

Combined spinal epidural anaesthesia for caesarean section for a parturient with moyamoya disease and sickle cell disease

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Introduction

Moyamoya disease is an occlusive internal carotid arteriopathy. Small 'moyamoya' vessels (Japanese for puff of smoke) develop within the brain¹

Moyamoya disease is often associated with **sickle cell disease** (SCD)



Image 1 Internal carotid artery (ICA) angiography displaying moyamoya 'puff of smoke' sign²

Case Background

36 year old primiparous woman

Elective caesarean section at **37/40**

SCD and moyamoya diagnosed after ischaemic stroke

Pial synangiosis

MRI: severe **bilateral ICA narrowing**

Anaesthetic Management

Preoperative

- Regular **exchange transfusions** to optimise Hb and HbS %

Intraoperative

- Wide bore peripheral vascular cannulae and **arterial line**
- Combined spinal epidural**: 9 mg intrathecal heavy bupivacaine and 300 mcg diamorphine
- Epidural 0.5% bupivacaine and 2% lidocaine to gradually advance block height
- Warmed IV crystalloids aiming for **euvolaemia**
- Peripheral **phenylephrine** infusion avoiding hypertension
- High flow nasal oxygen** during supine positioning
- Forced air under body **warmer**
- Recovery in a **high dependency unit**

Postoperative

- Multimodal pain control including **patient controlled epidural analgesia**
- Successful outcome for mother

Key Anaesthetic Goals

Sickle Cell Disease

MDT preoperative optimisation

Optimal tissue and cerebral oxygen delivery

Thermoregulation

Excellent multimodal analgesia

Moyamoya

Careful blood pressure control

References

- 1) Suzuki J, Takaku A. Cerebrovascular "moyamoya" disease. Disease showing abnormal net-like vessels in base of brain. Archives of Neurology. 1969; 20(3): 288-99. doi:10.1001/archneur.1969.00480090076012
- 2) Case courtesy of Andrew Dixon, Radiopaedia.org, rID: 10586

Written consent obtained from the patient