

Twice-daily assisted CAPD: innovating dialysis delivery for the frail elderly

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Introduction: Many countries including the UK have seen a dramatic increase in frail and elderly people with advanced kidney disease. Although some will choose conservative care, many start on dialysis either through their own decision making or from family or healthcare team pressures. In-centre haemodialysis (HD) has evolved to be the current standard of care as the majority are unable to perform dialysis at home. There is increasing awareness of the significant disadvantages of HD for people with complex health and social care needs particularly related to transport requirements and deterioration in physical and cognitive function.

With the aim of minimising dialysis burden and improving quality of life, we have developed a programme of assisted CAPD (aCAPD) with only 2 exchanges/day for 5-6 days/week, for symptomatic older people with residual kidney function. Patients choose aCAPD during discussions in predialysis care which include the choice of conservative care. At three months, patients have a discussion about benefit and burden of dialysis; as part of broader advanced care planning this includes an explicit decision about whether to continue aCAPD or convert to conservative care.

Methods: This is a retrospective observational cohort study using clinical records, of all patients on aCAPD until January 2020.

Results: Since 2014, 32 patients (22 male) started on aCAPD with GFR 7 ± 2 ml/min (mean \pm sd); all were symptomatic. Mean age at commencement of dialysis was 83 years (range 77 - 89), with mean Karnofsky Performance Status 59 (range 40 - 70). For all patients, of the two exchanges, at least one exchange consisted of icodextrin, with 6/32 patients requiring a second icodextrin exchange on a regular basis.

Follow-up duration ranged from 14 to 1030 days from the start of aCAPD. At 90 days following dialysis start 28/30 (93%) patients were still on aCAPD, two having withdrawn from dialysis. At 12 months, 15/26 continued on aCAPD (58%), 10/26 patients had died, whilst one had converted to conservative care and was still alive. During the whole follow-up period a total 13/32 patients have died, only 3/13 dying in hospital, the remainder doing so either at home or in a nursing home.

The peritonitis rate was 0.32 episodes/patient year and comparable to our centre rate; 22/32 patients never experienced an episode of peritonitis. The majority of patients reported an improvement in symptom burden. Excluding the two patients that withdrew early, 22/28 patients reported tiredness or anorexia at dialysis start, reducing to 4/28 at three months; dyspnoea or symptomatic oedema reduced from 13/28 to 7/28 at three months.

Conclusion: Assisted CAPD is a deliverable and effective dialysis option in frail, elderly people with residual kidney function, whilst supporting care at home. It is safe, with good outcomes in relation to mortality, peritonitis, and reduction in symptom burden. Longitudinal studies assessing patient-related outcomes will help define the role for aCAPD in the care of the multimorbid elderly patient.