Dialysis and transplantation in young children

In spite of all the publicity, fund raising, and political pressure many adults and children who develop chronic renal failure in Britain are still not offered treatment with dialysis or transplantation.1 The latest report from the European Dialysis and Transplant Association Children's Register (for the year ending December 1977) shows that 39 children under the age of 15 years were accepted for treatment in Britain during the year—a rate of 0.7 children per million total population compared with the estimated requirement of 1.3 per million—and there has been no improvement over the last four years.

The 39 children treated were treated in 19 different centres, though among them four paediatric units accounted for 23 of the 39. Three of these four units have the facilities for children recommended in a report on the provision of care for children prepared by the British Association of Paediatric Nephrology in 1974: the other children were treated in adult centres with varying skills in paediatric medicine. Children treated in adult centres tend to be older than those treated in paediatric centres,4 and, because of the inadequate resources available for children and the reliance on adult centres, few younger children are accepted for treatment. By the end of 1977 of a total of 3 288 children who had ever been treated in Britain only five had been aged under 5 at the start. In contrast, in France 32 children under 5 have been accepted for treatment since 1969,5 and these younger children now account for 10% of all children treated. In all, 87 children aged under 5 have been treated in Europe.6

This failure to treat children cannot be justified on clinical grounds. Patient and graft survival is better in children than in any adult age group,6,7 and there is some suggestion that rejection may be less common.5 So far results have been better in centres with paediatric facilities than in those without.8 The overall patient survival in Europe after three years' treatment with home dialysis was 88%, with a survival of 77% for recipients of living donor and 74% for recipients of cadaver grafts: at three years living donor graft survival was 62%, and cadaver graft survival 47%. Half of all the children in Europe treated 10 or more years ago were alive in 1978.5 Fine et al8 reported a five-year survival of 78%, in 69 transplanted children, with a living donor graft survival of 73% and first-cadaver-graft survival of 35%. The European data show a patient survival of 77% at two years in children aged under 5 at the start of treatment.9 In Minneapolis, patient survival after transplantation in 21 children aged 2-5 was 76% at four years, and did not differ significantly from the survival in 55 older children treated at the same centre.9

Most paediatric programmes aim at transplantation rather than long-term dialysis: rehabilitation into normal school activity is much better with a successful transplant and the psychological stress on the child and family is less.2 Nevertheless, home dialysis may be associated with good rehabilitation into school,6,10 and in one study only a few children showed signs of chronic stress after a year on home dialysis—but there was evidence of strain on the families.10 Home dialysis seems preferable to hospital dialysis for children awaiting transplantation, but for most of them a successful transplant is the ultimate goal.10

The relative success of treatment has encouraged paediatric nephrologists and others to argue that enough money, staff, and other resources should be made available for all suitable children to be treated. At present most units have to operate a selection policy, with its stringency determined by the facilities. Even in the absence of material restraints there are some relatively strong contraindications: primary oxalosis, which recurs in the grafted kidney; other, severe handicaps such as blindness, gross intellectual retardation, inability to walk unaided because of paraplegia or hemiplegia, and congenital deafness with inability to speak are examples. The decision may be more difficult with milder degrees of handicap, such as neurogenic bladder, which may necessitate transplantation into an ileal or colon conduit; a family under severe social stress; severe growth retardation; or progressive disease in other organs, such as hepatic fibrosis with infantile polycystic disease. There is probably no definite complete contraindication, and each child and family must be considered individually and the informed opinions of the parents taken into account.

The ethical argument that the child should be considered in isolation ignores the reality that the success or failure of treatment will be determined by the co-operation of the whole team, which includes the parents. Severely handicapped children will require help from other professionals including paediatric neurologists, urologists, occupational therapists, physiotherapists, child psychiatrists, and social workers. A child treated with dialysis or undergoing transplantation who
Teratomas of the ovary

Ovarian teratomas make up about one-fifth of all ovarian tumours.1 Teratomas originate from germ cells, and most are cystic and benign; 10% are bilateral. They occur mostly during the childhood years, typically in the mid-30s. About 10% are diagnosed during pregnancy. The standard conservative treatment of ovarian cystectomy provides excellent results.

