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Successful treatment of middle aged and elderly patients with end stage renal disease

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Abstract

Many patients over the age of 55 with end stage renal disease in the United Kingdom are denied dialysis or transplantation. Although the reasons are complex, anticipation of a poor prognosis for these patients might explain why most British renal units impose an arbitrary age limit on the acceptance of patients for treatment. A study was therefore conducted to examine the prognosis and quality of life of 64 patients (mean age 59.6 years, range 55-72) accepted into our renal replacement programme from the beginning of 1975. The five year survival of the patients was 62.0%, with 78.1% of the survivors either having successful transplants or caring for themselves using home haemodialysis or continuous ambulatory peritoneal dialysis.

The results show that in terms of survival, economics, and rehabilitation it is both feasible and reasonable to

treat middle aged and elderly patients with end stage renal disease. These patients should therefore not be denied dialysis or transplantation on the basis of age alone, and the lack of resources and other factors that allow this state to persist in Britain should be rapidly redressed.

Introduction

The renal failure service in the United Kingdom is notorious for its inability to treat enough patients with end stage renal disease.¹ Middle aged (55-65 years) and elderly patients (>65) fare particularly badly, as only 18% of renal units in Britain² do not impose an age limit on the acceptance of patients for treatment. Britain provides treatment for less than one third of the number of middle aged and less than one twelfth of the number of elderly patients with end stage renal disease who are treated in neighbouring large European countries such as West Germany, France, and Italy, although the incidence of the disease in these age groups is the same in Britain as in these other countries.³

Various reasons for failure to treat these patients aged over 55 (and in some areas, also patients aged under 55) have been suggested.⁴ These include lack of resources, shortage of kidneys for transplantation, selection of patients by nephrologists, and failure of general physicians to refer patients to renal units. Anticipation of a poor prognosis for these middle aged and elderly patients and concern about their quality of life may be other factors in allowing arbitrary age limits to persist as a criterion of patient selection.

The purpose of this paper is to establish the prognosis and

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degree of rehabilitation of patients aged 55 and over treated for end stage renal disease in our renal unit from the beginning of 1975.

Patients

Sixty four patients (49 men, 15 women) with a mean age of 59.6 (1SD 3.8) years (range 55-72) at the start of treatment were accepted into our programme for end stage renal disease from the beginning of 1975 to the end of February 1982. The patients formed 25.1% of the 255 adult patients accepted during the period. Fifty eight patients were aged 55-64 years at the start of treatment; only six were aged 65 or over. The patients were studied until the end of August 1982, with a minimum follow up of six months and a maximum follow up of seven and a half years.

No patient accepted for treatment of end stage renal disease was excluded from the study. Our policy is to accept the great majority of patients over the age of 55 referred to us, with the exception of patients with end stage renal disease associated with untreatable disseminated malignancy or due to diabetes mellitus. (Until 1981 we referred these patients to the renal unit at King's College Hospital, London; subsequently, however, we have treated several in our unit.) Unfortunately, we do not have data on the few patients whom we refused. Tables I and II list the numbers of new patients with end stage renal disease treated each year and their mode of treatment on 31 August 1982 or at death. Fifty three patients were treated initially by hospital haemo-

TABLE I—Numbers of patients aged 55 and over accepted for treatment each year

	1975	1976	1977	1978	1979	1980	1981	Total†
No of patients aged 55 and over treated each year	3	3	9	12	9	10	17	63
% of total number of adult* patients aged 55 and over treated each year	9.7	12.0	25.0	36.4	25.0	27.3	30.9	25.3

* Adult patients = patients aged 15 years and over.

† Only one patient in this age range was taken on in 1982 (January and February) and is not shown in table.

TABLE II—Modes of treatment of end stage renal disease at 31 August 1982 or at death

Mode of treatment	No of patients who were alive	No of patients who died	Total
Transplantation	17	12	29
Home haemodialysis	10	1	11
Hospital haemodialysis	9	5	14
Continuous ambulatory peritoneal dialysis	8	2	10
Total	44	20	64

dialysis (occasionally after a short period of intermittent peritoneal dialysis). Eight patients were treated initially by continuous ambulatory peritoneal dialysis, introduced in our unit in 1980, and three patients were given transplants without initial dialysis. Thirty eight patients (mean age 59.1 years; range 55-67) received 42 cadaver renal transplants; four of them were operated on twice. None of the transplants were from live donors. After transplantation patients were immunosuppressed with tapering doses of prednisolone and azathioprine, as described.⁵ Episodes of rejection were treated with intravenous methylprednisolone 1 g on three successive days.

