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CORRESPONDENCE

Delayed recovery post anesthesia: an atypical presentation of familial hemiplegic migraine

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To the Editor,

A 52-yr-old 62-kg female with controlled hypertension presented for a day case excision of a breast fibroadenoma. Previous anesthetics, including a recent dental extraction under general anesthesia, were unremarkable.

Anesthesia was induced with midazolam, fentanyl, and propofol, and spontaneous ventilation was supported throughout the case with oxygen/air/sevoflurane via a laryngeal mask airway device. Baseline blood pressure was 124/76 and remained stable throughout the 45-min procedure with no hypotensive spells. Intravenous perioperative analgesia was administered using diclofenac and paracetamol along with dexamethasone and ondansetron for postoperative nausea and vomiting chemoprophylaxis.

At the end of the procedure, the patient coughed, was extubated, and was transferred to recovery where she remained persistently drowsy and dysarthric. Her respiratory rate dropped periodically to 4-6 breaths·min^{-1}, and flumazenil and naloxone were administered with negligible clinical effect. A cranial nerve examination revealed an absent gag reflex, and results of a peripheral nervous system examination were normal.

As the patient slowly regained full consciousness over the next 12-18 hr, a new isolated 4-/5 weakness developed in both her upper and lower left limbs. That evening, she developed a severe throbbing headache which she described as "like my previous migraine headaches". An urgent computed tomography and diffusion-weighted magnetic resonance imaging of the patient's brain were performed as well as a vascular risk profile and thrombophilia screening, and all results were within normal limits. Over the next five days, the patient's motor deficit resolved with aggressive physiotherapy. Interestingly, she disclosed that her daughter also experienced hemiplegic migraine attacks in the non-perioperative setting. Our patient was retrospectively diagnosed with a prolonged hemiplegic migraine with basilar depression and hemiplegic aura.

Migraine, most common in Caucasian females around 40 yr of age, is a primary episodic headache disorder characterized by neurological, gastrointestinal, and autonomic changes. It is diagnosed by the International Headache Society's (IHS) diagnostic criteria for headache disorders.[1]

The classic aura of migraine is driven by a wave of neuronal and glial depolarization, known as cortical spreading depression, which spreads slowly across the cerebral cortex. Vascular dilatation and vasoconstriction exist as reactive phenomena.[1] Seeing as our patient had previously reported similar symptoms in conjunction with a first-degree relative with hemiplegia and headache, both mother and daughter satisfied the IHS diagnostic criteria for familial hemiplegic migraine (FHM). The aura of FHM is variable, lasting minutes to weeks, and may involve hemiplegia, hemisensory disturbance, or basilar symptoms that often precede the migraine headache.[2]

Hemiplegic migraine has been described following general anesthesia in four previous cases. In two of those cases,[3,4] the patient presented initially with hypoventilation and decreased consciousness that preceded the onset of hemiplegia and headache. The other two cases exhibited only hemiplegia and headache. There have also been three case reports of hemiplegic migraine without brainstem

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depression: following intravenous fentanyl sedation, after an interscalene block, and following intrathecal spinal morphine injection.

In our case, there is nothing to suggest, albeit with limited information, that the patient was experiencing a basilar migraine perioperatively. This is evidenced by her hemodynamic stability and spontaneous ventilation via the laryngeal mask airway device to maintain normocapnia throughout the case. Her initial basilar migraine was first apparent following extubation and presented with an absent gag reflex, dysarthria, and decreased consciousness followed by a hemiplegic aura and headache.

Common migraine precipitants for patients pre-anesthesia include emotional stress, fasting, and bright lights. In this case, it is unclear whether the triggering event was a delayed response to an administered agent or a stress response from coughing at extubation.

This case is yet another reported instance of a patient who presented initially with basilar depression and was subsequently diagnosed with hemiplegic migraine following general anesthesia. Although uncommon, hemiplegic migraine should be considered in the differential diagnosis of patients who present with acute brainstem depression and hemiplegia but with no clinical or radiological evidence for stroke.

Conflicts of interest None declared.

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