

# Postgraduate Medicine

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EDITORIAL

## Organ Transplantation

**E**DITORIAL debate has been seething for some months concerning the indications for and the results of organ transplantation, as well as the issues of morality involved. The situation has been unique in that such articles have continued to appear and have often, indeed, seemed to outnumber the scientific accounts on which such broader expressions of opinion are customarily based. In an attempt to reverse this trend, the following remarks will be confined to a presentation of those results obtained at the University of Colorado Medical Center, Denver, so the reader can formulate his own opinion concerning the areas of usefulness of such operations.

Fifty-one patients were treated with renal homografts from living volunteer donors six months ago or longer. Thirty of these 51 patients are still alive, with follow-ups ranging from 6 to 21 months (11 for more than one year and 26 for more than eight months). All the surviving patients except one are living at home; most are working or attending school. The effect of donor-recipient consanguinity on survival is evident from the table.

Thus, 75 per cent of the patients who received homografts from parental donors and 65 per cent of those treated with sibling homografts are still alive. Only 28 per cent of the patients who received homografts from non-related donors have survived to the present time. Approximately 60 per cent of the entire

EFFECT OF CONSANGUINITY

TYPES OF GRAFT	CASES (NUMBER)	SURVIVALS	DEATHS
Mother to son*	8	5	3
Mother to daughter	5	5	0
Father to daughter	3	2	1
Brother to brother†	11	7	4
Brother to sister	1	0	1
Sister to brother*	8	6	2
Uncle to cousin	1	1	0
Unrelated			
Same sex*	8	2	6
Female to male	4	1	3
Male to female	2	1	1
TOTAL	51	30	21

\*In each group, one additional homograft was donated and removed either immediately or early in the post-operative course. The failures were due either to breaches of ABO incompatibility (two cases) or to the imposition of excessive ischemia (two cases). Second homografts were placed and, in the above tabulation, only the final donors are considered.

†This group includes two sets of fraternal twins. One patient is alive after 18 months. The other died of a fungous brain abscess and gastrointestinal hemorrhage after 207 days.

group are still alive. Consequently, the outlook for protracted survival is relatively good

if genetically related donors can be found. It is poor under other circumstances, even when optimally preserved organs are obtained from unrelated volunteer donors, and it is presumably considerably worse if cadaveric or animal sources (heterografts) are employed.

The prolonged survival of 30 of 51 patients is encouraging, but the projected outlook for the remaining patients remains speculative. The morbidity and mortality which will be encountered from chronic drug toxicity, mechanical obstructive uropathy, and delayed or chronic subclinical rejection remain to be determined by continued observation of those patients already brought through the acute stage of convalescence. Renal transplantation is still, as those working in the field have always regarded it, an experimental procedure, despite the fact that those patients whose lives have been extended for many months or years have realized a significant and undeniable benefit.

Other vital organs such as the liver, lung and heart have not yet been successfully transplanted. This is partially due to the increased technical difficulty encountered in other homotransplantations. Nevertheless, there is no concrete evidence that the problem is more

difficult from an immunologic point of view. Survival with canine liver homotransplantation in the University of Colorado laboratories has been attained with almost the same success rate as that with kidneys. By the use of improved or altered immunosuppressive techniques, dogs with sole dependence on canine hepatic homografts have now been maintained with normal liver function as long as five months postoperatively. Although the five clinical hepatic homotransplantations attempted at this center were ultimately unsuccessful, the increased knowledge and new avenues of research opened up as the consequence of this experience have brought the day closer when such procedures should again be given clinical trial. Homotransplantation of the liver should be attempted only in those institutions with the requisite experimental background, and it should be restricted to patients such as those with primary hepatic malignancy whose prognosis is otherwise hopeless.

THOMAS E. STARZL, M.D.  
*Professor of Surgery,*

THOMAS L. MARCHIORO, M.D.  
*Assistant Professor of Surgery,  
University of Colorado  
Medical Center,  
Denver*