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SURVIVAL TRENDS IN ELDERLY DIALYSIS PATIENTS AND THE GENERAL POPULATION

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Aim: To identify survival trends in elderly dialysis patients compared with the general population.

Background: Elderly dialysis patients are the most rapidly growing segment in Australia and survival appears to be improving, but the trends and relationship to general population survival have not been recently assessed.

Methods: Observed survival of Australian patients commencing dialysis at 60y or older from 1980–2012 extracted from ANZDATA Registry without censoring for transplantation. Exponential parametric survival analysis used to model dialysis patient survival. Matching age-, sex- and era-specific survival data extracted from the Australian Bureau of Statistics Life Tables.

Results: The total number of patients 60y or older commencing dialysis increased from 293 during 1980–82 to 4069 during 2010–2012, and the proportion of patients in this cohort aged 60–64y fell from 60.1 to 21.0%. Over that period the modelled median survival for those commencing dialysis at age 60 improved from 3.5–7.5y (114% increase) in men and women, compared with general population improvements of 17.2–23.3y (35%) in men and 22.0–26.4y (20%) in women. Similar relative survival gains were seen in dialysis cohorts commencing up to 80 years of age however absolute gains were smaller and the life expectancy gap is also increasing.

Conclusions: Modelled median survival is improving however the survival gap between dialysis patients and the general population is significant (16.8 years at age 60) and increasing. Further analysis is required to better define the relationship between improving survival in the dialysis and general populations.

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THE PREVALENCE AND IMPACT OF PRURITIS IN A DIALYSIS POPULATION

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Aim: To determine the prevalence and impact of pruritis in our dialysis population.

Background: Itching is very common in patients who are on dialysis. Literature regarding the impact of pruritis on quality of life and intensity of itch is limited.

Methods: The project was designed as a questionnaire. Local Ethics approval was obtained. All patients on dialysis for ≥ 3 months area wide were eligible to participate. Participants were approached by an investigator and asked a series of questions. Routine blood results and lists of medications were also recorded. Participants were asked to rate their itch in 3 different ways:

1. Visual Analogue Scale
2. Lund Browder chart to estimate total body surface area involved
3. Impact of itch on quality of life

Results: 127 patients were recruited over a 3 month period. 114 patients were on haemodialysis and 13 patients on peritoneal dialysis. The mean dialysis vintage was 66.9 months and the mean duration of HD per week was 14.6 hours.

83 patients reported suffering with itch (63%) and, of these, only 35 (42%) had informed their renal physician. The mean Visual Analogue reading was 31.7 and this method of rating itch did not correlate with any of the usual biochemical parameters.

The mean body surface area involved was 18% and did not correlate with the analogue reading.

The presence of itch significantly impacted on the ability to fall asleep, a person's appetite and their mood, with 69% reporting feeling unhappy either all or most of the time.

Conclusions: Itch is common in patients undergoing dialysis and has a significant impact on quality of life. The majority of patients do not report their symptoms.

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NEUTROPHIL-LYMPHOCYTE RATIO AS A MARKER OF INFLAMMATION AND PREDICTOR OF MORTALITY IN PATIENTS WITH END-STAGE KIDNEY DISEASE

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Aim: To examine the value of neutrophil-lymphocyte ratio (NLR) as a marker of inflammation and predictor of all-cause mortality in patients with end-stage kidney disease (ESKD).

Background: NLR is a marker of systemic inflammation that has been shown to predict mortality in patients with coronary and peripheral vascular disease. In contrast to albumin, NLR is unlikely to be affected by nutritional status. Its prognostic value in ESKD patients is unclear.

Methods: We retrospectively reviewed all consecutive haemodialysis patients between January 2007 and December 2011 at a single centre. We recorded patient's full blood count and other biochemistry three months after commencement of dialysis. Correlations between NLR and other metabolic and inflammatory markers were evaluated using Pearson's r coefficient. The prognostic value of NLR was tested using Kaplan Meier, univariate and multivariate Cox analyses adjusted for Australian and New Zealand Dialysis and Transplant Registry data.

Results: 140 haemodialysis patients were included with median follow-up of 36 months and overall mortality of 41% (58 patients). Neutrophil-lymphocyte ratio was positively correlated with C-reactive protein ($r = 0.48$, $P < 0.01$) and negatively correlated with haemoglobin ($r = -0.32$, $P < 0.01$) and albumin ($r = -0.40$, $P < 0.01$). In Kaplan Meier analysis, NLR (stratified into tertiles) was associated with all-cause mortality (log-rank, $P = 0.01$). In multivariate Cox analysis, NLR was independently associated with all-cause mortality (HR 1.09, 95% CI 1.01–1.17 $P = 0.03$). Other predictors of all-cause mortality in multivariate analysis were low albumin (HR 0.89, 95% CI 0.89–0.94 $P < 0.01$) and history of cardiovascular disease (HR 2.29, 95% CI 1.25–4.48 $P = 0.01$).

Conclusions: Neutrophil-lymphocyte ratio correlates with other markers of systemic inflammation in ESKD patients and is associated with poor survival. The extent to which other confounding factors affect these results is unknown.

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THE RELATIONSHIP BETWEEN PRE-DIALYSIS SERUM AND DIALYSIS FLUID SODIUM CONCENTRATIONS ON HAEMODIALYSIS STABILITY

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Aim: To audit the impact of using a single dialysis fluid sodium concentration across a heterogeneous haemodialysis patient population, in regards to hemodynamic instability and interdialytic weight gain (IDWG).

Background: The current literature is mixed on the effect of matching pre-dialysis serum sodium concentrations (sNa), to that of the dialysis fluid (dNa). Some studies suggest that sodium-matched patients have better blood pressure control and lower IDWG.

Methods: A retrospective analysis of 72 haemodialysis patients, who were treated with a dNa of 140 mmol/L was performed. Data collected included baseline demographics, comorbidities, average pre-dialysis serum electrolyte concentrations, dialysis prescription, and complication rates over the previous 3 months.

Results: The average sNa was 138 (range 129–143), with 75% less than 140 (low), 13% equal to 140 (equal), and 11% greater than 140 mmol/L (high). As sNa increased, there was a non-significant decrease in IDWG (Low 2.0kg, Equal 1.71kg, High 1.6kg; $P = 0.25$), and non-significant increases in hypotensive episodes (low 1.9 events/session, equal 0.2, high 0.3; $P = 0.55$) and requirement to decrease ultrafiltration volume (low 1.2 events/session, equal 0.1, high 0.1; $P = 0.52$). There was no difference in age and gender between groups, nor with analysis of sNa as a continuous variable.

Conclusions: Patients with a sNa lower than the dNa did not show significant differences in IDWG, rates of intra-dialytic hypotension nor reduction in target UF volumes. Small patient numbers and event rates may have obscured an actual association, and further investigation is warranted.