



Peritoneal dialysis outcomes of Aboriginal and Torres Strait Islander patients of remote Kimberley origin



Why was this study done?

Kidney disease requiring treatment such as dialysis or transplant in Aboriginal and Torres Strait Islander people living in remote areas of Australia is very common. Dialysis can be either haemodialysis (HD) using a dialysis machine in a community building, or patient's home or peritoneal dialysis (PD) where a plastic tube is surgically placed into the patient's abdomen and the patient performs regular dialysis by running sterile fluid into and then draining the fluid out of their abdomen. This treatment is done in the patient's own home.

Aboriginal and Torres Strait Islander, and non-Indigenous patient survival on PD in Australia appears to not be as good as patients receiving HD therapy, and outcomes are generally worse when compared with PD patients in other countries. Peritonitis (abdominal infection) is a leading cause of PD failure and death for Australian PD patients.

At least 70% of patients coming from the Kimberley received PD early in their treatment. Anecdotal evidence suggested that peritonitis and PD failure were common in Kimberley patients and that they did not stay on PD for very long.

The aim of this study was to compare treatment outcomes and death rates between Kimberley Aboriginal and Torres Strait Islander, other Aboriginal and Torres Strait Islander, and non-Indigenous patients on PD in Australia during 1st January 2003 to the 31st December 2010.



How was this study done?

With the help of health workers from the Kimberley Aboriginal Medical Services Council and Royal Perth Hospital we identified Aboriginal and Torres Strait Islander patients who originally came from the Kimberley region and received PD therapy. They also collected information on when they had peritonitis.

The Australia and New Zealand Dialysis and Transplant Registry, which collects information about Australians receiving dialysis, provided us with the following information about each group (no names were provided): treatment outcomes, other medical problems they had, how old they were when they got kidney disease, when they first started PD and had peritonitis, and how many had died.

We found that Kimberley Aboriginal and Torres Strait Islander PD patients:

- Were more likely to be younger, female, and have other medical problems (eg diabetes) reported when they started dialysis than the non-Indigenous PD patients.
- Had significantly shorter time to their first episode of peritonitis (11.2 v 21.5 months) and higher PD failure as a result (46.0 v 25.2 per 100 patient-years) than the non-Indigenous PD patients.
- Had a significantly higher PD failure rate than other Aboriginal and Torres Strait Islander patients (46.0 v 31.4 per 100 patient-years) and nearly double the average peritonitis episodes previously reported for Aboriginal and Torres Strait Islander patients (2.0 v 1.15 per patient-year).
- Had a median survival on PD that was only five months shorter than non-Indigenous patients (17.5 versus 22.4 months), despite more than three times the number of episodes of peritonitis previously reported for Australian PD patients (2.0 versus 0.6). They also had a similar death rate as non-Indigenous patients.
- Had higher measured death rates per 100 patient-years compared with an earlier study (2003-2007) of Kimberley Aboriginal and Torres Strait Islander HD patients. However when analysed taking all factors that may have confused this assessment into consideration, the differences are not different in a statistical sense but it still raises concerns that mortality may be worse on PD than HD for Kimberley Aboriginal and Torres Strait Islander patients.

What does this mean?

- PD continues to be a useful therapy to return people to their homes, however the demonstrated increased illness and a possible increase in deaths sounds a warning note.
- As a result of this study, doctors have been more cautious in selecting Kimberley people who would benefit from starting on PD in the Kimberley and less people are on PD than there used to be.
- Although PD can bring Kimberley patients closer to home, it is often only a short term treatment and patients can become quite ill on PD.
- The risks and possibly short term nature of PD need to be carefully explained to patients in remote areas so they can consider all options before opting for PD.
- Other options are expanding, with satellite HD now available in four Kimberley towns and home HD also possible in a number of places.

Many thanks to all the staff who provided data for this study. Without your help this research would not have been possible.

This study was a joint project between the Kimberley Aboriginal Medical Services Council, The Rural Clinical School of Western Australia and Royal Perth Hospital.

A report on this study has been published by the Australian Journal of Rural Health: Marley JV, Moore S, Fitzclarence C, Warr K, and Atkinson D. Peritoneal dialysis outcomes of Indigenous Australian patients of remote Kimberley origin. Aust J Rural Health 2014; 22:101-108.

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