Home Conditions—The Limiting Factor in Domiciliary Dialysis

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Self-supervised home dialysis is now widely advocated as the most acceptable and economic method of providing treatment for patients requiring long-term maintenance dialysis (Baillod et al, 1966). The arguments in favour are powerful. Far more patients can be provided with treatment than can be accommodated in a reasonably sized hospital unit. Requirements in nursing and ancillary hospital staff per patient are dramatically reduced. In financial terms the running costs of home dialysis are less than those of hospital dialysis. Medically the risks of cross-infection, whether by bacteria or hepatitis virus, are less in the home. Perhaps most important of all, the patient enjoys greater independence and flexibility in his domestic life when not committed to a strict hospital dialysis programme.

In the six years since home dialysis was first demonstrated to be practicable the medical and technical requirements for this form of treatment have been clearly defined and increasingly reliable equipment produced (Ogg, 1970).

Over the same period, however, the social implications of home dialysis have become more apparent. It is now appropriate to review how feasible it may be to apply home dialysis universally.

It is axiomatic that to carry out home dialysis there must be a home. With currently available rather bulky equipment it is desirable that a separate room at least 8 feet by 10 feet can be set aside as a dialysis area, apart from the routine household. The size of the room is conditioned by the size of the equipment and the need for space to carry out such activities as dialyser cleaning and re-building.

Secondly, it is highly desirable that the patient has a spouse or close relative prepared and indeed motivated to assist in dialysis. One of the outstanding attractions of home dialysis is the saving in trained staff effected by using the patient or his family’s labour. This labour must, however, be continuously and freely available.
PROBLEMS ENCOUNTERED

Over the past two and a half years we have taken on 43 patients for regular dialysis treatment. All were selected without prior consideration of their housing conditions or the availability of a close relative to assist in dialysis (Figure 1). Of these 43 patients, 10 could not be placed on home dialysis for medical or social reasons. There remained 33 patients on the home programme, only 14 of whom were living in accommodation which could immediately be converted to take the dialysis equipment. Thus, 19 families were living in accommodation considered unsuitable on the criteria already cited.

Two families had no home of their own and were living with relatives in over-crowded conditions. Three other families were living in conditions unsuitable because of damp and disrepair. The remaining 14 families lived in private or local authority accommodation in which not only was there no spare room but the existing bedrooms were too small to hold dialysis equipment as well as the normal bedroom furniture.

Figure 1. Total patients accepted for regular dialysis treatment (1967-70)

The accommodation problem was resolved in 3 cases by building an extension to the patients' homes and in 4 other cases by the private purchase of alternative accommodation: both costly and time-consuming procedures. There remained 12 families of restricted means who required assistance from local authority housing departments (Figure 2).

Most of our patients live in the Greater London area where the provision
of adequate housing for all is a major social problem. Each local authority has many thousand families on the housing waiting list. Available houses are allocated on the basis of medical or social priority. In theory, those with the greatest need are re-housed first. In practice, because of shortage of accommodation families often have their names on a housing list for as long as 20 years. To re-house our patients we therefore must make a case to the local authority that patients on regular dialysis constitute a special group with exceptional claims. The justification of such an assumption is open to question.

Local authorities have accepted the need to re-house dialysis patients but it may take many months before a house or flat becomes available. Even then it may be in an area far from the family's previous neighbourhood and place of work. For this reason the patient or spouse may find the accommodation unacceptable and we doubt whether home dialysis can be truly successful if the family is moved unwillingly.

Figure 3. Patients requiring re-housing
Of our 12 patients requiring re-housing (Figure 3) 3 have not yet been offered alternative accommodation. Nine have been offered accommodation, but 6 of these refused the first offer. In all, 7 of the 12 have now been re-housed with a mean delay time of 12 months between starting RDT and home treatment. Throughout this period they have had to be maintained on hospital based dialysis.

Aside from the social consideration of re-housing and the time factor involved, account must also be taken of the cost of home dialysis to the community. In the United Kingdom, the cost of equipment and medical care is borne by the National Health Service, but it is the local authority who must pay for re-housing and home conversion. It is generally agreed that the running costs of home dialysis are less than those of hospital dialysis and every effort is made to reduce the cost of home conversion. However, account has seldom been taken of the capital outlay in re-housing which is a levy against the community.

Turning aside from the practical aspects of providing a home to the less clearly defined area of patient potential for home dialysis, it has been impossible to date to establish 10 of our 43 patients in the home (Figure 4). One patient has sarcoidosis with hypercalcaemia, was explored at one stage for hyperparathyroidism and required hospital treatment for 4 months. Another patient had a high pressure arterio-venous fistula in the leg requiring expert attention during dialysis. Three of the 10 are bachelors with elderly or infirm

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Figure 4. Hospital based patients

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parents and no siblings or other near relatives. One elderly patient has no relatives and is incapable of self-supervised dialysis. One patient belongs to a very large family where the earnings of both parents are essential to the family unit and time off or additional expense to undertake dialysis is incompatible with family life. In the remaining 3 cases, the spouse having initially agreed to support home dialysis subsequently refused and stated that the marriage would break up if plans for home dialysis were continued.

DISCUSSION

With respect to this last group we must never forget that even in well motivated families home dialysis is not an easy way of life. All patients and their families must learn to cope with the anxiety of chronic illness and very often the financial insecurity which this entails. Over and above this, many families had the additional upheaval of finding a new home which would be suitable for dialysis. Where family relationships are already strained, home dialysis may prove to be the last straw. It is our contention that home dialysis in a strife-ridden home is not an acceptable way of life.

With the advantage of hindsight, planning for home dialysis demands either an aggressive policy of accepting only patients with suitable homes and families, or the continuing provision of some potential for long-term hospital dialysis. The former we believe to be ethically unacceptable. We would suggest that patients must still be accepted without regard to home conditions but that intensive effort must be directed to solving the problem of accommodation. The recent introduction of portable pre-fabricated rooms which can be fitted with dialysis equipment and installed in the patient’s garden will undoubtedly prove valuable in some instances. But above all, efforts must be concentrated on producing more compact equipment which is less demanding in space and ideally can be contained unobtrusively in the patient’s usual bedroom. This means miniaturisation of equipment and the introduction of small readily disposable dialyser units. Any suggestion of returning to a static tank system for dialysate supply would in our opinion only increase present problems (Kaye et al, 1968).

Nor are the problems of establishing patients in the home simply resolved by transplantation. The time factor involved in procuring and matching cadaver kidneys and the need to continue treatment of patients who reject, means that provision for long-term dialysis must be maintained. A well integrated home and transplantation programme is necessary, linked to a 6-10 bedded hospital unit which must continue to cater for problem dialysis and for those unsuitable for home treatment.
REFERENCES


Ogg, C. S. (1970) Biomedical Engineering, 4, 190