Survival of the patients and renal allografts was analysed by the life table method described by Cutler and Ederer.⁶ When using this method to calculate graft survival we regarded patients who died with a functioning allograft as "lost to follow up." Rehabilitation of the patients was assessed using a method adapted from the European Dialysis and Transplant Association,³ and our patients fell into one of three groups at the time of death or on 31 August 1982: group 1 comprised patients who were in full time employment; group 2 patients who were retired or unemployed but were fit and well and caring for themselves at home; and group 3 patients who were unable to work but were living at home and able to care for most of their personal needs with a variable amount of help. Twelve patients who died within six months of beginning treatment were excluded from the assessment of rehabilitation.

Results

At the end of the study 44 patients (68.8%) were alive and 20 had died. Table III lists the causes of death. Figure 1 shows the cumulative survival of our patients, irrespective of the modes of treatment, and also the survival of patients in the same age group reported to the European Dialysis and Transplant Association in 1981.⁷ Figure 2 shows the cumulative survivals of the patients given transplants and of their first cadaver allografts and also the survival of patients reported to the European Dialysis and Transplant Association in 1981⁷ after their first cadaver allograft operation. The five year survival of patients who were not given transplants (61.5%) was similar to that of patients who were given transplants (61.9%). Figure 1 shows that most of the deaths occurred during the first year of treatment. All six of our patients aged 65 and over were alive at the end of the study, including two who began treatment in 1977.

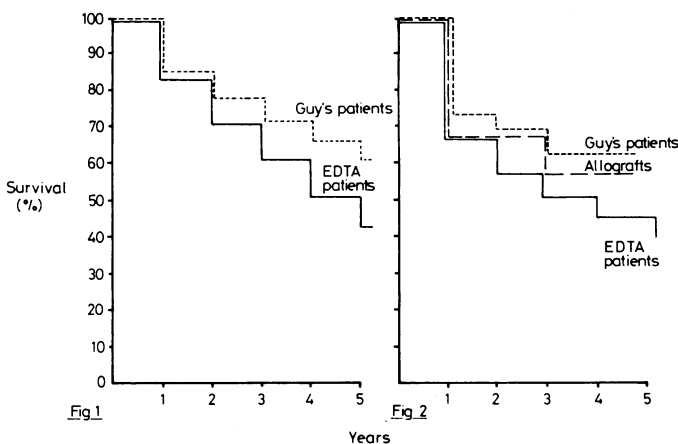


FIG 1—Cumulative patient survival. (EDTA=European Dialysis and Transplant Association.)

FIG 2—Cumulative patient and allograft survival after transplantation. (EDTA=European Dialysis and Transplant Association.)

Twelve of the 38 patients given transplants died as a result of transplantation or its failure (table III). Three patients were allowed to die of uraemia after irreversible graft rejection. Two of these patients had no further vascular access for haemodialysis, and one had become progressively severely demented. The remaining nine patients all had functioning allografts at the time of death. One of these patients died as a result of a malignant lymphoma and another died of bronchial carcinoma.

During the study period there was a steady increase in the proportion of new adult patients accepted for treatment in our unit who were aged 55 and over (table I). If the trend continues roughly half of all new patients accepted in 1985 will be aged 55 or more. At the time of death or at the end of the study only 14 of our patients (21.9%) were receiving treatment by hospital haemodialysis (table II). The remaining 50 either had successful transplants or were being treated outside hospital with home haemodialysis or continuous ambulatory peritoneal dialysis. At the time of death or at the end of the study (and with the exclusion of 12 patients who had died within six months after beginning treatment) 20 patients were in full time employment,

TABLE III—Causes of death in all patients aged 55 and over treated for end stage renal disease

Causes of death	No of patients	Mode of treatment	
		Transplantation	Haemodialysis/CAPD†
Cardiovascular	7	1	6
Sepsis	6	4	2
Uraemia*	3	3	0
Gastrointestinal haemorrhage	2	2	0
Malignancy	2	2	0
Total	20	12	8

* These patients were allowed to die after failure of their transplants.

† CAPD = Continuous ambulatory peritoneal dialysis.

24 were either retired or unemployed but fit and well, and only eight were unable to work or care fully for their personal needs at home.

