

English have been successfully managed on renal replacement therapy.

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Donation of kidneys

SIR,—I was pleased to see that the report by the Medical Services Study Group of the Royal College of Physicians (25 July, p 286) supported my observations from a district general hospital.¹

Regrettably, the principal cause of the continuing failure to harvest sufficient kidneys for donation remains the inappropriate attitudes of the medical profession. The knowledge and skills can be readily learned, and to this end we have applied the use of flow charts. Where the major units required are situated in one hospital, as in the Grampian area, it may be easier to organise donation; but my experience from working in a district general hospital situated 16 km from the transplant surgeons shows that it is easy to co-operate. While I agree that small is beautiful,² large can be both practical and effective.

Finally, the proposed change in the code of practice for organ donation whereby tests for brain death will have to be repeated after an interval of 24 hours will compound the short-fall of kidneys and cause irreversible damage to the transplant programme.

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¹ Luksza AR. *Br Med J* 1979;ii:1316-9.

² Nicholls AJ, Catto GRD, Edward N, Engeset J, Logie JRC, MacLeod M. *Br Med J* 1980;280:1516-7.

Liver transplantation comes of age

SIR,—A recent leading article (11 July, p 87) described the increasing importance of liver transplantation in the treatment of some forms of hepatic failure. In the same issue Professor R Y Calne and others report on the results of 13 years of liver grafting at Cambridge. Liver is technically one of the most difficult organs to transplant.¹ Not the least of the difficulties is the typical patient's poor preoperative condition. Yet both the Cambridge and the Denver² series suggest that as more transplants succeed the postoperative survival times will also increase. It may be anticipated that as specialised units gain experience more kidney, heart, liver, pancreas, and heart-lung grafts will be attempted and that the recipients of these will also survive for prolonged periods.

Recent experiments with murine grafts suggest that malignant lymphoma may be a relatively common long-term side effect of transplantation in general.^{3,4} To date, the clinical evidence is scanty but intriguing. It is well known that human recipients of kidney and heart grafts develop lymphoma with much greater frequency than the general public.⁵⁻⁷ As long-term survival of liver, pancreas, and heart-lung transplantation increases more cases of malignant lymphoma may well occur.

The basis of this phenomenon is not well understood but there are two main theoretical explanations. Whereas a full exploration of the

merits of each is beyond the scope of this letter, a brief description is possible. The theory that prolonged immunosuppression leads to carcinogenesis is well known. Unfortunately, it is less well documented and receives much of its support from the argument that an important role of the immune system is to protect against tumour development. Current trends in immunology do not support this hypothesis. Rather, they hold that a more important function of the immune system is to prevent bacterial and viral infections.

The other viable explanation at present is that certain categories of prolonged stimulation of the immune system—by transplants, for example—lead to the proliferation of splenic T lymphocytes. This in turn appears to correlate well with the high incidence of malignant lymphoma experimentally.^{3,4,8} Recent results in the animal model implicate the graft's T lymphocytes in this malignant development.

The significance of this complication in the animal model may well be of predictive value in the clinical experience with human grafts. As the number of organ recipients increases, so may the number of those who develop malignant lymphoma as a late complication of their surgery.

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¹ Calne RY, McMaster P, Smith DP, et al. *Lancet* 1979;ii:612-4.

² Starzl TE, Iwatsuki S, Klintmalm G, et al. *Transplant Proc* 1981;13:281-5.

³ Goldsmith AE, Ryan GF, Joseph AB. *J R Soc Med* 1980;73:96-104.

⁴ Goldsmith AE, Ryan GF, Joseph AB. *Jpn J Med Sci Biol* 1980;33:7-18.

⁵ Calne RY, White DJG, Evans DB, et al. *Br Med J* 1981;282:934-6.

⁶ Calne RY, Rolles K, White DJG, et al. *Lancet* 1979;ii:1033-6.

⁷ Goldsmith AE, Ryan GF, Joseph AB. *Br Med J* 1979;ii:1146-7.

