Timing of surgery following recent ischaemic stroke

Introduction

Recent cerebrovascular accident is known to be a risk factor for perioperative morbidity including further stroke (Macellari et al, 2012). However, there is debate about whether this risk is time-dependent and there is limited guidance available on if, and for how long surgery should be postponed following a cerebrovascular accident. This article discusses the management of a patient who presented for surgery following a recent ischaemic stroke.

Discussion

Perioperative stroke is a recognized complication of non-cardiac surgery with an incidence of 0.08–0.7%, varying with the type of surgical procedure (Macellari et al, 2012).

Of all risk factors, a history of recent cerebrovascular accident is the strongest predictor for further perioperative stroke and should be identified at pre-assessment (Task Force for Preoperative Cardiac Risk Assessment and Perioperative Cardiac Management in Non-cardiac Surgery et al, 2009). Although uncommon, perioperative cerebrovascular accident is associated with a prolonged length of stay in hospital and an 8-fold increase in mortality (Mashour et al, 2011, 2014; Biteker et al, 2013). Thus, appropriate preventative measures are warranted to prevent this potentially devastating complication.

In 2014, a consensus statement from the Society for Neuroscience in Anaesthesiology and Critical Care (Mashour et al, 2014) addressed timing of elective surgery after recent stroke. They recommended that a delay period of approximately 4 weeks should be considered between the stroke and elective surgery, but also recommended that the decision to delay surgery should be a balance between risks of perioperative stroke and the risks of the surgical pathology, as there is no clear relationship between timing of previous stroke and incidence of perioperative cerebrovascular accident. However, Jørgensen et al (2014) have since shown that patients who had a stroke within 3 months before surgery had incidence rates of 30-day ischaemic stroke 149.6-fold higher than patients who had not had a stroke. They also found that all-cause mortality was 12.6-fold higher in this group.

A longer time period between stroke and surgery was associated with gradual decrease in risk of further perioperative stroke. Patients with stroke within a 3-month timeframe of their surgery were at particularly high risk, whereas in those within 9 months the risk appeared to level off.

Following this study, Moore (2014), a co-author of the Society for Neuroscience in Anesthesiology and Critical Care consensus statement, advised that these data provide compelling evidence that surgery should be delayed beyond 4 weeks, and that stroke within 9 months of the proposed surgical procedure should be carefully considered. It is further suggested by Sanders et al (2015) that a delay period of 6 months should be considered for non-urgent surgery.

Conclusions

This case highlights the need to carefully pre-assess patients for history of recent stroke, particularly within the previous 9 months, and to consider delaying elective surgery in these patients where possible in order to allow sufficient time for recovery from the cerebrovascular accident. BJHM

Case Report

A 75-year-old man was admitted with right upper limb weakness and was diagnosed on magnetic resonance imaging to have an acute cerebral infarction in the territory of the left middle cerebral artery. Before his stroke he had well-controlled diabetes and ischaemic heart disease with good functional capacity.

He had a history of atrial fibrillation and was on aspirin. He was commenced on dabigatran and high dose aspirin as initial therapy for his cerebrovascular accident; however, he developed rectal bleeding a few days later associated with his anticoagulation. A colonoscopy demonstrated a tumour within the sigmoid colon which required debulking as it was partially obstructing. Computed tomography scanning showed that this lesion was locally advanced with no evidence of metastatic disease.

Preoperative review by the anaesthetic team raised concerns regarding the risk of proceeding with major surgery in light of the patient's recent cerebrovascular accident. It was felt that he was at increased risk of further stroke and other adverse cardiovascular outcomes in the perioperative period. Following discussion between the surgical, anaesthesia and stroke teams it was decided to proceed with a minor procedure to relieve the obstruction and to defer the major tumour resection for a period of time that was felt to have minimal risk of local or metastatic spread, and potentially decrease the risk of further cerebrovascular complications.

Hence a loop ileostomy was carried out under general anaesthesia with routine and invasive arterial blood pressure monitoring. Blood pressure was maintained within 20% of the patient's baseline. A transversus abdominis plane block was given for analgesia. The surgery was uneventful and the patient was discharged home on dabigatran 4 days later with a plan for definitive surgery in 2 months' time.

This patient was readmitted 2 months later and had a successful anterior resection. His dabigatran was discontinued 3 days before surgery and bridging therapy was initiated with low molecular weight heparin. Following an uneventful recovery he was discharged home 6 days later.

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LEARNING POINTS

- Careful history taking is important at pre-assessment for surgery, enquiring specifically about symptoms and signs of recent stroke.
- Elective surgery should be delayed where possible in patients with a history of recent stroke in order to reduce risk of further stroke or other adverse cardiovascular event.
- This decision must take into account the risks involved with delaying necessary surgery.

Relapsing polychondritis presenting as recurrent otitis externa

A 70-year-old diabetic man presented with recurrent left ear inflammation that failed to respond to multiple antibiotics (*Figure 1*). Malignant otitis externa was suspected but a computed tomography scan of the temporal bone showed no mastoiditis or bone erosion.

The patient was started on intravenous piperacillin-tazobactam presuming a *Pseudomonas* infection. The ear swelling improved and he was discharged on oral antibiotics for otitis externa.

He was readmitted a week later with a relapse of left ear swelling and minor nasal septum inflammation. Relapsing polychondritis was suspected and the patient was given a trial of prednisolone, with dramatic improvement (*Figure 2*). A complete autoimmune screen was negative.

Relapsing polychondritis is a systemic inflammatory disease that affects cartilages. The diagnosis is established by the combination of clinical findings, imaging procedures and biopsy.

Modifications were made to the original McAdam's criteria (Damiani and Levine, 1979) because of the variability of clinical manifestations occurring at a given point in time. This patient fulfilled one of those criteria, i.e. chondritis at two or more separate anatomical locations which responded to steroids (McAdam et al, 1976). BJHM

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Figure 1. Left ear on presentation.

Figure 2. Left ear after 3 days of oral steroids.

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