Dialysis in the elderly, to treat or not to treat?

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The population on renal replacement therapy (RRT) has become older and beset by more co-morbidity than was thought possible when dialysis was introduced. About half of the stock is over the normal retirement age, and over the last decade there has been at least a four-fold increase in the number of patients entering dialysis over the age of 74 years [1]. A growing proportion of the RRT population is over the age of 85 years.

Indeed, RRT could almost be considered as a branch of geriatric medicine. Viewed in this context, the nature of an elderly population is germane. Medically it is very heterogeneous. Some individuals remain fit and active into their ninth or tenth decades, whilst others show evidence of frailty during their early 60s in the absence of an acute physical illness ([2] and Table 1).

The survival of elderly patients on RRT is much shorter than that of younger patients; the annual cost of treating end-stage renal failure (ESRF) is ~2% of the health-care budget in some developed countries and in some countries approximately half of the state’s expenditure on the health of its citizens is consumed in the last year of their lives [3].

While these considerations may appear to make a case for excluding older patients as such from RRT, this is hardly acceptable, for it is biological rather than chronological age that determines whether a person becomes more of an issue in the older patient, since co-morbidity is common in the elderly. Eighty per cent of individuals over 65 years of age have one and 30% three or more chronic illnesses [4,5]. Malnutrition occurs. Osteoporosis and atherosclerosis are constitutional and may not readily be corrected. More than 10% of the elderly show depressive symptoms and these are related to life stresses and physical deficits [6] (Table 1).

In renal failure, the incidence of co-morbidity is even greater. In a recent study [7] in our centre, we found that 90% of patients over 65 years of age who were on haemodialysis had two or more co-morbidities. Cardiovascular, musculo-skeletal and neurological problems predominate (Table 2). These factors are reflected in the mortality, morbidity and quality of life of elderly patients on RRT. Indeed, it has been reported that dialysis patients have between one-third and one-quarter of the survival of their peers not in renal failure [8].

Table 1. The definition of the ‘fit’ to ‘frail’ elderly adapted from [2]

<table>
<thead>
<tr>
<th></th>
<th>Fit elderly</th>
<th>Frail elderly</th>
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<tbody>
<tr>
<td>Live independently</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Freely mobile</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Regular medication</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Co-morbidity*</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Mental deficit*</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Clinically or on investigation.
* Organic or functional psychological.

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Early mortality (within 90 days) among the elderly on dialysis increased significantly from 15% for those 65–75 years old to 20% for those 79–84 years old and 30% for those older than 84 years; most of these deaths were associated with co-morbid conditions [9]. For patients starting treatment in Europe who were over the age of 65 years the 3-year survival was 46% [10]. Death from social causes (suicide or withdrawal from treatment) is more frequent in the elderly, 15.4%, compared with 10% in patients aged 46–54 years [11].

These issues are a matter of public concern. In a recent article in the Financial Times (18.5.1998) Christian Tyler pointed out that ‘We are afraid not of pain but of the futile prolongation of life by high tech medical intervention... Are we, like Tithonus to gain the gift of immortality without the gift of eternal youth?’.

In a searching, yet compassionate, analysis of the management of illness in the elderly, Callahan [12] stated ‘Dialysis represents the kind of technology that should not be sought or developed in the future—It does not greatly increase the life expectancy Most gain a doubtful quality of life while on treatment’. In fact, renal physicians everywhere are both conscious of, and responsive to, such societal anxieties. By extrapolation from ANZDATA 1997, the recent take-on rate for patients aged between 70 and 80 years in Australia and New Zealand is approximately 280 per million of the population at risk (1997); in the Netherlands it is 363 (F. de Charro, personal communication). British and Italian assessments suggest that the incidence of ESRD at these ages is 503 per million of population at risk [13,14]. By contrast, for the age range 30–50 years take-up rates appear to approximate to the predicted incidence.

Furthermore, in a survey of nephrologists in New England, Singer [15] reported that physicians withheld dialysis more often than they withdrew it. While this is of course, a common experience in the majority of countries where dialysis facilities are very limited, that it is true for the USA suggests that it is likely to be reflected elsewhere where facilities are reasonably freely available.

While Singer’s study did not address the reasons for withholding dialysis, or the age range of the patients who did not receive treatment, the inferential evidence already given points to this being increasingly common with age.

Yet most of those writing on the topic appear uncomfortable with the concept of withholding treatment. It is worth considering the legal position. This is influenced by the political philosophy and religious convictions which are the accepted norm in a society. It will differ, at least in emphasis, from country to country.

The position in Britain has been set out clearly by McLean [16]. In the UK, courts prioritize the autonomy of the patient over the clinical recommendation, the competent patient may reject treatment even if it is life preserving. No third party, however close, has any legal right to make decisions on behalf of a competent adult, the view of the relatives is not of interest for legal purposes, and if the patient is incompetent, no relative can force a doctor to provide treatment which the doctor believes is futile. Quite unequivocally, therefore, it is the patient/doctor relationship, which is paramount. They have separate and collective responsibility for the introduction and continuation of any treatment.

It is clear that, in the case of renal failure, both the patient and the doctor must actively assent to the introduction of RRT. One of us has suggested that the following parameters should apply.

Once the doctor has satisfied himself of the diagnosis and that the patient is in irreversible renal failure, he should: determine co-morbid factors, develop a treatment protocol and be satisfied that RRT o

Table 2. Per cent co-morbidity and age

<table>
<thead>
<tr>
<th>Co-morbidity %</th>
<th>Age</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>35–49</td>
</tr>
<tr>
<td>Angina/MI</td>
<td>7.5</td>
</tr>
<tr>
<td>Respiratory disease</td>
<td>8.6</td>
</tr>
<tr>
<td>GIT problems</td>
<td>7.5</td>
</tr>
<tr>
<td>CNS problems</td>
<td>6.4</td>
</tr>
<tr>
<td>Musculoskeletal disorders</td>
<td>6.4</td>
</tr>
<tr>
<td>Spinal</td>
<td>1.1</td>
</tr>
<tr>
<td>Mental illness</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Per cent co-morbidity and age.
It is a comfortable myth that, once patients have commenced RRT, it can readily be withdrawn. Not all the staff now concerned may have been involved in the decision to commence RRT and must assume that it was done to benefit the patient. The focus is on why the treatment is judged to have failed, new parameters are introduced and the patient might undergo needless additional suffering while the issue is debated.

Furthermore a soi-disant ‘proxy’ for the patient may assume a persuasive, but legally unfounded, role in the decision-making process. The doctor is prudent to discuss such problems with colleagues and family, but the decision rests with him and the patient—no-one else. Time is needed and ideally the patient must be consulted before ESRF has supervened, this is not always possible. It is time well spent however, if unwanted suffering is to be prevented.

References

8. United State Renal Data System. *1993 Annual Data Report*