

Treatment of adult patients with renal failure: recommended standards and audit measures

SUMMARY OF A REPORT PREPARED BY THE STANDARDS AND AUDIT SUBCOMMITTEE OF THE RENAL ASSOCIATION ON BEHALF OF THE RENAL ASSOCIATION AND THE ROYAL COLLEGE OF PHYSICIANS

In 1990 the Renal Association resolved to produce two policy documents on the treatment of adult patients with renal failure. The first document *Provision of treatment for chronic renal failure* was published in 1991 [1] and describes the required resources. This second complementary document, produced in collaboration with the Royal College of Physicians of London, is a consensus statement of recommended standards for good practice in the treatment of adult patients with renal failure. Its first aim is to protect patients from the effects of substandard treatment and to improve the general quality of their care. It will also educate patients on what to expect, providers on what to provide and purchasers on what they should buy, and will therefore help in the process of contracting for renal services in the National Health Service.

SETTING STANDARDS

1. Minimum standards are set where evidence for them is strong. Where it is lacking or inconclusive, recommendations are made and more research is called for. Much of this research will consist of data collection through the National Renal Registry, which is now being set up, and comparative audit. Standards will be revised at regular intervals in the light of this new knowledge.
2. Standards and comparative audit will only be meaningful if these are carried out in a well defined population of patients. Consequently, the time of initiation of regular dialysis is precisely defined and the report recommends collection of data on all the patient characteristics that are known to have a substantial effect on outcome (eg age, primary disease) and the other patient characteristics and co-morbidity which are important but whose effect is not so well quantified (eg race, left ventricular failure). The long-term aim is to devise a comprehensive co-morbidity score for use in comparative audit.
3. The report addresses specific areas of concern. Simple methods of measuring adequacy of dialysis

are recommended pending evaluation of more refined methodology. Standard methods for measuring some variables (eg serum albumin) will be required for comparative audit; as an interim measure the method should be recorded. Measuring quality and achieving targets will have a cost which should be made explicit in the contracting process.

PATIENTS AND TREATMENT

The document sets standards and recommends comparative audit of patients managed by haemodialysis, peritoneal dialysis and transplantation. Those with acute renal failure, pre-dialysis and general nephrology are covered in less detail.

RECOMMENDATIONS FOR ENDSTAGE RENAL FAILURE

1. Acceptance of new patient intake of at least 80 per million population, adjusted as necessary for the race and age distribution of the population.
2. Comorbidity scoring, to incorporate at least age, presence of diabetes mellitus and heart disease.
3. Equity of access to all forms of therapy and consideration of patient preference after informed guidance on dialysis options and transplantation.

Haemodialysis and peritoneal dialysis

Minimum or recommended standards are suggested for: biomedical equipment, water purity for dialysis (inorganic and microbiological contaminants), type of membrane, reuse of dialysers and use of bicarbonate dialysis fluids. For peritoneal dialysis patients a firm target is advocated for the universal use of the disconnect system, which has a major impact on peritonitis and quality of life.

Correction of anaemia

It is recommended that a haemoglobin concentration of 10–12 g/dl should be achieved in at least 80% of the dialysis population, if necessary by the use of recombinant human erythropoietin.

Prepared on behalf of the Subcommittee by:
R GOKAL, MD, FRCP, Consultant Nephrologist,
Manchester Royal Infirmary

Dialysis adequacy

Targets have been set for the minimum amount of dialysis with respect to small solute clearance (based on urea kinetic modelling or urea reduction ratio), correction of acidosis, minimal nutritional status (serum albumin), blood pressure (age < 65 years 140/90; > 65 years 160/90 in at least 80% of the dialysis population), and biochemical parameters (for control of serum electrolytes, calcium, phosphate and parathyroid hormone). For patients on peritoneal dialysis, there is still controversy about the optimum measures to assess adequacy and its impact on outcome. Hence, no minimum standard has been recommended. However, minimum standards have been set for complications such as peritonitis (one episode per 18 months of therapy).

Outcome

Patient survival is heavily influenced by age, diabetes and cardiovascular disease. Actuarial survival data will need to be audited as part of the Renal Registry. The outcome results from the Registry of the European Dialysis and Transplant Association have been adopted as the basis for such targets, which will be revised in the light of comparative audit.

Audit

The document recommends that audit initiatives concentrate on outcome measures and on measurements which have a proven place in determining morbidity and mortality in renal failure patients.

Transplantation

The supply of donors is far outstripped by the demand for transplants; the recommendations consequently deal with equity as well as effective use.

1. There should be equity of access to transplantation geographically and for patients with unusual tissue types.
2. Distribution of donor kidneys should continue to be based on MHC (HLA) matching.
3. Recommended targets for survival of patient and graft are proposed, based on comorbidity at the time of transplantation, the degree of sensitisation and the HLA matching, and an immunosuppressive regime.
4. It is envisaged that a more complete set of standards and audit guidelines will be formulated in conjunction with the British Transplantation Society.

ACUTE RENAL FAILURE

The incidence of acute renal failure requiring dialysis is about 70 per million population per year. Outcome

is heavily dependent on organ failure, worsening with increasing number of organs failing and with a rising APACHE (acute physiology and chronic health evaluation) score [2,3]. The document recommends:

1. Patients with other organ failures should be managed in intensive care units with the close involvement of the nephrologist.
2. Dialysis needs should be met by haemofiltration, which is usually the treatment of choice, or by dialysis in a renal unit. Peritoneal dialysis should be employed as elective treatment only in patients who are not hypercatabolic. It should not be used as a substitute for more effective measures in centres that lack them.

Future of this document

This is the second in a series of documents being produced by the Renal Association jointly with the Royal College of Physicians. Standard specifications laid down in the document can be translated into a format suitable for model contracts with purchasers.

Members of the working party

Dr R Gokal (chairman), consultant nephrologist, Manchester Royal Infirmary; **Dr R Greenwood**, consultant nephrologist, Lister Hospital, Stevenage; **Dr P Sweny**, senior lecturer/honorary consultant nephrologist, Royal Free Hospital, London; **Dr D Taube**, consultant nephrologist, St Mary's Hospital, London; **Dr J Turney**, consultant nephrologist, Leeds General Infirmary; **Dr M Ward**, consultant physician/senior lecturer in medicine, Royal Victoria Infirmary, Newcastle upon Tyne; **Professor J S Cameron**, President of the Renal Association, Guy's Hospital, London (ex officio); **Dr C G Winearls**, Secretary of the Renal Association, Oxford Radcliffe Hospital (ex officio); **Professor N P Mallick**, chairman, Royal College of Physicians Committee on Renal Disease, Manchester Royal Infirmary (ex officio).

References

- 1 Working Group of the Renal Association Subcommittee. *Provision of treatment for chronic renal failure*. Provision of services for adult patients with renal disease in the United Kingdom. London: Royal College of Physicians and the Renal Association, 1991.
- 2 Knaus W. Organ system dysfunction and risk prediction. *Int Care Med* 1993;19:127-8.
- 3 US Renal Disease Survey. *Annual Report 1993*. Washington DC: Department of Health Education and Welfare.

Treatment of adult patients with renal failure

**NEW
TITLE**

Copies of the full report can be obtained by sending a cheque for £5.30 (overseas price £6.50) to: The Publications Department, Royal College of Physicians, London NW1 4LE.