as the consequence of getting the dose wrong (it was beneficial only if the patient weighed less than 70 kg). This time the recommended dose is 100 mg/m² on two consecutive days per week—but this regimen is not entirely innocuous, for leucopenia may occur, though it is reversible on stopping the drug.

This pastiche gives only a glimpse of a very complicated problem that has baffled the experts so far. Priestley¹ advised us to find the right balance of credulity and scepticism, despite the apparent paradox, if we were to find our way through a dark and difficult situation. Honest doctors, beset by the growing band of fanatical believers who hover around the meeting places of the jet-set oncologists, must be on their guard. So far the story is like The Tales of Hoffmann, with the thoracic surgeon in the role of the poet. The first act has been his encounter with chemotherapy and radiotherapy, and we are now watching and waiting to see if immunotherapy will steal his shadow and glide away with its next victim. Perhaps there is still time to write the demonic Dr Miracle out of the last act.


**Kidneys from cadavers**

The supply of donor kidneys for patients with chronic renal failure has not improved: some 600 kidneys are transplanted each year in Britain, whereas over 2000 patients need treatment. Health Service costs are now coming under closer scrutiny, and the expenditure on the care of those suffering from renal failure was recently discussed in the House of Commons. The Minister of State, Mr Moyle, estimated that the cost of dialysing 2500 patients with chronic renal failure was about £17 million per year, excluding any capital element; so that if all the patients who develop renal failure were treated by dialysis the NHS would have to find an additional £17 million every year. A successful kidney transplant represents a substantial saving of money, quite apart from the physical and psychological advantages over dialysis for the patient.

Although the results of kidney transplantation have changed little in the past decade, a worthwhile result is achieved in about half the patients given cadaver kidneys. Long-term survivors have reached their tenth and eleventh year after transplantation with continuing good function in their allografts. For a kidney to be rejected is a tragedy which at present cannot be avoided, but graft failure for technical reasons is in another category of disaster. Unfortunately, the shortfall of kidney donors is so serious that many transplant surgeons are prepared to use organs that are less than satisfactory. For example, organs are being taken from patients who have been on ventilators for so long that they have developed lung infection and septicemia; kidneys are removed from patients brought in from accidents when the time taken to find the relatives and seek permission has resulted in excessive damage from ischaemia. Removal of the kidneys after death is a difficult operation, often undertaken by relatively junior surgeons in an atmosphere of haste.

In the United States primary technical failures are very rare, since the public has accepted the concept of brain death, and most kidneys are now removed from patients with irreversible complete brain damage but an intact circulation. Moreover, surgeons removing kidneys receive a handsome fee (though they may be in danger of malpractice litigation should they make a technical error and damage the transplant). Organ perfusion apparatus is frequently used in the United States, preserving the kidney for up to two days; the recipient operation may then be fitted into an operating list for the convenience of the hospital, and there is time to prepare the recipient and perform complicated matching procedures.

An analysis of 431 cadaver kidneys available for transplantation recently reported from Boston Veterans' Administration Hospital⁶ showed that 75 were discarded after a period of pulsatile perfusion on a preservation machine. These kidneys were considered unsuitable for transplantation because of poor flow characteristics on the machine, multiple arteries with segmental occlusion, prolonged warm ischaemia time, or malfunction of the pump. Differences in the type of pretreatment given to the donors before removal of kidneys had important consequences. Thus 70% of the kidneys that were transplanted came from donors that had been given phenoxybenzamine, methyl prednisone, or phentolamine, whereas only 33% of kidneys discarded were taken from donors who had received such pretreatment.

Provided that the death of the donor has been established by using criteria such as those recently agreed by the Conference of Royal Colleges and Faculties,⁴ there is any reason why drugs that improve the quality of the organs for transplantation should not be given to the patient before they are removed? Nevertheless, such treatment does add an extra complication. Whereas in Holland, for example, the need to pay for the extra work of removal of kidneys for transplantation has been accepted (and there have been no reports of abuse), in Britain removal of cadaver organs leads to extra unpaid work, often both difficult and harrowing, for the doctors and nurses concerned in the care of ventilated patients with brain death. This may be one of the reasons for the apathy described in a recent report published by the Transplantation Society.⁵ These matters should be widely discussed, and it is up to the profession and public opinion to decide whether or not patients awaiting kidney transplantation should be denied this treatment.

In practice, public attitudes to transplantation appear to be favourable. The survey by Moores et al⁶ showed no evidence of any widespread objection to the procedures required for obtaining cadaver kidneys, yet only 4-4% of the people interviewed had completed a donor card. The willingness of the community to co-operate had not been developed to anything remotely approaching its full potential. In Australia and Canada driving licences contain a section for consent to be given to organ donation, yet when this matter was raised in the House of Commons Mr Moyle stated that, though sympathetic to the aims of the proposals, he thought that practical difficulties would prevent use of driving licences for this purpose.⁷ Why should this be possible in other countries but not in the United Kingdom?

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¹ British Medical Journal, 1976, 2, 1269.
⁴ Conference of Medical Royal Colleges, British Medical Journal, 1976, 2, 1187.
⁵ British Transplantation Society, British Medical Journal, 1975, 1, 251.
⁷ British Medical Journal, 1976, 2, 1207.