


Discussion

Dr Davis C. Drinkwater (Nashville, Tenn). I have a couple of questions.

If I could set the basis for doing this study, have you, in your clinical series, had issues with clotted PTFE grafts or early failure with your grafts? Do you use aspirin or warfarin early on in your clinical practice, and did you use these in your piglets? I guess most people would use aspirin, if not warfarin, at least early in the postoperative course.

What was the size mismatch relative to the adult human? For example, we have tried to put in at least a 22-mm graft as an extracardiac conduit. Was this a size mismatch that might have created flow-and-eddy problems that could potentially create early stenosis issues? I am wondering about the size mismatch being a cause. Setting aside, potentially where will you harvest from the human if the organs that are taken are the liver and the heart? What portion of the cava is available, the renal, the suprarenal?

Dr Wells. Thank you for the questions.

We have not really observed a problem with thrombosis. We were concerned about the reports coming from Italy that there might be up to a 30% to 40% cross-sectional luminal reduction in the serially magnetic resonance imaging–studied vena caval extensions for Fontan completion. Therefore that in and of itself was the impetus to determine whether there is something better. Also, we have been concerned in our practice about leaving patients without aggressive anticoagulation for the first at least 6 months after putting in the PTFE graft. Therefore, you are going to subject a child to at least 6 months of anticoagulation, which you might be able to avoid. And I should add that in these studies there was no anticoagulation. Thanks for pointing that out.

As far as the size of the homografts, we tried to use clinically appropriate sizes. Therefore, these were 18- to 20-mm homografts, 3 cm to 4 cm in length, and we think that the typical patient in whom we are doing this for Fontan completion gets a conduit of 18 to 20 mm and about 5 cm in length. Therefore we believed that this was clinically appropriate.

Finally, either the innominate vein in a larger donor or potentially the inferior vena cava, which will have more branches, could be sites. The infrarenal cava could be a site for harvesting, and we are just getting interested in investigating the best place from which to take that venous tissue.

Dr Vaughn A. Starnes (Los Angeles, Calif). You are implying, then, that this would be homograft tissue and not xenograft tissue?

Dr Wells. There is evidence currently that there is no difference between homograft and xenograft for the depopulated tissues. That is animal work that is fairly convincing. However, I think if you want to use this clinically during our foreseeable lifetime, we probably need allografts. We probably need human tissue to get this going.