Initiating Dialysis in South West Wales: Does Inpatient Status Affect Outcome?

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OBJECTIVES

It is well documented that a poor start to dialysis affects patient outcomes. Many patients start dialysis without prior care from a renal physician or unexpectedly despite renal follow up. There is evidence that these patients have an increased risk of complications and mortality (1-3).
We investigated the outcomes in incident dialysis patients within a regional renal centre in South Wales. The objective was to identify if inpatient status affects outcomes for patients. Outcomes assessed included: The number of optimal starts, mode of dialysis, mortality and transplantation rates.

METHODS

From VitalData (an electronic data base), 101 new starters to dialysis in 2013 were identified and retrospectively analysed. Three patients had to be removed due to insufficient data.
Patients were analysed in two cohorts depending on the setting in which they intiated dialysis, an inpatient or outpatient setting. The way in which patients presented to dialysis categorised them into three different groups: 'Acute' patients with acute kidney injury (AKI) or acute-on-chronic renal failure requiring urgent inpatient dialysis and remaining on dialysis 90 days after first treatment. 'Crashlanders'(CL) were patients presenting with end-stage renal failure requiring dialysis who were either: not previously known to renal services or had been referred within 3 months of requiring dialysis: or 'chronic'; patients known to the department and under follow-up.
Outcomes measured were the number of optimal starts to dialysis, defined as one where a patient was known to renal services, under regular follow-up and began dialysis in an outpatient setting (1,3). The other outcomes measured were mode of dialysis (CAPD (continuous ambulatory peritoneal dialysis) or haemodialysis) and mortality, transplantation and recovery rates.

	Inpatients (n=44)	Outpatients (n=54)
Male	28	42
Female	16	12
Mean age	64 years	66 years
Dialysis mode CAPD/HD	2/42	14/40
Presentation to dialysis	36 acute/CL (82%) 8 chronic (18%)	7 acute/CL (13%) 47 chronic (87%)
Transplanted	2 (4.5%)	5 (9%)
Mortality	16 died (36%)	7 died (13%)
Recovered renal function	1	0

Table 1. Comparison of inpatient versus outpatient dialysis users.

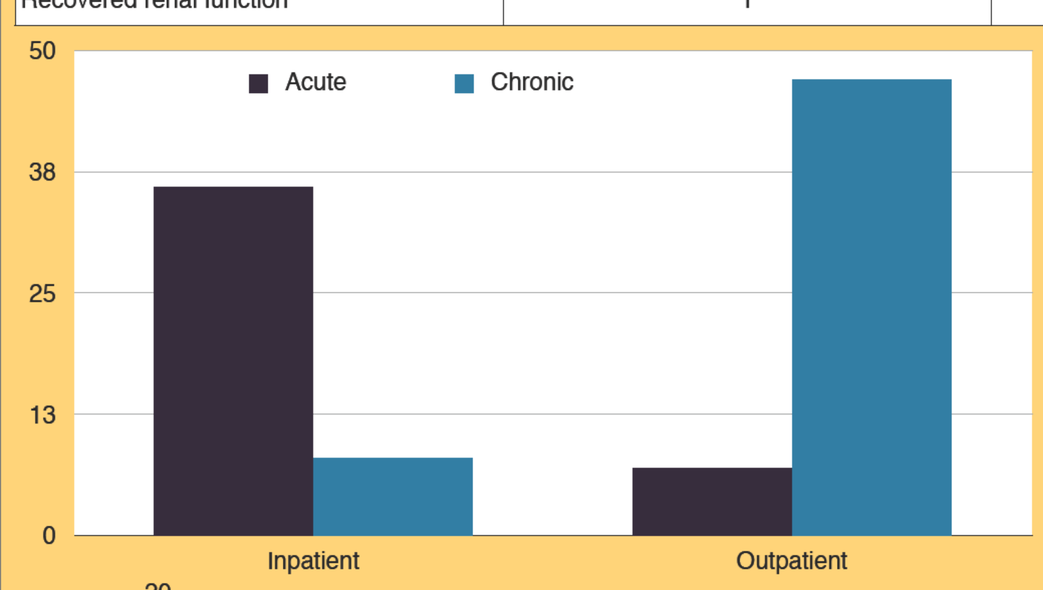

Figure 1: How inpatients versus outpatients present to dialysis. Acute includes acute patients and crashlanders.

