SHORT REPORT

Approaching the Saphenofemoral Junction Using Bony Landmarks: A Simple and Effective Method

A. Chaudhuri and C. R. G. Quick

Department of Surgery, Hinchingbrooke Healthcare NHS Trust, Hinchingbrook Park, Huntingdon, U.K.

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Introduction

We describe a simple way of approaching the saphenofemoral junction (SFJ) when performing high ligation of the long saphenous vein.

Methods

Following aseptic preparation and draping of the patient, the pubic tubercle is palpated, and a perpendicular dropped from the tubercle towards the groin crease (Fig. 1). This is used for the centre of a groin crease incision, 3–4 cm long. Lines have been drawn for the purpose of illustration, but merely using the finger drawn along the perpendicular gives the operator sufficient idea of where to place the incision (Fig. 2).

Fig. 1. Showing the landmarks used in planning the incision: the arrow on the right overlies the pubic tubercle, that on the left the anterior superior iliac spine. The parallel lines mark the outline of the right femoral artery. The lower dotted line is the line of the groin crease, and the upper dashed line is the perpendicular dropped onto it from the pubic tubercle.

Results

We have found that the SFJ can be located within the bounds of the incision in all patients and we have not needed to enlarge the incision in any patient (Fig. 3).

Discussion

A review of the literature shows that most methods of locating the SFJ are based on soft tissue landmarks. The medial aspect of the groin crease has been used, or a bearing taken from the femoral arterial pulsation. This may include commencing the incision medially from the pulse itself, or centering the incision over the small depression just medial to it. An incision over the medial aspect of the groin crease, or below it, is necessarily imprecise and may lead to enlargement of the wound; an unnecessarily large wound may result. In another
Approaching the SFJ using bony landmarks

One must, however, be aware of possible variations in the position of the SFJ. The SFJ may be above, or level with the pubic tubercle. The distance from the tubercle laterally to the SFJ has been said to vary from less than 3 to greater than 5 cm, although in our experience, there seems little lateral variability. The long saphenous vein (LSV) may enter the femoral vein completely separately from its tributaries, or may enter the deep external pudendal vein. A long saphenous artery may be mistaken for the vein, and a transposed femoral artery and vein may necessitate dissection behind the artery in order to approach the SFJ. Occasionally there may be a large venous cluster at the fossa ovalis, which makes dissection difficult as each vein needs individual exposure and ligation. In all of these cases, our approach would give direct and precise access to the area in question.

Conclusion

This method is a reliable guide to placement of the incision for ligation of the SFJ, even in obese patients or those in whom peripheral arterial disease has rendered the femoral pulse impalpable. It is simple and does not require a Doppler flow meter. It has become our preferred method for placing the groin incision and can be easily taught to trainees.

References