Aspects of Australian medicine

Kidney transplants, doctors, and the media

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Last year Australia, with a population only one-quarter that of Britain, did 365 kidney transplant operations compared with the total of 671 in the United Kingdom and the Republic of Ireland. In fact, Britain is well down the league table when countries are ranked by the proportion of all patients with renal failure on treatment by dialysis or transplantations; Australia has consistently been close to the top.¹

Why should Australia have done roughly twice as well as Britain? Part of the explanation lies in the early history of the treatment of end stage renal failure in Australia, and part in the attitudes to transplantation among doctors, the public, and the press and broadcasting services.

How transplants began

In Britain early attempts at renal transplantation were made against a background of well-established long-term dialysis. Physicians were reluctant to send to the surgeons any of their patients who were doing well on dialysis, and the early transplant recipients were, therefore, mostly patients in poor condition. At that stage, too, the quality of the donor organs was often low. In consequence the early results of renal transplantation were disappointing—which discouraged renal physicians from referring patients kept in good health on dialysis, and so perpetuated a vicious circle.

In Australia, in contrast, renal transplantation was started by about eight surgeons who had gained practical experience in Europe and the United States—and who saw dialysis as a means of preparing patients for surgery. The early results were encouraging and caught the public imagination; and there was a good response from the public to requests for organ donation.

More important, perhaps, were two attitudes that became accepted early on and have remained as central concepts in the Australian approach to the management of end stage renal failure. Firstly, physicians such as Dr Priscilla Kincaid-Smith have argued consistently that on economic grounds the treatment policy must be based on transplantation if it is to cover all suitable patients. Secondly, there has always been close integration of the surgical and medical teams responsible for the care of patients in renal failure, so that the selection and management of patients has been planned in consultation.

Supply of cadaver organs

Transplant surgeons such as Professor A G R Sheil in Sydney have no doubt however, that their supply of cadaver kidneys

depends on maintaining individual doctors' commitment to transplantation. In general, kidneys become available only in hospitals with such an individual on the staff, so that as the numbers of renal physicians have risen so has the supply of kidneys improved. The transplant units themselves are always prepared to send out a team to remove kidneys. The operating team travels either by helicopter or by road transport and the kidney is put onto perfusion to await the results of tissue matching.

After the kidneys have been removed from a donor patient in hospital one of them is made available to patients in that hospital awaiting transplantation. The second kidney is usually allocated within the state on the basis of tissue-type matching. Usually kidneys are offered across state boundaries only if the computer comes up with a perfect match, or if a patient's need for transplantation is classed as highly urgent. Matching is, says Professor Sheil, a "great way of sharing kidneys" and so helping to make the treatment of renal failure a national rather than a hospital concern.

The supply of donor organs has improved with the proliferation of intensive care units. The medical and nursing staff of these units are very much aware of the futility of maintaining patients on respirators when all hope has gone, and they are therefore readier to accept withdrawal of the respirator than were individual consultants in the past—though neurosurgeons are still inclined at times to regard a decision to offer organs for transplantation as an admission of failure. There is, says Professor Gordon Clunie of Melbourne, an optimum number of transplants in any one unit. He believes that 20 to 30 operations a year maintains surgical competence without making unreasonable demands on time and also helps to keep other hospital staff aware of the need for donor organs. Even so, he believes a surgeon needs to be prepared to be seen as "a bit of a ghoul" if he is to continue to remind his colleagues of the need for organs.

Public attitudes

While accepting that one reason for the relatively good supply of kidneys in Australia is the active intervention of doctors, the transplant surgeons there also acknowledge the importance of the consistently favourable press that they have enjoyed. The Australian public seems more pro-doctor than the British: doctors are still respected and admired. In many ways the Australian public has proved highly receptive to medical innovations, as was shown by its acceptance early on of legislation on seat belts in cars. When the first results of kidney transplantation were announced journalists accepted the surgeons' own assessment—that this form of treatment was a coming thing and that Australia could achieve results as good as those anywhere in the world. In the ten years since then the broadcasting services and the newspapers have given constant support to the concept of transplantation. The only exception has been a brief period of disenchantment coinciding with the international backlash against transplantation triggered by the high mortality rate in the early heart transplant operations—and Professor Sheil believes

that if heart transplantation were started up again in Australia in the near future it might possibly have an adverse effect on public attitudes.

Effects on treatment policy

How is treatment affected by the supply of kidneys? Firstly, neither transplant surgeons nor renal physicians are satisfied with the numbers of donor organs they are being offered. All believe that if more organs were available they could be more selective in the kidneys they put into their patients. Another recent trend has been for surgeons to be readier to remove a kidney early on if there are signs of rejection. The result has been that, while graft-survival statistics may not have improved, the patients are healthier. Nevertheless, in Australia patients on dialysis do not have to wait very long to be offered a kidney: on average five months in Sydney and nine months in Melbourne. Nor do most units set absolute age limits for suitability for transplantation: patients in their sixties are occasionally transplanted if they are biologically youthful. Transplantation at this age has a higher failure rate, however, and surgeons have found that too many failures seem to discourage medical and nursing staff; certainly some renal physicians are reluctant to contemplate transplantation in patients over the age of 50 who are well established on dialysis.