Discussion

These data show that the five year survival of middle aged and elderly patients with end stage renal disease treated in our unit is 62.0%. This compares favourably with the pooled data of the registry of the European Dialysis and Transplant Association,⁷ which show that the five year survival of patients aged 55-64 years is 44% (fig 1). This figure is considerably better than that for similarly aged patients with other potentially lethal but less treatable illnesses, such as carcinoma of the bronchus and carcinoma of the colon.² Most deaths occurred after transplantation and were mainly due to sepsis (with functioning grafts) emphasising the dangers of overimmunosuppression. Patients who died while receiving haemodialysis or continuous ambulatory peritoneal dialysis did so predominantly as a result of cardiovascular disease. These data agree with those of the European Dialysis and Transplant Association.³

Despite the fact that in our series most deaths were associated with transplantation, the patients with transplants nevertheless had a five year survival of 61.9%, which was closely similar to the survival of patients who were not given transplants (61.5%). These data are particularly impressive when compared with those of the registry of the European Dialysis and Transplant Association, which in 1981⁷ reported that the five year survival of patients in this age group after a first cadaver graft was only 32.9% (fig 2). We now use a low dose steroid regimen⁵ in all patients, which is not associated with increased graft loss, and we hope that the mortality and morbidity associated with infection and other steroid induced side effects after transplantation will decline. Graft survival in our middle aged and elderly patients was also good (66.7% at one year, 56.4% at five years) and compared well with results obtained in other large single centres, such as in Minneapolis,⁸ which in 1981 reported cadaver allograft survival rates of 43% at two years and 32% at four years in patients aged 50 or more. In our series the few patients aged 65 and over at the start of treatment did particularly well. None died, and at the end of the study five of the six were aged 70 or more. Two had successful transplants, and only one was receiving permanent hospital haemodialysis.

At the time of their deaths or at the conclusion of the study on 31 August 1982 most of our patients (79.5%) either had functioning transplants or were caring for themselves using home haemodialysis or continuous ambulatory peritoneal dialysis. This represents a considerable economic success, as the most expensive form of treatment for end stage renal disease is hospital haemodialysis. Forty four of our patients (68.8%) were either in full time employment or retired or unemployed but fit and well. Only eight patients (12.5%) were greatly disabled, so that, in terms of rehabilitation, our patients did extremely well.

Why, then, are most middle aged and elderly patients with end stage renal disease denied treatment in Britain? We have no reason to believe that the prognosis of patients treated in our unit is any different from that of similar patients treated in other units in Britain.

Plainly the anticipation of a poor prognosis should not be a major factor in the failure to treat these patients. The chronic lack of resources and funds allocated to the treatment of end stage renal disease is a more likely explanation for this evil practice.¹ Attitudes towards referring patients with the disease to renal units for treatment also play an important part. Data from the South East and South West Thames Regional Health Authorities for 1982 showed that in those regions only 25 new patients per million population are accepted a year for treatment of end stage renal disease yet the most conservative estimate of the number of patients in those regions developing the disease is twice that number. Since we refuse very few patients we conclude that many with end stage renal disease are not being referred to us by colleagues. Most of the referring (or non-

referring) physicians have no experience of dialysis or transplantation and cannot assess the suitability of patients for treatment. We are, therefore, certain that a large number of patients dying of end stage renal disease in Britain are being denied proper assessment, let alone treatment. Nor are British nephrologists blameless; many practise a form of triage, which has received international criticism.¹ The recent report by the Royal College of Physicians⁹ on the reasons why patients under the age of 50 were refused treatment for end stage renal disease is a shameful exposure of this practice.

What should be done? Our report does not suggest that all patients with end stage renal disease should be accepted for treatment, nor that treatment should be continued in the face of overwhelming medical contraindications.

Firstly, we suggest that middle aged and elderly patients with end stage renal disease should be referred to their local renal unit for assessment and possible treatment.

Secondly, the resources to treat these patients must be made available by government, preferably at a regional level, since renal units operate on a regional basis and should not have to compete for district resources simply because accidents of geography place the unit in one particular district. Possibly some of the resources allocated to the treatment of the elderly chronically ill should be diverted to the highly successful treatment of the elderly chronically ill with end stage renal disease.

Thirdly, the facilities for hospital haemodialysis must be increased. There is a shortage of kidneys available for transplantation and some patients are not suitable for this treatment. Continuous ambulatory peritoneal dialysis is a new technique with a high incidence of failure,¹⁰ and only a few patients can perform long term home haemodialysis, as our report shows. There are therefore a number of patients who are unsuitable for these forms of treatment and will survive only if offered hospital haemodialysis. During the past 10 years there has been virtually no expansion of the hospital haemodialysis facilities in Britain, which is in stark contrast with programmes in other countries in Western Europe, the United States, and Australia. These facilities in Britain have long been saturated, and although the provision of extra resources for transplantation and continuous ambulatory peritoneal dialysis is extremely important, it is vital that there should be a substantial increase in facilities available for hospital haemodialysis.

Finally, the public must be made aware that the treatment of middle aged and elderly patients with end stage renal disease is not only feasible but successful and that medical contraindications to treatment have diminished substantially. Only political pressure will end the practice of using an arbitrary age limit as the deciding factor in selecting patients for treatment.

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