Discussion

The diagnosis of lingual abscess in the anterior two-thirds of the tongue is simple in view of the characteristic symptoms and signs.1 Our patient’s initial diagnosis was confused, possibly because of his lack of communication and the fact that he was apyrexial. Hereditary angioneurotic oedema, caused by C1 esterase inhibitor protein deficiency, usually presents with a triad of symptoms and signs, namely abdominal pain, peripheral non-pitting oedema, and laryngeal oedema.2

Lingual abscess is an extremely rare condition.3 The tongue is very resistant to infection due to factors such as a thick keratinised epithelial layer, resistance of muscle to infection, cleansing action of saliva, abundant vascularity, paucity of submucosal areolar tissue, and contact exposure of the tongue to bacteria resulting in immunity.4 The aetiological factors in the formation of tongue abscesses include dental or foreign body trauma,4 acute parenchymous glossitis, infected circumvallate papillae, upper respiratory tract infections,5 and carious teeth as present in our patient. The symptoms include severe tongue pain, decreased movement of the tongue (protrusion), hyper-salivation, dysphagia and voice change.1

The most common site is the anterior two-thirds of the tongue.4 Abscesses of the lingual tonsil, extension of infections from the molar teeth,6 and intralingual thyroglossal duct cysts need to be borne in mind when an abscess is located within the tongue base.1 Pyrexia is not necessarily present7 and the WCC and ESR are variable.6,7 The organisms responsible are usually Staphylococcus aureus and Streptococcus haemolyticus.4 Both ultrasound (US) and computed tomography (CT)1 have been utilised to aid diagnosis.

As in our patient with tongue abscess and delay in diagnosis, treatment includes incision and drainage, airway monitoring, antimicrobial therapy, and addressing causative factors.


Arteriovenous malformations of the brain — curable epilepsy

John R Ouma

Arteriovenous malformations (AVMs) of the brain are an important although infrequently diagnosed cause of epilepsy. They may be associated with epilepsy that is difficult to control medically but that may be amenable to surgical control.

A 43-year-old man presented with a history of sudden onset of a very severe headache, nausea, vomiting and transientphotophobia. He was neurologically intact. He reported being epileptic for the past 18 years, suffering attacks of grand mal fits approximately 2 - 3 times every month. The cause of his epilepsy had never been investigated although he had been placed on various anti-epileptic drugs with little success. At presentation he was taking three different anti-convulsant drugs. A computed tomography (CT) scan of the brain demonstrated a bleed in the left frontal lobe, with areas of serpiginous enhancement on contrast administration (Fig. 1). Digital subtraction angiography revealed the presence of an AVM, supplied by feeders from the left anterior and middle cerebral arteries, and draining into the superior sagittal sinus (Figs 2 and 3). EEG examination did not reveal any other epileptogenic focus in the brain. The lesion was completely resected at craniotomy and the associated blood clot was drained. Following surgery, there was a dramatic improvement in the frequency of the seizures. Apart from one grand mal fit shortly after the operation, he has remained free of fits over a period of several months’ follow-up and has been weaned down to single-drug treatment.

Discussion

Epilepsy in Africa is a common neurological problem although the incidence and prevalence are not accurately known. Superstition and misconceptions about the disease are rife and often hinder affected individuals from seeking medical attention.
The many causes of non-idiopathic epilepsy include congenital infections, perinatal complications including birth trauma and asphyxia, and later in life, trauma with head injury. Infections such as neurocysticercosis and tuberculosis are important causes, as is HIV, both primarily and as a result of opportunistic infections and neoplasms. Primary and secondary brain tumours, and neurovascular conditions such as aneurysms and AVMs, are also causes of this condition.

AVMs of the brain are congenital lesions formed by disordered arteries and veins. The clinical presentation of symptomatic AVMs is varied. The commonest presentation is haemorrhage, occurring in about half the patients, while about 30% present with epilepsy. A study involving 280 cases of cerebral AVMs showed that patients with small (< 3 cm) lesions are more likely to present with haemorrhage, while those with larger ones frequently present with epilepsy. Other modes of presentation include progressive neurological deficits arising as a result of pressure exerted by the lesion on neighbouring parts of the brain and blood being shunted away from these areas. The natural history of this condition has been described in a comprehensive study. The authors reported a major re-bleeding rate of 4.0% per year, and a mortality rate of 1.0% per year. The combined rate of major morbidity and mortality was 2.7% per year. The proposed mechanisms of epilepsy in AVMs include focal cerebral ischaemia due to arteriovenous shunting, gliosis of the surrounding brain and a secondary epileptogenesis in the temporal lobe. Spontaneously thrombosed AVMs in patients with no previous history of haemorrhage have been associated with intractable seizure disorders.

Reports of the control of epilepsy following AVM surgery have been encouraging. In a large series 83% of those patients with pre-operative epilepsy were seizure free and of those still experiencing seizures, the majority reported significant improvement following surgery. Of those who did not have pre-operative epilepsy, 6% went on to develop it. The mean duration of follow-up in this study was 7.5 years. Excellent results have been reported in other studies, but a sobering report suggests that by 20 years after surgery, there is a 57% risk of epilepsy in patients who had no seizures before.

Surgery generally offers good prospects for the management of epilepsy in patients with AVMs of the brain. It is also favoured because of the cumulative risk of major morbidity and mortality from haemorrhage of these lesions, especially in younger patients.