Patients found to be HBsAg positive are usually sent for dialysis to an isolation unit in the hope (often fulfilled) that they will eventually become antigen-negative. In fact, the contraindications to transplantation seem to be relatively few—conditions such as tuberculosis that are incompatible with immunosuppression and a history of two or more rejected kidneys.

Long-term dialysis

While transplantation is seen as the treatment of choice for end stage renal failure there are, nevertheless, many patients on long-term dialysis either attending hospital or on home dialysis. Some of these had been adjudged unsuitable for transplantation on grounds of personality or on medical grounds; others are not willing to undergo surgery; while most are simply waiting for a kidney to become available. In contrast to Britain, a patient established on home dialysis does not necessarily see that as a long-term commitment; he or she may be on a waiting list. Paradoxically, said Dr John Dawborne in Melbourne, patients sometimes settle down to long-term dialysis better after they have had a kidney transplant and lost it—at least then they know they have had one chance. He believes, too, that home dialysis could be

expanded in Australia, seeing long-term hospital dialysis as wasteful of resources. Patients who cannot be dialysed at home could be treated at units based on minimum-care facilities, which can provide the essential services at a much lower cost.

Future trends

Despite their greater proportion of the population on treatment, neither surgeons nor physicians in Australia are satisfied with the services they provide at present. The demands for cadaver kidneys seem insatiable—though many are still wasted in outlying hospitals which still deal with many accidental injuries. Some of the British problems are found in Australia, too: coroners may be difficult and neurosurgeons uncooperative. At present, like their British counterparts, Australian surgeons use hardly any living donors—only 14 kidneys transplanted last year came from living relatives of patients. Partly this reflects a reluctance brought back from the United States by surgeons who trained there; but it is also true that most of the clinicians concerned seem optimistic about improving the results of cadaver transplantation by techniques such as better immunosuppression, plasmapheresis, D locus matching, and transfusion. Even so, the use of living donors may prove one solution to the chronic shortage of kidneys.

The overall impression given to the visitor is that the system works better than in Britain because of marginal differences at many levels. The units treating renal failure have closer integration between surgeons and physicians; more of the staff of intensive care and accident units have become convinced of their duty to offer organs; the public is much more aware of the good results of transplantation—and parents of accident victims often say they had discussed organ donation with their friends; and, finally, renal failure is seen by doctors and laymen alike in terms of transplant surgery rather than dialysis machines. "If one of my children went into renal failure I would offer him a kidney" says Dr Dawborne. Most of us would surely say the same.

This article is based on a visit to Australia I made last year on behalf of the *BMJ*. Everywhere I went I was met with kindness, busy doctors giving up their time to talk to me and show me round. I am extremely grateful to all of my generous hosts.

Reference

- ¹ Robinson, B H B, Vereerstraeten, P, and Hawkins, J B, eds, *Dialysis, Transplantation, Nephrology, Proceedings of the Thirteenth Congress of the European Dialysis and Transplant Association, Hamburg, 1976*. Tunbridge Wells, Pitman Medical, 1976.

Is a statement by a health food store "Honey contains all the vitamins and minerals essential to life and health" true?

Honey is a sweet viscous material prepared by bees from the nectar, honey dew, and pollen of flowers that is stored in the nest for use during the winter as food for the larvae or especially, in the case of the honey-bee, for the colony.¹ It is a concentrated source of energy, being about three-quarters invert sugar and one-quarter water. Sweetness apart, honey contains only minimal quantities of minerals and vitamins,² the exact content of which will vary depending on the source of nectar. The quantities of vitamins and minerals are, however, insignificant for man's purposes—certainly in the quantities that honey might reasonably be expected to be consumed (for example, one teaspoon honey provides about 1/1000 of the recommended daily intake of calcium). The "Promised Land" of the Old Testament times was described in glowing terms as the land that flowed with milk and honey; the high reputation of these two foods no doubt depended to some extent on the fact that they are "complete" foods for the young calf and young bee. Claims for the therapeutic properties of honey are without any scientific foundation, but in the absence of scientific investigation can be neither proved nor disproved. The

statement that honey contains all the vitamins and minerals essential to life and health is both untrue and misleading since the reader will reasonably assume that the statement refers to human requirements.

¹ Webster's Third New International Dictionary. London, Bell, 1966.

² Paul, A A, and Southgate, D A T, McCance and Widdowson's *The Composition of Foods*, 4th edn, Medical Research Council Special Report No 297. London, HMSO, 1978.

A patient, aged 70, has been taking oestrogens after a hysterectomy for 20 years. She has recently had removal of the left breast with proved carcinoma, and has had deep x ray treatment. The oestrogen has been withdrawn, and she is now suffering great discomfort with "hot flushes" and some increase of arthritic pain. Would it do any harm to give her small doses of oestrogen?

It might, because the tumour may be oestrogen dependent and if there are any rests of cancer cells they might be goaded into growth by oestrogen. Clonidine might be tried for her hot flushes and no doubt an analgesic could be found to help her with her arthritic pain.