

CAN WE PREDICT INITIATION OF DIALYSIS IN PATIENTS WITH ESRD KNOWN TO THE RENAL SERVICES FOR AT LEAST 6 MONTHS?

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PURPOSE: A significant proportion of ESRD patients start dialysis in an uncontrolled fashion despite being known to the renal services. We designed this study to identify key factors important in determining emergency initiation of dialysis and whether this can be predicted in advance during their outpatient follow up.

METHODS: We investigated records of 159 consecutive patients who started haemodialysis in the year 2005. Patients known for more than 6 months were divided into two groups: outpatient dialysis and inpatient dialysis.

RESULTS: Ninety patients were known to the unit for more than six months, of which 46 (51%) and 44 (49%) received their first dialysis as an inpatient and outpatient respectively. At the time of first RRT, the inpatient group had higher median urea (35.5 vs. 31 mmol/L $p=0.05$), a lower serum bicarbonate concentration (19 vs 21.5 mmol/L $p=0.04$), were more anemic (Hb 9.4 vs 10.5 g/dl $p=0.005$) and fewer had Hb >11g/dl (59% vs 80% $p=0.027$). Most diabetics started dialysis as inpatients (75% vs. 25% $P=0.008$).

At the clinic appointment prior to first RRT, the inpatient group had better preserved renal function, median eGFR (9.5 vs. 7.5 $p=0.003$). However they had higher median CRP (11 vs. 4 $p=0.03$) and low serum albumin (31 vs. 35 $p=0.0005$).

Furthermore, 3 months before the start of RRT, the inpatient group also had higher CRP (21 vs. 5 $p=0.037$), lower serum albumin (32 vs. 36 $p=0.0013$), higher eGFR (11 vs. 9 $p=0.0019$) and lower Hb (10.4 vs. 11 $p=0.03$).

On logistic regression analysis, diabetic status and elevated CRP were predictive of starting emergency dialysis [Odds ratio for diabetes 6.3 (CI 1.4 - 27.6 $p=0.014$) and for CRP 5.1 (CI 0.9 - 29.8 $p=0.06$)].

Compared with the outpatient group, subjects in the inpatient group also less likely to have had been reviewed by the pre-dialysis education team (82.6% vs. 97.7% $p=0.016$). The majority of this group started dialysis with temporary access (74% vs. 26% $p=0.01$) and had a higher mortality at 12 months (48% vs. 27% $p=0.04$). There was no significant difference in the frequency of clinic follow up in the six months prior to commencing dialysis.

CONCLUSION: Ideally, most patients should start dialysis in a planned way as an outpatient. However this study shows that despite advanced follow up in clinic, half of all patients (and 75% of all diabetics) started dialysis as an inpatient. Renal function 3-6 months in advance was of no predictive value, however high CRP and low albumin at last clinic appointment and 3 months before first RRT were associated with starting dialysis as an inpatient.