Pitfalls in recurrent varicose vein surgery

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INTRODUCTION

Varicose vein surgery is a common procedure performed by general as well as vascular surgeons. Recurrence is not uncommon, with one study of 100 patients showing that only 30% were completely free of recurrent veins (Campbell et al, 2003). Surgery for recurrent or atypical varicose veins can be difficult and sometimes hazardous.

In this article, the authors report on a patient with recurrent varicose veins, whose pre-operative duplex scan showed a normal deep venous system and recurrence from the sapheno-femoral junction. However, a varicogram in theatre demonstrated complete occlusion of the femoral vein with a large medial thigh varicose vein draining into the contralateral femoral vein.

DISCUSSION

Recurrent varicose vein surgery can be difficult to perform, particularly at the main superficial junctions because of the fibrotic scarring. The authors have not seen a case of recurrent varicose veins where the main tributary crosses over to the contralateral femoral vein as a result of ipsilateral femoral vein occlusion. Despite the duplex findings, the ipsilateral femoral vein was found to be occluded on surgical exploration.

Palma's procedure is a surgical bypass using contralateral long saphenous vein to treat an occluded iliac vein (Palma, 1976; Tobaldi and Fracassini, 1991). Venous drainage for

CASE REPORT

A 62-year-old lady previously had a left sapheno-femoral ligation with stripping of the long saphenous vein and multiple avulsions 10 years ago. The pre-operative duplex scan, performed by an experienced vascular technologist, showed a patent and competent deep venous system with no evidence of previous deep vein thrombosis. The sapheno-femoral junction (SFJ) was shown to have been surgically ligated but a small tortuous recurrence was noted to fill the groin varices. It was evident that the proximal long saphenous vein had been stripped. The residual mid-thigh long saphenous vein was significantly incompetent and filled by the sapheno-femoral junction recurrence and by a large atypical incompetent branch that coursed medially and proximally to the sapheno-femoral junction. The duplex report was reviewed by the surgeons and operative religation of the SFJ with avulsion of the new varicose veins was considered the best management.

The patient had no clinical episode of deep venous thrombosis before surgery, but the large medial thigh varicose vein appeared to be unusual. Chase Farm Hospital have a policy of performing on-table varicogram for all atypical veins because a significant proportion could be a result of ovarian vein incompetence (Giannoukas et al, 2000) and the source may not be detected by duplex imaging (Urigo et al, 1993).

Peri-operatively, a tributary of the atypical large medial thigh varicose vein was cannulated and an on-table varicogram was performed (*Figures 1–3*). It showed the absence of the ipsilateral left femoral vein with the contrast draining across the pubis into the contralateral femoral vein. The left groin was explored surgically to verify the varicogram findings and the surgeons were expecting to find an SFJ recurrence. The left femoral vein was found to be a thin solid cord structure with no doppler signal audible. This was presumed to have become fibrotic either from previous sapheno-femoral ligation or from previously unknown deep venous thrombosis prior to surgery.

It was therefore decided that the SFJ recurrence should be left alone as the only venous outflow for the left leg was via these upper medial thigh recurrent varicose veins and the superficial collaterals that had developed across the pubis. The latter was recognized as being exactly the superficial venous reconstruction described by Palma (1976) for iliac venous obstruction. This phenomenon occurred naturally in our patient as a consequence of an unrecognized deep venous thrombosis in the left common femoral and external iliac veins (auto-Palma phenomenon) (*Figure 4* (iv)).

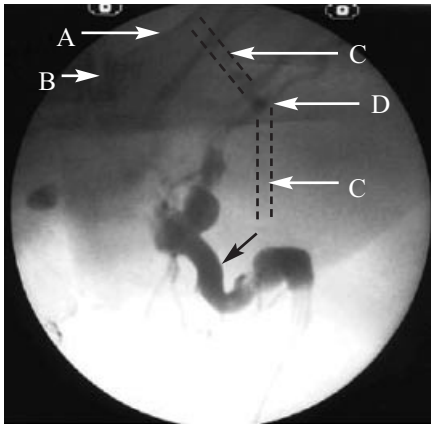

Figure 1. Contrast shown in the atypical thigh varicose vein (black arrow). A = left superior pubic ramus, B = symphysis pubis, C = absence of contrast in left femoral vein, D = left SFJ.

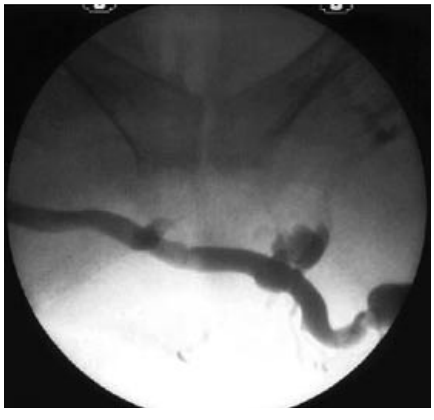

Figure 2. Contrast not filling the ipsilateral femoral vein but is seen traversing across the contralateral side (auto-Palma).

