

# Renal transplantation in patients on CAPD

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## SUMMARY

Over a three year period, 28 patients coming from a CAPD program received first kidney grafts. The mean previous period of CAPD was 6 months. Fourteen of them had 1-7 episodes of peritonitis treated at least a month prior to transplantation. One patient developed mild peritonitis, eight hours prior to transplantation. There were 6 failures from rejection while one was a non-immunological failure. The graft survival is not different from that reported in predominantly hemodialysis patients transplanted over the same study period (66 % at 27 months).

**Key words:** CAPD, Renal Transplantation, Peritonitis.

## RESUMEN

A lo largo de tres años se trasplantaron 28 pacientes tratados con DPCA por un tiempo medio previo de 6 meses. La mitad de ellos habían sufrido, al menos, un episodio de peritonitis resuelto con éxito desde, por lo menos, un mes antes del trasplante. Sólo un enfermo fue trasplantado con síntomas de peritonitis iniciados 8 horas antes de la operación.

Hubo 6 fracasos por rechazo y 1 de causa no inmunológica. La supervivencia actuarial del injerto a los 27 meses fue del 66 %, no diferente a la obtenida en la población procedente de HD tratada en el mismo centro y en el mismo período de tiempo.

El paciente con peritonitis preoperatoria perdió su injerto por rechazo y hubo de retirársele el catéter de DP por peritonitis intratable.

Los catéteres dejados «in situ» se retiraron transcurrido un tiempo que osciló entre 2 y 12 semanas después de la operación.

**Palabras clave:** DPCA, trasplante renal, peritonitis.

Renal transplantation is the treatment of choice for patients in end stage renal failure. However, most patients initially receive some form of dialysis treatment, which in the United Kingdom is predominantly home haemodialysis<sup>1</sup>. Since the advent of CAPD more patients in end stage renal failure are being managed by this technique; currently its use surpasses that of haemodialysis at home and hospital<sup>2</sup>. Thus there is likely to be an increasing number of CAPD patients coming to transplantation.

There is a reluctance in some units to transplant patients on CAPD because of the fear of peritonitis, unsuitable tissue bed for transplantation and doubts about graft survival. In this study the CAPD transplantation experience of two units in the U. K., Newcastle-upon-Tyne and Manchester is presented.

## PATIENTS AND METHODS

Over a three year period 28 patients (18 from the Newcastle-upon-Tyne unit and 10 from Manchester Unit) whose manag-

ement has been described previously<sup>3,4</sup> received first grafts. There were 18 male and 10 female with a mean age of 35 years (range 6-62 years). The mean period of CAPD was 6 months (range 1-27 months).

In the patients PD fluid was completely drained from the peritoneal cavity prior to transplantation and a sample of the fluid was cultured and a white cell count and gram stain performed. Indwelling Tenckhoff catheters were not routinely removed prior to or at the time of surgery.

Of the 28 patients 14 had 1-7 episodes of peritonitis successfully treated at least a month prior to transplantation. 13 had no peritonitis and one patient developed mild peritonitis symptoms eight hours prior to transplantation secondary to a staph. epidermidis infection.

## RESULTS

### Graft survival and renal function

Of the 28 patients transplanted there were 6 failures from rejection while one was a non-immunological failure. In those with functional grafts renal function was good (mean creatinine 135 µmol/l.) 16 months (1-32

months) after transplantation. This graft survival is no different from that reported in predominantly haemodialysis patients transplanted over the same study period and previously reported at 66% at 27 months<sup>5</sup> (fig. 1).

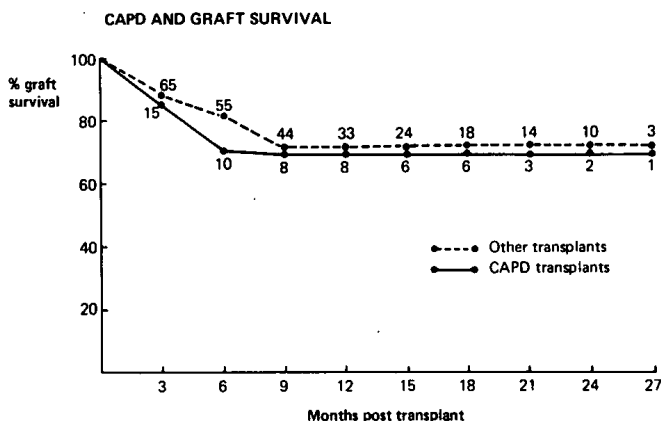


Fig. 1.—Actuarial graft survival in patients on CAPD and those on Haemodialysis who were transplanted.

### Mechanical problems

There were no major mechanical problems encountered. Although an attempt was made to drain the peritoneum of all fluid in CAPD patients some invariably remained. This necessitated greater care on the part of the surgeon to avoid puncturing the peritoneum. The tissue bed for transplantation was found suitable in all cases. In some cases the grafts had to be sited on the same side as the catheter exit, making isolation of the PD catheters from the operation site difficult.

### Peritonitis

25 of the 28 patients had no post-operative peritonitis, despite the use of the catheter in 6 patients for periods of 1-4 weeks. The patient with pre-operative peritonitis, continued to have symptoms of the infection with positive PD fluid cultures in spite of appropriate antibiotic treatment. The PD catheter was removed at 4 weeks but she also lost the graft from rejection. Another patient needed graft nephrectomy 10 days post transplantation because of severe rejection, but he received PD during this period. However, post transplant nephrectomy his wound became badly infected and he developed peritonitis with the same organism, which responded to treatment.

### Catheter removal

This was done electively 2-12 weeks after transplantation. These patients did not experience any abdominal

symptoms. No routine cultures were obtained of peritoneal fluid and the catheters were not primed with heparin or urokinase.

## DISCUSSION

The anxieties of transplantation from CAPD from the infection point of view are three fold. Firstly, there is the fear that previous episodes of peritonitis may have left a nucleus of infection or an abscess in the peritoneal cavity which may flare up after transplantation and immunosuppression. Then was found not to be so. The longest CAPD patient in this series (27 months) had 7 episodes of peritonitis but no problems post transplantation. Secondly, the presence of a foreign body (PD catheter) *in situ* for periods up to 3 months may be a site of infection. Finally, there is the risk of peritonitis with PD if this is necessary after transplantation. These anxieties were not substantiated. Peritonitis has been reported by the Toronto group in CAPD patients after transplantation but these episodes were successfully treated by antibiotic and/or catheter removal<sup>6</sup>.

Graft survival appears not to be affected by the pre-transplant dialysis technique<sup>5,6</sup>. There were no major technical problems. However, in order to isolate the catheter from the operating site it is advisable to place the graft on the side away from the exit site of the PD catheter. Similarly, should a failed transplant patient require CAPD treatment, the PD catheter ought to be brought out on the side of the failed graft.

In conclusion, the results indicate that CAPD is not a contraindication to transplantation. There are no major technical problems. Peritonitis can occur after transplantation and can be treated with antibiotics or catheter removal, which should be done much sooner—within 48-72 hours of appropriate antibiotic therapy if there is no response. Post transplant catheter removal should be undertaken when graft function is ensured. No harm appears to come from leaving it for 12 weeks.

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