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Sciatic Nerve Varices

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***Objective(s)**. To describe patients presenting with sciatic nerve varices (SNV), presenting pitfalls in diagnosis and management.*
***Design**. Case series.*
***Methods**. Patients were investigated using duplex ultrasonography pre-operatively in three cases. Treatment was undertaken both by surgery and by foam sclerotherapy.*
***Results**. Clinically, SNV appeared just below the popliteal skin crease, lateral to the small saphenous vein (SSV). In two cases SNV occurred alone, in two further cases SNV occurred in conjunction with varices from other sources. Symptoms of 'sciatic' pain were present in all.*
Foam sclerotherapy (1% Polidocanol) was undertaken in one case with a varix. Complete obliteration of the vein and resolution of all symptoms was achieved at the 1-month follow-up examination. Surgical management was used in the other cases.
***Conclusion**. The sciatic nerve vein follows the fibular saphenous nerve (lying superficial to the fascia in the leg). This nerve arises from the common peroneal nerve (in the popliteal fossa), and is a major branch of the sciatic nerve. Varices of the associated vein appear to be the result of a dysplasia. This condition may be more common than is currently recognised.*

Keywords: Sciatic nerve; Sciatic pain; Non-saphenous varicose veins; Popliteal crease anatomy; Ultrasound anatomy of popliteal region.

Introduction

Sciatic nerve varices (SNV) represent an infrequent presentation of varicose veins. They are usually not recognised and may not even be visible on the surface of the limb. These varices were originally recognised by phlebography, but are probably more easily evaluated by modern duplex ultrasonography.

Historical Premise

The first author to recognise these varices is Verneuil[1] in 1890. In 1988, the French Journal 'Phlébologie' contained a short article by L. Thiery[2] discussing the subject of SNVs. These cause 'varicose symptoms without varices' and sciatalgic pain starting in the popliteal area radiating to the gluteal region. Thiery recalls that 'around 1960' Dr Maes from Lier, Belgium, had mentioned these varices. Thiery was able to observe these veins during lower limb amputations when occasionally the sciatic nerve contained an artery and a vein that needed to be transfixed. He also identified SNV when assisting Dr Maes during treatment of a patient with venous symptoms without varicose veins. SSV incompetence was suspected (no phlebography was then available) and the popliteal space was explored: the saphenous vein was normal but the sural nerve was thickened and filled with varices. The nerve varices were ligated with resolution of symptoms. SNV were also observed during phlebography, either as a route of collateral drainage after deep veins thrombosis (the veins appear very dilated and connected with the superficial system), or in subjects with sciatalgic pre-menstrual syndrome without varices. In one case, there was a dilated SNV in a plaited or convoluted shape from the foot to the gluteus.

In 2001, Lemasle *et al*.[3] published an article describing the anatomical and B-mode aspects of this varicose vein. A short article by the same author was also published in 2003.[4]

In 2001, Labropoulos *et al*.[5] reported nine cases of SNV observed during research into non-saphenous varices but did not supply details, other than a possible sciatalgic symptomatology. We observed

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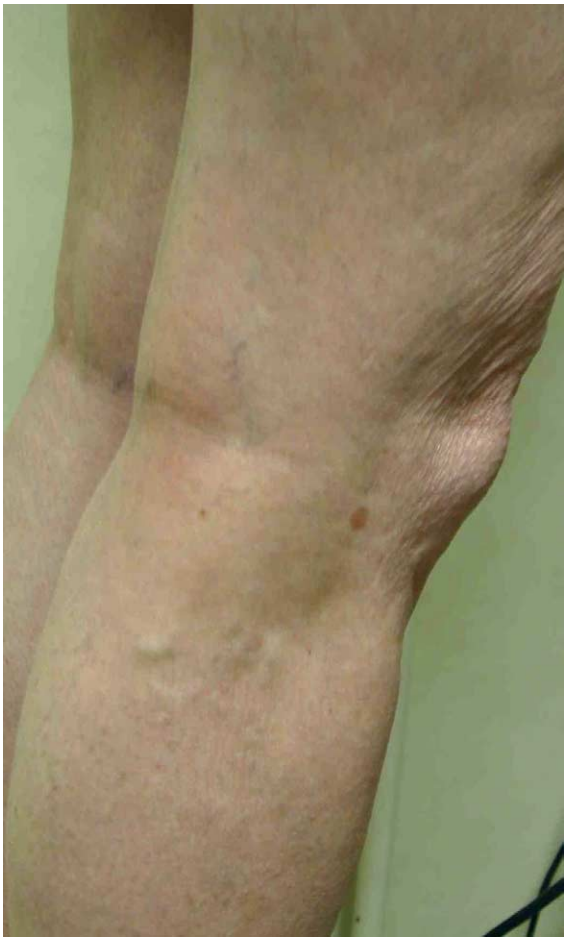

