



### Cavernous sinus thrombosis – a possible lethal complication of facial abscess manipulation

**To the Editor:** We are concerned by two recent, similar cases. A 24-year-old man presented with facial swelling, an almost complete bilateral ophthalmoplegia and chemosis, and a left dense hemiplegia of sudden onset. These symptoms followed expression of a facial abscess by a general practitioner. A brain scan showed an infarct in the right lentiform nucleus with involvement of the head of the caudate with marked sinusitis. He received high-dose intravenous antibiotics in intensive care after bilateral ethmoidectomies and antral washings. He was discharged after several weeks on a rehabilitation programme for the stroke.

The second was a 22-year-old woman who presented to a general practitioner with an abscess on the right cheek.

An incision and drainage procedure was performed. Within days, she developed a severe frontal headache, fever, bilateral proptosis, conjunctival and eyelid oedema and a complete bilateral ophthalmoplegia. A computed tomography (CT) brain scan showed proptosis with no obvious brain pathology. She was given high-dose intravenous antibiotics and recovered fully after several weeks.

Both patients presented with features suggestive of cavernous sinus thrombosis (CST), a known complication of facial abscess squeezing or surgical interference. Despite an improvement in mortality and morbidity with the advent of antibiotics, consequences of CST remain dire.<sup>1</sup> The causes of death include haemorrhagic brain venous infarcts and raised intracranial pressures from oedema. Pulmonary embolism via the internal jugular vein has been described.<sup>2</sup> Other complications include visual loss and carotid artery occlusion with a subsequent major stroke. The first patient had an arterial stroke as a sequel of the cavernous sinus thrombosis. Early diagnosis and management is therefore paramount, with the knowledge that a 'normal' CT brain scan does not necessarily exclude the condition in someone with suggestive clinical features.<sup>3</sup>

Incision and drainage of cutaneous abscesses (without antibiotics) is considered an appropriate intervention. However, double-blind, prospective, placebo-controlled randomised studies in this regard are absent.<sup>4</sup> Owing to their proximity to the cavernous sinuses, abscesses in the middle and upper face must be treated with special care. The infection may spread from the face via the facial venous plexus, which connects to the valveless emissary veins into the cranium.

These two patients provide a warning against a casual approach to suppurative facial processes. For even 'minor' incisions of facial suppuration, antibiotic cover and close follow-up are mandatory to avoid disaster. The early and aggressive use of antibiotics for a septic cavernous sinus syndrome can rescue an otherwise hopeless situation.

**L J de Lange  
D S Magazi**

*Department of Neurology  
University of Limpopo (Medunsa campus)  
Garankuwa  
dalim@medunsa.ac.za*

1. Yarington CT jr. The prognosis and treatment of cavernous sinus thrombosis. Review of 878 cases in literature. *Ann Otol Rhinol Laryngol* 1961; 70: 263-267.
2. Hoshino C, Satoh N, Sugawara S, Kuriyama C, Kikuchi A, Ohta M. Septic cavernous sinus thrombosis complicated by narrowing of the internal carotid artery, subarachnoid abscess and multiple pulmonary septic emboli. *Int Med* 2007; 46(6): 317-323.
3. Schuknecht B, Simmen D, Yuksel C, Valavanis A. Tributary venous sinus occlusion and septic cavernous sinus thrombosis: CT and MR findings. *Am J Neuroradiol* 1998; 19(6): 617-627.
4. Hankin A, Everett WW. Are antibiotics necessary after incision and drainage of a cutaneous abscess? *Ann Emerg Med* 2007; 50(1): 49-51.