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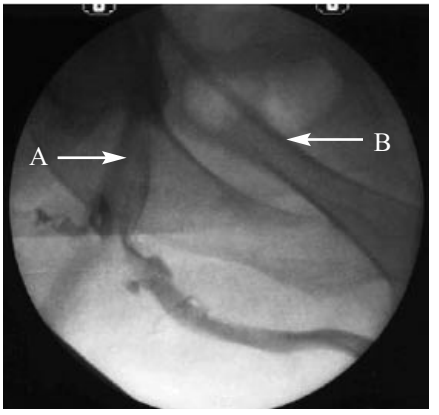

Figure 3. Contrast seen reaching the contralateral femoral vein. A = right femoral vein, B = right superior pubic ramus

the affected limb is diverted away from the occlusion via saphenofemoral transposition as shown in *Figure 4* (i–iii). The patient effectively had a Palma's procedure without surgery (*Figure 4* (iv)).

The authors advocate on-table varicogram for all atypical varicose veins even with the benefit of a duplex scan as the latter is operator-dependent and cannot usually identify the pelvic source of varicose veins.

On rare occasions like this case, where the ipsilateral femoral vein was occluded, or in the deep venous anomalies associated with Klippel-Trenauney syndrome, it may confuse the clinician. Avulsion of these superficial varicose veins would lead to disastrous consequences caused by disruption of the cross-over venous outflow collaterals from the limb, occurring naturally as a consequence of iliac vein thrombosis. **HM**

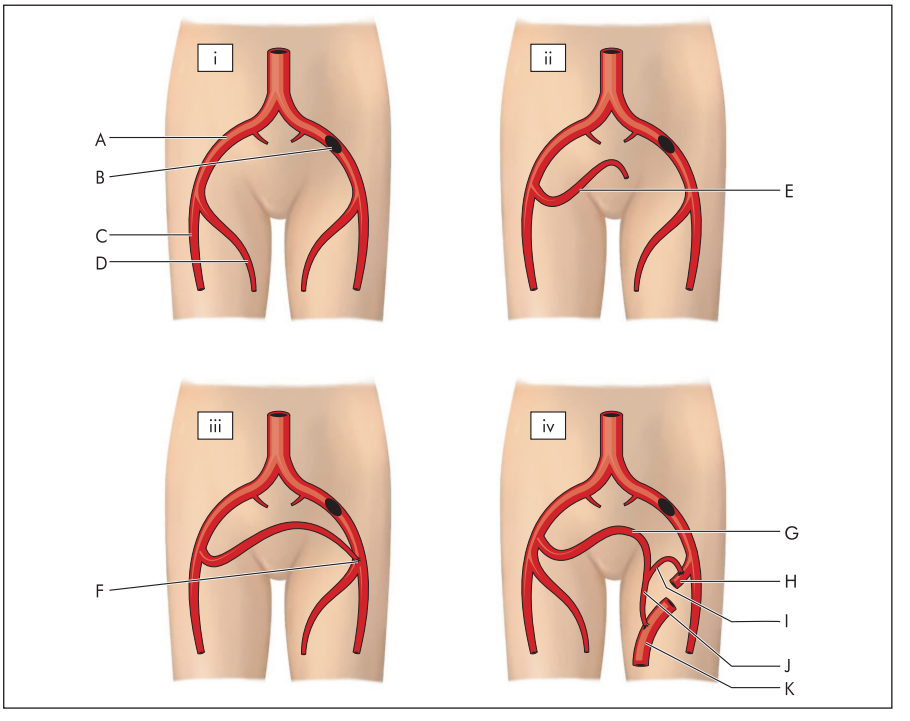

Figure 4. Diagrammatic representation of Palma Bypass: saphenofemoral vein transposition for left femoral vein occlusion (i-iii) and the atypical anatomy seen in our patient (iv).

A = right external iliac vein, B = occlusive thrombus, C = right femoral vein, D = right long saphenous vein (LSV), E = surgically mobilised length of right LSV, F = saphenofemoral vein transposition (Palma bypass): now allowing left leg venous outflow via right leg venous system, G = superficial collateral vein illustrating auto-Palma phenomenon, H = ligated stump of LSV from previous surgery, I = SFJ recurrence, J = atypical thigh vein, K = residual left mid-thigh LSV from previous surgery.

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