

## LONGITUDINAL EVALUATION OF A WEIGHT REDUCTION STUDY FOR PATIENTS ON PERITONEAL DIALYSIS (PD)

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**PROBLEM:** Patients on PD are exposed to glucose based dialysate solutions - with this daily calorie load, those patients who are overweight find it difficult to lose weight. Many patients are unsure which exercises are suitable and what dietary changes may be made safely.

**PURPOSE:** To examine the role of individualised dietary input and exercise on body weight and body composition.

**DESIGN:** A one year prospective, interventional study integrating the care of the renal nurse, dietitian and physiotherapist, to support, educate and encourage overweight patients on PD in a weight reduction programme. A video was produced specifically for the study which included a variety of exercises suitable for patients on PD. Patients met together on a monthly basis and participated in exercise classes and dietary and other educational talks and demonstrations. Weight, BMI and bio-impedance were measured three monthly during the year long study and statistical significance was tested using the Wilcoxon Signed-Rank test.

**FINDINGS:** 11 patients enrolled in the study, 8 patients [5M;3F] completed 6 months (3 lost to transplantation). Mean age was  $56.1 \pm 4.22$  years, with mean time on PD  $31.2 \pm 20.5$  months. There was a significant difference between the body weight recorded at commencement of dialysis and body weight at the start of the study ( $p= 0.012$ ). Mean body weight at initiation onto the weight reduction programme was  $94.2 \pm 17.9$  kg compared to  $91.1 \pm 19.1$  kg at 6 months ( $p= 0.05$ ), which corresponded to a BMI of 32.7 (range 26.6-38.4)  $\text{kg/m}^2$  from initiation to a BMI of 31.4 (range 24.5-37.6)  $\text{kg/m}^2$  at 6 months. Total weight loss of the group at 6 months was 24.6kg. There were no significant changes over 6 months for total body water, lean body mass, intracellular fluid or percentage body fat. There was a significant difference over 6 months between the extracellular fluid ( $p= 0.018$ ).

**CONCLUSION:** Seven out of eight patients achieved weight loss over the first six months of the study, with one patient achieving a weight reduction of 7.4kg. One patient, who was unsuccessful in losing weight, had his dialysis (and hence energy intake) increased from 3L to 11.5L daily to meet adequacy targets. Patients' views of the study were audited at 6 months; this revealed that using an informal group setting increased their motivation to continue with exercise and sensible eating patterns. This study demonstrates that with adequate support, PD patients can achieve and maintain weight loss.

**RELEVANCE:** Losing body weight and improving fitness for overweight PD patients offers increased health benefits, and is particularly important during transplantation work-up. The positive feedback has encouraged us to consider the possibility of offering this programme to a new group of patients as part of a standard care package.