These points do not apply to the much rarer solid malignant counterpart, which forms 1% of all ovarian teratomas. These tumours usually fill the pouch of Douglas and sometimes much of the abdominal cavity. Most patients are aged under 25, and present with vague symptoms of abdominal discomfort, distension, or irregular vaginal bleeding. The tumour is usually unilateral. Microscopically immature mesenchymal or neuroepithelial elements predominate,2 in contrast to the epithelial tissue of the benign variety. The prognosis is poor, and until recently most patients died within a year of diagnosis.3 Nevertheless, if aggressive treatment is given then (except for those teratomas with mixtures of dysgerminomas, endodermal sinus tumours, or choriocarcinomas, all of which may coexist) the prognosis may improve dramatically.

In the past teratomas were generally treated in patients of all ages by total abdominal hysterectomy and bilateral salpingo-oophorectomy.4,5 Some surgeons were even more radical and suggested that omentectomy and dissection of the lymph nodes should also be performed.6 In practice more than one author has changed his views from the radical to a more conservative7 approach; for, provided the tumour is confined to one ovary with no extracapsular spread, unilateral salpingo-oophorectomy seems to offer as good a survival rate as a more radical procedure.8 Bilateral malignant teratomas are rare, but occasionally concomitant benign cystic teratomas may arise in the opposite ovary to the malignant tumour.9 If the tumour has spread beyond the primary site, then its bulk should be reduced as much as possible at the initial operation.10

The question then arises of what adjuvant treatment, if any, should be given. Radiotherapy has been tried and, indeed, has been said to be a vital part of the attack.11 This is surprising —since the tumour is not particularly radiosensitive. Chemotherapy is the alternative, but until recently there have been only isolated reports of long-term survival with single-agent cytotoxic treatment such as 5-fluorouracil.12 Nevertheless, encouraging results are now being reported from the M D Anderson Hospital and Tumor Institute, Texas, with the use of combination chemotherapy. In a recently reported13 series of 25 cases (which for such a rare disease is large) there was a highly significantly improved survival rate with surgery followed by combination cytotoxic therapy when compared with more conventional modes of treatment. The Texas group emphasise the need for adequate primary surgical extirpation of tumours, though at the same time they point out that these patients are usually young and may wish to have children. In these circumstances they removed only the affected ovary unless there had been spread beyond the capsule. Post-operatively, a combination of vincristine, actinomycin D, and cyclophosphamide (VAC) was employed in 12 cases of all stages—that is I to IV— at the beginning of treatment. There were two deaths, one after three and the other after 26 months, but the other patients are all alive 16 to 68 months later and only one has evidence of persisting disease.

The success of this treatment contrasts appreciably with the 100% mortality rate in 13 controls treated before the use of combination chemotherapy with the previously more accepted therapy of radiation, empirial single cytotoxic agents, or both. The VAC combination chemotherapy regimen continues for two years as a monthly five-day course. The results of remission with this treatment do not seem to depend on the traditional criteria for prognosis—staging and histology—and hence this report questions the prognostic significance of histological grading.

Undoubtedly careful and long-term follow-up of all patients with ovarian cancer is essential if we are to improve survival rates. Second-look procedures after a set course of treatment have been advocated14 to assess the efficacy of the treatment, and will remain most useful until more refined methods or tumour markers are available. This is borne out in the Texas study, where second-look laparotomies were performed. Experience in Britain has shown that laparoscopy, a less invasive procedure, can give excellent views of the pelvis, liver, and subdiaphragmatic regions. Recurrences or persistent disease may be visualised and mapped out; directed biopsies may also be done if necessary. Conservative unilateral salpingo-oophorectomy in young women must be combined with careful and precise follow-up with as many extra investigatory procedures as possible.

The outcome of pregnancies in patients who have received cytotoxic agents is still uncertain; the question is under review, notably in patients with Hodgkin's disease and