Dear Editor:

In a recent issue, Edwards\(^1\) described a simplified method for obliterating an arteriovenous fistula, complementary to a saphenous femoro-femoral vein crossover performed for severe unilateral iliac venous occlusion. Under close scrutiny, this technique does not appear satisfactory for several reasons.

First, when a large venous tributary (i.e., a saphenous vein graft 5 to 6 weeks after arterialization) is not ligated flush with the main channel (femoral vein), there is always the possibility of clotting in the stump and propagation of the clot.\(^2\) This will jeopardize the venous outflow and the procedure itself. Delayed azigos ligation that the author has described previously\(^3\) did not lead to thrombotic complications because blood was able to drain via the intercostal veins, a situation totally different from the current one.

Second, the procedure also creates a saccular aneurysm of the common femoral artery which may become a source of problem in the distant future (>1 year). The venous stump graft can either enlarge significantly or give rise to intrasaccular thrombosis and ensuing distal arterial embolization. This author has encountered both of these complications in two patients undergoing simple ligation of the cephalic vein during obliteration of an end-to-side brachiocephalic fistula used for hemodialysis. Both developed large saccular aneurysms of the cephalic vein stump and "blue thumb" syndrome from emboli until the false aneurysms were resected and the arteries reconstructed. In a third patient, ligation of a hemodialysis femorosaphenous bovine graft resulted in a devastating arterial embolization. For these reasons, this author believes that the arteriotomy must be closed surgically using native vessels, a cuff of vein, or a prosthesis. Saving operating time is not a good trade off for the increased likelihood of hazardous complications.

Third, according to McVay and Anson,\(^4\) the external iliac artery at the crossing of the inguinal ligament becomes the common femoral artery which, in turn, branches to form superficial femoral and deep femoral arteries. Was it the common femoral artery then and not the superficial femoral artery that was hooked to the saphenous vein as depicted in Figure 2? If it was, it would give rise to less hemodynamic disturbances as compared to an upstream anastomosis to the superficial femoral artery.\(^5\) Nomenclature should be exact when a technique is described.

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References


Dear Editor:

I appreciate the thoughtful comments by Dr. Nghiem and his concerns about possible complications that may occur after ligation of the AV fistula after femoral to femoral vein bypass. These same concerns occurred to me during the development of this procedure. I do not believe there is any significant danger of these problems arising for the following reasons.

First, concern was expressed about leaving a blind venous pocket in connection with the femoral vein when the fistula is ligated. General surgeons usually make a great effort to ligate a varicose saphenous vein flush with the femoral vein during vein stripping operations to avoid pulmonary emboli from clots forming in the stump. Cardiac surgeons are often more casual about where the saphenous vein is ligated and divided in the groin, sometimes leaving 2 or 3 cm as blind stump. Of the many thousands of coronary bypasses performed annually, few pulmonary emboli have occurred, and I believe pulmonary emboli will not be a problem after this operation.

Second, concern is expressed about aneurysmal dilatation of the vein at the arterial end of the ligated fistula, with clots forming in the aneurysmal sac, followed by distal arterial embolism. Dr. Nghiem says this has occurred after ligation of arm fistulas in his experience. This is not surprising in the arm where veins have much thinner walls than saphenous veins. Every time a femoral popliteal arterial bypass with saphenous vein occludes acutely, there must be a similar situation to that which is present when our A-V fistula is ligated acutely. I am not aware of serious problems arising from aneurysmal dilatation or emboli occurring from these occluded saphenous veins and do not believe this will be a problem after fistula ligation.

Dr. Nghiem comments that “saving operating time is not a good trade-off for the increased likelihood of hazardous complications.”\(^1\) I would agree with his statement, except that our experience to date in four cases has not borne out his concerns. Besides, I believe, as was mentioned in the paper, that surgeons will be more likely to perform a complementary AV fistula and will have a higher success rate if the fistula can be carried out easily and taken down without a second major procedure that sometimes becomes more difficult than the first.

Third, Dr. Nghiem questions whether the A-V anastomosis was made to the common or superficial femoral artery. As illustrated in Figure 2, the vein was anastomosed to the superficial femoral artery in all cases with no harmful arterial dynamic disturbances either during the presence of the fistula or after its ligation.

My main concern about this operation has been none of the above, but has been related to the flow dynamics during the existence of the fistula. Since, with our hook-up, arterial blood goes only through the saphenous vein and none (or very little) blood crosses the vein to vein anastomosis, will this type of A-V fistula keep the vein to vein anastomosis open as well as a direct A-V anastomosis that introduces arterial blood into the femoral vein caudal to the veno-venous anastomosis? Our experience so far suggests that this type of A-V fistula does keep the venous anastomosis patent as well as the long vein graft—but, of course, a much larger experience will be necessary to know if this procedure is worthwhile.

I would be most grateful to hear from surgeons who might have experience with this or similar procedures.

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