Primary venous aneurysm of the long saphenous vein: an uncommon case

Introduction

Venous aneurysms are unusual vascular malformations and while they are exceptionally rare, they have been reported to occur in most major veins. They occur equally between the sexes and can be diagnosed at any age (Bergqvist et al, 2006). Venous aneurysms can be classified into superficial or deep and as most patients present with a painful mass in the lower extremities, superficial venous aneurysms are often misdiagnosed as subcutaneous soft tissue tumours or as inguinal or femoral hernias (Bergqvist et al, 2006; Seo et al, 2008). Deep vein aneurysms are difficult to diagnose, but a careful history, clinical examination and radiological examination with Doppler studies can confirm the diagnosis (Bergqvist et al, 2006; Seo et al, 2008). Once an aneurysm is diagnosed, it is important to exclude it from the circulation as thromboembolic complications are common and can be potentially fatal (Grice et al, 1990; Bergqvist et al, 2006).

Discussion

The definition of a venous aneurysm has been controversial but it is reasonable to describe it as a solitary area of venous dilatation which is twice the size of a normal vein. Furthermore, it must have no association with an arteriovenous communication or pseudoaneurysm (Bergqvist et al, 2006).

Upper extremity venous aneurysms are reported to be more common than lower extremity aneurysms. Moreover, aneurysms of the deep venous system are more common than aneurysms of the superficial system with the majority of cases found in the popliteal veins (Bergqvist et al, 2006).

The aetiology of venous aneurysms is unclear. It has been proposed that these venous anomalies are caused by congenital weakness of the vessel wall, degenerative or inflammatory changes, and chronic local trauma from adjacent arteries or from external trauma (Tambyraja et al, 2004).

A range of clinical presentations of venous aneurysms have been reported. Aneurysms may be asymptomatic but patients with deep venous aneurysms generally complain of extremity pain with an associated mass. Superficial aneurysms tend to present similarly but patients also describe oedema of the extremities. Patients may also present with a deep vein thrombosis or pulmonary embolism, particularly with popliteal vein aneurysms which are a source of pulmonary emboli (Tambyraja et al, 2004). In contrast, patients with internal jugular or axillary vein aneurysms present with asymptomatic masses. Thrombus formation within the aneurysmal sac can complicate clinical assessment such that venous aneurysms are not considered in the differential diagnosis and many are incorrectly diagnosed as a solid tumour, cold abscess or chronic sebaceous cyst. Aneurysms of the proximal aspect of the saphenous vein are often referred as inguinal or femoral herniae, or as enlarged lymph nodes (Majeski, 2002).

Surgery is the treatment of choice for all venous aneurysms. In most cases, it is possible to resect the aneurysm (aneurysmectomy) and perform a lateral suture as a venorrhaphy. Postoperative anticoagulation is generally recommended, particularly in the presence of thrombotic risk factors (Majeski, 2002). Patients with proximal saphenous vein aneurysms have been successfully treated by replacing the aneurysm with an interposition graft and preserving the distal normal vein for use as a conduit for possible later bypass surgery (Majeski, 2002).

Conclusions

This case has diagnostic features of superficial venous aneurysm from the characteristic swelling along the long saphenous system and surrounding dilated varicose veins. However, it was misdiagnosed preoperatively because of the rarity of this vascular anomaly. Despite diagnostic difficulties, it is important to confirm or exclude venous aneurysm if suspected and treat because of the risk of thromboembolism. BJHM

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Grice GD III, Smith RB III, Robinson PH, Rheudasil JM (1990) Primary popliteal venous aneurysm with recurrent emboli. *J Vasc Surg* **12**(3): 316–18

Majeski J (2002) Surgical repair of primary vein aneurysm of the proximal leg after initial presentation as an inguinal hernia. *Am Surg* **68:** 999–1002

Seo SH, Kim MB, Kwon KS, Kim CW, Oh CK (2008) Primary venous aneurysm of the superficial venous system. *Angiology* **59**(5): 593–8

Tambyraja AL, Moores C, Chalmers RT (2004) Primary popliteal venous aneurysm. *J Vasc Surg* **40**(4): 830

Figure 1. Haematoma at the site of excision of the venous aneurysm.

Case Report

A generally well 82-year old man presented to a general surgical outpatient clinic with a swelling of the medial aspect of his left thigh. It started as a small lump which grew quickly over a few weeks to approximately 6 cm. There was no history of trauma or thromboembolic complication and the patient was asymptomatic. On examination, there was a firm round swelling which was non-tender and non-pulsatile. It did not seem to be attached to deeper structures and was not anatomically related to the nervous system.

The patient was reviewed by a consultant – the diagnosis of a chronic sebaceous cyst was considered and he was offered an excision biopsy under local anaesthetic. Postoperatively, the patient had an unremarkable recovery but presented with a localized haematoma (*Figure 1*) on routine follow up, which was managed conservatively. Histology revealed the mass was in fact a venous aneurysm of the long saphenous vein.

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