High rate of limb amputation in subjects on renal dialysis: is there a difference between haemodialysis and peritoneal dialysis?

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Background/Aims: High rates of end stage renal failure (ESRF) requiring renal dialysis have been reported in North Queensland. Recent reports have identified dialysis as a risk factor for lower-limb amputations but no study has been done which compares the two modalities of dialysis therapy, namely, haemodialysis (HD) and peritoneal dialysis (PD). The aim of this study is to document differences between HD & PD as a risk factor of non-traumatic limb amputation in North Queensland. Methods: All patients currently attending the Townsville dialysis centre were included in this study. Odds ratio and $\chi^2$ tests were performed to identify variables most strongly associated with amputation. Results: We had a total of 219 patients (160 HD, 59 PD) attending the service. We identified higher prevalence of amputation amongst subjects on HD as compared to PD, 15% vs 10.2% ($\chi^2$ analysis showed significant association). All subjects in both groups had lower-limb amputations except one in the HD group, who had an upper-limb amputation. Conclusion: We have shown PD might prove to be a safer option compared to HD for subjects with ESRF at risk of limb amputation. Further prospective studies on a larger population are needed to confirm our findings.

Metabolic targeting in a mouse model of schizophrenia

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Background/Aims: Schizophrenia is a severe and disabling disorder affecting 0.7% of the global population (~150,000 Australians). Current treatments are partially or wholly ineffective for many sufferers. Recent studies have raised the possibility that abnormalities of glucose and energy metabolism systemically and in the brain may play a causative role in disease pathophysiology. We hypothesised that intranasal insulin administration may normalise the altered brain energy metabolism. The aim of this study was to examine the effect of intranasal insulin on the behavioural endophenotype in an animal model of schizophrenia induced by chronic administration of ketamine, an antagonist of the NMDA-type glutamate receptors. Method: In Experiment 1, mice were treated with 30 mg/kg ketamine daily for 10 days followed by a wash-out period. The resultant behavioural endophenotype (alterations in psychomotor activity, social behaviour, working and reference memory) was investigated by using a battery of tests. In Experiment 2, mice were subjected to either saline microinjection intranasally or a temporary restraint procedure without intranasal treatment to establish the possible behavioural effects of this route of administration. In Experiment 3, mice were subjected to chronic intranasal insulin microinjections during the chronic ketamine administration and the wash-out period, followed by behavioural testing as described above. Results: Chronic ketamine administration results in psychomotor and social behavioural abnormalities. Our intranasal delivery procedure is safe and does not influence locomotion or exploratory behaviour. Conclusion: This study demonstrates that intranasal insulin administration is effective in ameliorating the behavioural endophenotype associated with ketamine-induced schizophrenia, suggesting that glucose metabolism may play a role in this condition.

Quality of life in prostate cancer patients at the Townsville Cancer Centre

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Background/Aims: To evaluate the quality of life (QOL) of prostate cancer patients treated with image-guided radiation therapy at the Townsville Cancer Centre. Methods: Patient-reported QOL data was collected for 130 prostate cancer patients, along with patient’s BMI and prostate motion during treatment delivery. QOL data was collected using the European Organisation for the Research and Treatment of Cancer validated core questionnaire (EORTC QLQ-C30 V3) with the prostate cancer-specific module (QLQ-PR25) at simulation (baseline), every 2 weeks throughout treatment and at 3 month, 6 month and 12 month follow ups. Descriptive statistics were performed across the 15 functional and symptom domains for each time point. One-way ANOVA was conducted to determine if the change in QOL scores from baseline to 12 month follow up was different across BMI categories. Results: The results are presented and contrasted with published data. Our results are similar to previous studies, with higher scores in functional domains. Symptom scores are similar with some noticeable exceptions such as pain and appetite where our scores are lower, probably due to the published data including all stages of prostate cancer, including metastatic and recurrence. There was no statistical significant difference among the changes in QOL scores across BMI categories. Conclusion: As the department introduces new technologies in the near future, the continuing QOL monitoring will provide a benchmark to compare new technologies to current standards of care.