⁸ Goldsmith AE, Ryan GF, Joseph AB. *Cancer Detection and Prevention* (in press).

Colorectal surgery—the Cinderella specialty

SIR,—Both the title and the tone of your leading article (18 July, p 169) invite gentle correction. There has been no improvement over the last 25 years in the cure rate for rectal cancer but almost all people with a growth more than 6 cm from the anal skin (measured sigmoidoscopically) can now be spared a permanent colostomy without any reduction in the five-year survival rate.¹ While this may not impress academics it certainly makes a big difference to patients. The most important factor influencing this change has been improvement in antimicrobial prophylaxis and treatment. The incidence of suture line leakage varies but has little to do with suturing technique² and probably not much to do with surgical skill. To suppose that 28 different surgeons would report with the same degree of clinical accuracy is rather naive and the same probably applies to radiologists. Trends rather than detailed conclusions are all that can be inferred from the trial mentioned.³ Multi-

centre reports are very suspect. I suggest that in the hands of most surgeons the clinical leak rate (necessitating an emergency colostomy) for unprotected anastomoses is, like my own, about 10%.⁴ Anastomoses protected by a proximal colostomy do not cause clinical problems, although the radiological leak rate is the same as for unprotected joins. It is a matter of surgical judgment and circumstance to balance the risk of nine unnecessary prophylactic colostomies against that of one done as an emergency around the seventh postoperative day. The mortality for restorative rectal resection is reasonable for major surgery—4% overall and nil for patients below 75 years.⁴

Radiological leak rates, which run in most series at around 30%, are of great interest to proctologists interested in the problem of why colorectal anastomoses leak more often than those between the ileum and transverse colon. They are the most sensitive available indicator of success but have little to do with the present clinical situation, where antimicrobial prophylaxis provides a wide margin of safety. It would be a pity if honest reporting and public discussion of results by investigators with a special interest were to erode confidence in proctology generally and in a procedure which, after careful trial, has been shown to be at the present time effective and safe.

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¹ Nicholls RJ, Ritchie JK, Wadsworth J, Parks A. *Br J Surg* 1979;66:625-7.

² Overy RD, Godfrey PJ, Evans M, Pollock AV. *Br J Surg* 1980;67:363-4.

³ Fielding LP, Stewart-Brown S, Blesovsky L, Kearney G. *Br Med J* 1980;281:411-4.

⁴ Tagart REB. *J R Soc Med* 1981;74:111-8.

SIR,—With reference to your leading article (18 July, p 169) "Colorectal surgery—the Cinderella specialty," it might be of interest to record the results of a consecutive group of hand-sewn colorectal anastomoses performed by one surgeon.

The method is to use a continuous absorbable 2/0 chromic catgut inner stitch which includes mucosa, muscularis mucosae, and submucosa in an oval shaped loop to produce the minimum of inversion while being tight enough to be airtight and watertight. This stitch will dissolve in time, leaving a fully mobile and distensible suture line. The outer stitch is of 3/0 braided silk or braided nylon, inserted as interrupted oval shaped loops 3-4 mm apart to produce a butt-end apposition of muscle layers only. Neither inner nor outer layer penetrates the full thickness of bowel lest a track for infection be produced. No crushing clamps are used: each bowel end must be seen to bleed freely. When the anastomosis is completed it must be mobile from side to side by at least an inch and completely free from tension. No anastomosis is made in the presence of solid faeces; fluid faeces in small quantities (which can be removed by irrigation) is acceptable.

Four hundred cases are reported (table) in three groups each of two categories: those made with peritoneum on each side of the anastomosis, those to the mid-rectum without peritoneum, and

Occurrence of leaks in 400 colorectal anastomoses

		Peritoneum all round	Mid- rectum	Low rectum
Non-malignant conditions	M	62	18 (2 leaks)	2
	F	121	23	14 (1 leak)
Malignant conditions	M	47	15 (2 leaks)	9 (1 leak)
	F	60	16 (1 leak)	13 (1 leak)