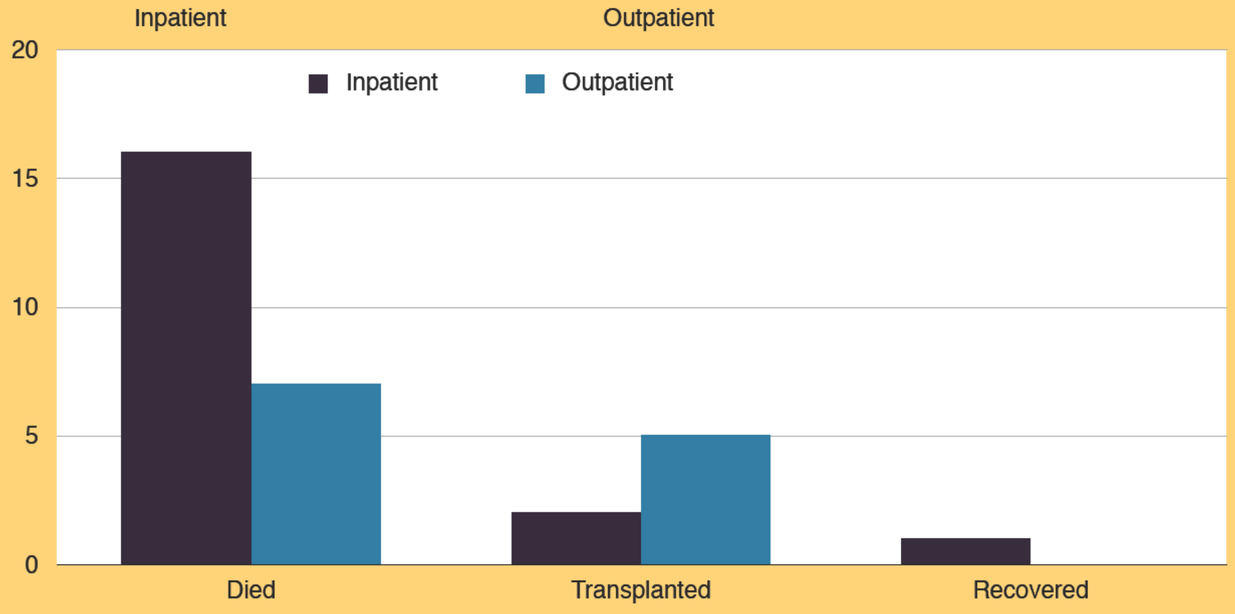

Figure 2: Outcomes in our inpatient and outpatient populations.

RESULTS

- Only forty-seven patients (48%) had optimal starts to dialysis (Fig. 1).
- Mean age of new starters was 65 years.
- No patient altered their dialysis mode during the study period.
- Overall 16 (16%) patients initiated dialysis via CAPD and 82 (84%) began with haemodialysis.
- The majority of outpatients (87%) presented chronically to dialysis
- 82% of inpatients were acute referrals.
- Of the outpatient population 11% had a successful transplant, compared to 4% of the inpatient group (Fig. 2).
- Inpatients had high mortality rates at 36%, this rose to 45% when isolating inpatients who presented acutely and compared to 13% mortality among the outpatient population (Fig. 2).
- The majority of patients starting dialysis in 2013 were male (71%)

CONCLUSIONS

This work has shown a need to increase the number of patients who have an optimal start to dialysis. Identification of at-risk patients is one way to do this. By educating both our primary care and secondary care colleagues in recognising patients who would benefit from early referral to a nephrologist we could identify these patients and thus improve their outcomes.
Renal physicians should do more to educate patients who present acutely or as 'crashlanders' about their dialysis options to ensure that patients who are suitable for CAPD are able to access this service. Evidence suggests that after 3 months renal replacement choice is likely to remain unchanged; therefore, we have a short window of opportunity to ensure our patients have all available treatments open to them (3-4).
In conclusion, we have demonstrated the continued trend that initiating dialysis as an inpatient is associated with increased mortality and additionally identified a reduction in transplant rates for these patients. It is clear from this work that more needs to be done to improve optimal starts for dialysis patients.

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Monday, 18 May 15

52 ERA 709--SP

L7) Dialysis. Epidemiology, outcome research, health services research.

katie kemp

DOI: 10.3252/pso.eu.52era.2015

ePosters supported by F. Hoffmann- La Roche Ltd.