

Transient Ischaemic Attack and Paradoxical Embolism During Caesarean Delivery Under Spinal Anaesthesia

Lea Rupert, Vanja Soprenic, Igor Gorican, Katja Razem, Dragica Becanovic-Slavnic

Introduction

Neurological complications following spinal anaesthesia for caesarean delivery are exceedingly rare.

A transient ischaemic attack (TIA) is defined by transient focal neurological deficits caused by cerebral hypoperfusion and may reflect an underlying cerebrovascular or embolic aetiology.

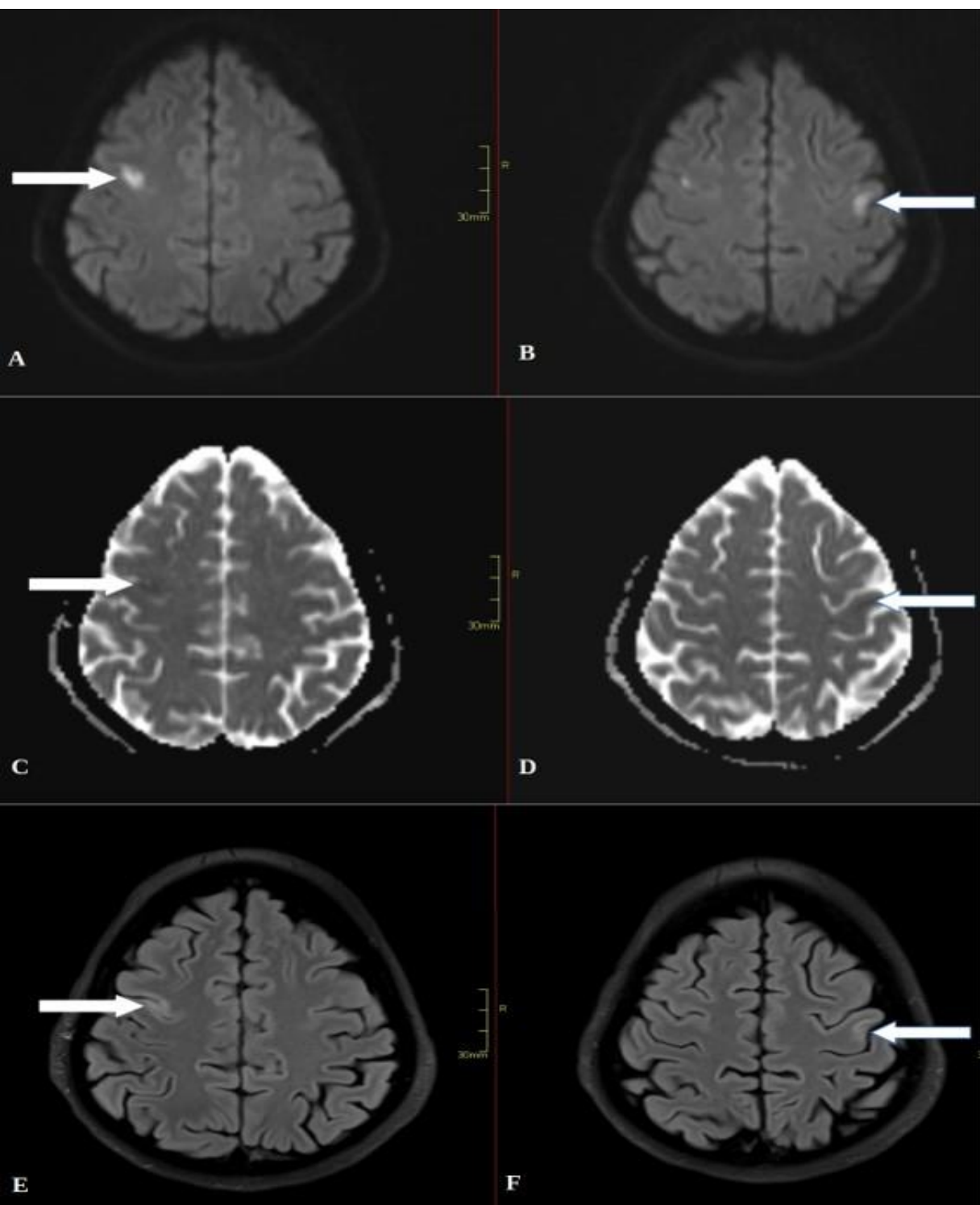
Physiological changes during pregnancy and the postpartum period increase susceptibility to neurological events and can complicate the differentiation between TIAs, migraine aura, and anaesthesia-related neurological complications.

Case Report

A 28-year-old woman, gravida 3 para 2, with two previous caesarean deliveries, was admitted at 32 weeks' gestation for preterm premature rupture of membranes. Her pregnancy was otherwise uncomplicated, apart from iron-deficiency anaemia, recurrent migraine with aura, and a BMI of 35.1 kg/m². At 34 + 4 weeks, she underwent a caesarean section under spinal anaesthesia, delivering a healthy newborn.

Immediately following umbilical cord clamping and intravenous oxytocin administration, the patient developed acute expressive aphasia, reduced responsiveness, and agitation while remaining haemodynamically stable.

Initial management targeted a suspected focal seizure and possible local anaesthetic systemic toxicity. Computed tomography–based neuroimaging was unremarkable. Neurological status normalised within ninety minutes, except for residual right thumb paraesthesia. Brain magnetic resonance imaging performed one week later revealed two cortical hyperintense lesions with mild diffusion restriction, consistent with subacute embolic ischaemic infarcts. Further evaluation demonstrated a right-to-left shunt on transcranial Doppler, and transthoracic echocardiography confirmed a patent foramen ovale (PFO). Antiplatelet therapy was initiated, and percutaneous PFO closure was recommended.



Discussion

This case highlights the multifactorial nature of peripartum stroke and TIA. Pregnancy, operative delivery, migraine with aura, and an unrecognised right-to-left shunt increased the risk of cardioembolic ischaemia.

The strong association between migraine with aura and patent foramen ovale further underscores the importance of early risk factor identification.

Overlapping postpartum neurological symptoms and the low incidence of stroke in women of reproductive age may delay diagnosis, making rapid multidisciplinary assessment essential.

References

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