Letter to the editor

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The anterior route for arterial graft conduits in liver transplantation*

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The so-called conduit techniques for arterialization of orthotoptic liver homografts were first developed in the laboratory [2] and later applied in the clinic [1, 3, 4]. With most of these procedures, the arterial grafts have been tunneled posterior to the duodenum, passing either to the right or to the left of the superior mesenteric artery, in a plane just anterior to the inferior vena cava and left renal vein [4].

Although these routes are usually satisfactory and the shortest possible in terms of length, the tunnels are created blindly, and occasionally collateral veins may be ruptured in the process. Furthermore, the grafts are so thoroughly covered that it may be difficult or impossible to see them if they have bleeding points or to excise them later if there is reason to do so.

An alternative option, and the one that is preferable in many instances, is to pass the graft from the same starting point on the aorta through a hole in the transverse mesocolon, behind the pylorus, and into the subhepatic region (Fig. 1). This way the entire extent of the graft can be examined for hemostasis, and the other disadvantages of the retroperitoneal graft are avoided.

This technique has been used on several occasions when the retroperitoneal route was either inconvenient or impossible, at times in patients who had had previous conduits and who were undergoing retransplantation. The arterial grafts can also be placed in parallel with venous jump grafts from the superior mesenteric vein to the hepatic hilum [5].

These arterial and/or venous jump grafts enable transplant surgeons today to effectively revascularize livers in the orthotopic location with a minimum of hilar dissection. Thus far, no complications have been encountered from this approach which, for the creation of arterial conduits, may largely replace the "deep" techniques employed in the past.

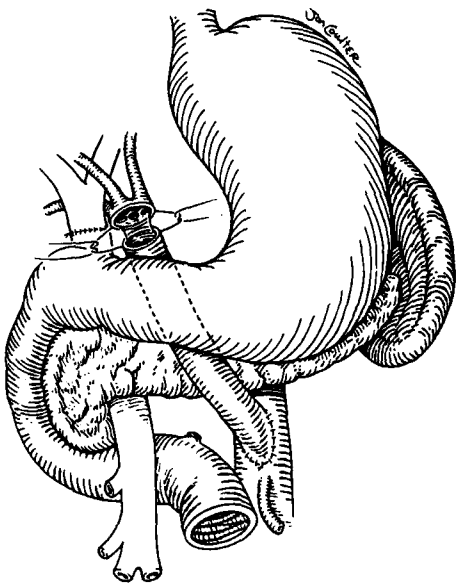

Fig. 1. The route of free graft of donor iliac artery from the recipient aorta to the hilar area of an orthotopic liver graft. Note the donor arterial anomaly in which the right, middle, and left hepatic arteries originate separately from the aorta. This was more easily handled by having such open exposure of the conduit graft

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