussion in liaison with a tertiary neurosurgical centre is crucial in management of these cases to determine timing and mode of delivery to optimise both maternal and fetal outcomes, as well as choices of anaesthesia (normally determined by the presence of raised intracranial pressure or hydrocephalus). Pregnancy can continue with foetal monitoring, close regular and neurological evaluation of the mother. Caesarean delivery is only indicated if there are any sign of raised intracranial pressure.

Indications for urgent neurosurgical management include malignancy, active hydrocephalus, benign tumour with signs of impending herniation or progressive neurological deficit.

Conclusion

Intracranial tumours in pregnancy are rare. Although headaches in pregnancy are common, the presence of red flag symptoms should prompt further investigation and consideration of benign and malignant pathology. MRI is the imaging of choice. MDT management and delivery plan is essential to optimise outcome for mother and baby.

Reference

Meningioma during pregnancy: what can influence the management? A case series and review of the literature;luigi Carbone et al;Journal of Maternal-foetal & neonatal Medicine;;25 Nov 2021