'Not just an ordinary bump to the head': traumatic superficial temporal artery false aneurysm

Introduction

The first case of a superficial temporal artery pseudoaneurysm was described by Thomas Bertholin in 1740 (Brown and Mehnert, 1942). It is uncommon and usually the consequence of blunt or penetrating trauma (Peick et al, 1988) although sporadic cases of true aneurysms of the superficial temporal artery secondary to atherosclerosis have been described in the past (Nishioka et al, 1988). Most of these patients present late and the initial trauma may be relatively minor creating confusion in the diagnosis.

This article presents a case of a traumatic superficial temporal artery pseudoaneurysm in order to raise awareness of this rare condition.

Discussion

The superficial temporal artery originates from the external carotid artery at the base of the parotid gland and runs superficially over the temporal bone (Sanchez et al, 2000). It is this relatively exposed course of the artery which makes it vulnerable to blunt trauma. The diagnosis of superficial temporal artery pseudoaneurysm can be established by history and clinical examination: a traumatic induced pulsatile swelling over the temporal bone whose pulsation can be reduced or even eliminated by compression of the superficial temporal artery proximally to the pseudoaneurysm (Nishioka et al, 1988). Non-invasive tools such as ultrasound scan and computed tomography with contrast as well as invasive modalities such as angiography (Bailey and Kiryabwire, 1973) can be used to confirm the diagnosis.

Surgery which involves ligation of the proximal and distal part of the superficial temporal artery with excision of the pseudoaneurysm (Peick et al, 1988) is indicated to reduce the risk of haemorrhage secondary to rupture, to relieve headache and to correct the cosmetic problem. Selective endovascular embolization of superficial temporal artery pseudoaneurysm has been reported as an alternative treatment option in the literature (Komiyama et al, 1997; Sanchez et al, 2000). BJHM

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Case Report

A 79-year-old man who came to a general surgical clinic for evaluation of his asymptomatic bilateral inguinal herniae was noticed incidentally to have a swelling over his right temporal bone (*Figure 1*). The patient had injured his head 6 weeks previously following a fall, and this was thought by the GP to be a small haematoma that would eventually settle. Since then, the swelling had progressively become larger and tender. On examination, he had a 3 cm diameter pulsatile mass over his temporal bone, which on clinical grounds represented a superficial temporal artery pseudoaneurysm.

With the view that the aneurysm was likely to enlarge and rupture, it was arranged for the patient to undergo an urgent operation to remove it. A cervical block supplemented by 10 ml 1% lignocaine locally was used as the patient was unfit for a general anaesthetic. A transverse incision was made just anterior to the tragus in order to ligate the superficial temporal artery, thus gaining proximal control of the blood supply to the pseudoaneurysm. Excision of the pseudoaneurysm (*Figure 2*) was then undertaken through a second elliptical incision over the swelling. Distal ligation was not required as the lumen of the superficial temporal artery was obliterated. The patient recovered well from the operation and was discharged on the same day.

Figure 1. Swelling over right temporal bone.

Figure 2. Excised superficial temporal artery false aneurysm.

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