Fig. 1. The varix may be isolated and scarcely evident.

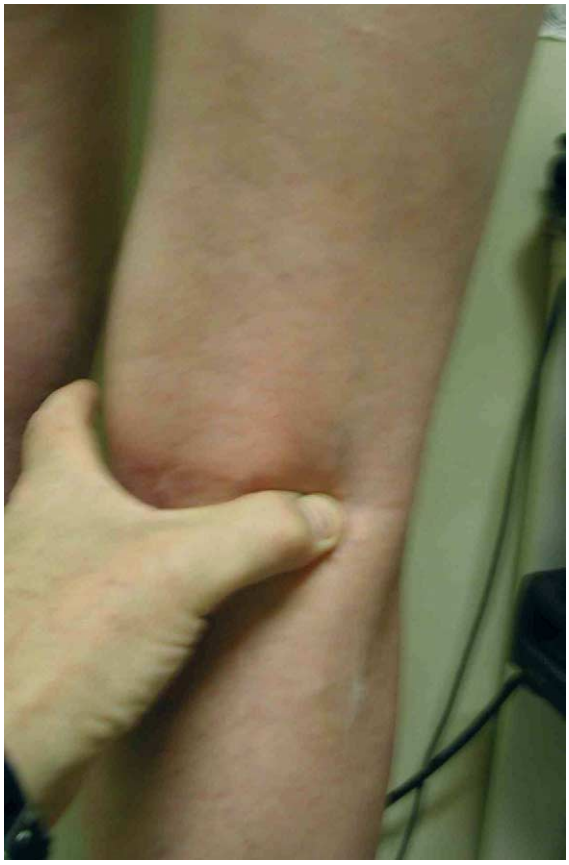

Fig. 2. Finger compression of the point of 'disappearance' of the varix may evoke the sciatic pain.

three cases which presented over a short period of time and which give us the opportunity to report our personal point of view of this pathology.

Material and Methods

Four cases are reported. Two were observed in few days during venous duplex ultrasound examination undertaken routinely in the management of varicose veins. (Caris Plus, 7.5–10 MHz probe). Contemporaneously, a further case was observed during a diagnostic workshop in Bidgoszcz, Poland (May 2003). Patients were investigated in the standing position and venous reflux was evoked by a manual calf compression–relaxation manoeuvre.

All the patients complained of an intermittent sciatic type pain to the lateral aspect of the leg with extension to the gluteal region, accompanied by varicose veins in the same limb. In particular a postero-lateral varix was identified. We followed it proximally to the lower thigh and confirmed that it was incompetent on duplex ultrasonography. One further case was discovered incidentally during

Table 1. Criteria for diagnosis of SNVs syndrome

Clinical	B-mode	Doppler
Constant features		
VVs below the popliteal skin crease	Small VVs (2–3 mm)	Long reflux (2–3 s)
VVs lateral to the SSV	Spiral anatomical relationship with a nerve	Low velocity
Provoked sciatic pain	Becoming deeper above the popliteal fossa	
Occasional features		
Few VVs	No identifiable supra-fascial varicosities	Possible coexistence with SSV insufficiency Incompetent SSV trunk fed by refluxing SNVs