



EVALUATING THE RISK OF CARDIOVASCULAR DISEASE IN PERITONEAL DIALYSIS PATIENTS



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INTRODUCTION AND AIMS

Cardiovascular (CV) disease is the main cause of death in patients on dialysis. The risk of CV mortality in dialysis patients is nine fold higher than general population (1,2). The aims of this study were to evaluate patient and technique survival rates, investigate peritonitis rates and evaluate factors affecting mortality in peritoneal dialysis (PD) patients over a period of 20 years at our institution.

METHODS

Two hundred seventy seven patients have received PD as renal replacement therapy (RRT) over a period of 20 years. After exclusion of patients with follow-up shorter than 3 months and patients whose data were not available, 250 patients (137 males, 113 females, mean age 42±16 years) were examined retrospectively. 165 patients (87 males, mean age 43±15 years) received continuous ambulatory peritoneal dialysis (CAPD) and 85 patients (50 males, mean age 39±17 years) received automated peritoneal dialysis (APD). Data for sex, age, primary disease, comorbidities, follow up duration, cause of death, and cause of technique failure were collected from medical records.

RESULTS

Chronic glomerulonephritis was the most common cause of ESRD (n=87, 34.9%). In 10.4% of the patients (n=26) the etiology was diabetic nephropathy. 44.8% of patients (n=112) have preferred PD as their first initial RRT method. Mean duration on PD was 51±41 months (range 4-178). Survival rates at 1, 5 and 10 years were 96.6%, 80% and 62.5% respectively. Patients who have preferred PD as their initial RRT method had better survival rates (p=0.06). During the follow up period, 67 (27.5%) patients underwent renal transplantation, 70 (28.7%) switched to hemodialysis and 49 (19.2%) died. Refractory peritonitis was the most common cause of catheter removal and the overall peritonitis rate was one episode per 33 patient-months. Although culture negative peritonitis was the most common case (n= 124, 49.6%), methicillin sensitive S. Aureus, alpha-hemolytic and non hemolytic streptococci were the most commonly isolated causative organisms. There was no statistically significant difference between CAPD and APD in terms of mortality, peritonitis, catheter exit-site infection, catheter removal, mechanical complication rates and weekly total Kt/Vurea. Residual renal function was better preserved in CAPD patients as compared to APD (1.56±2.62 vs 0.81±1.40 ml/min, p=0.017). A total of 49 patients have died during follow-up, 29 (63%) of cardiovascular disease and 8 (20%) of sepsis. Diabetic patients had significantly higher relative risk of mortality (OR 5.37, 95% CI 2.29-12.56, p<0.001). On Cox regression analysis, age (HR 1.051, p=0.001) and history of peritonitis (HR 2.343, p=0.042) were found to be significant predictors of mortality.

CONCLUSION

Although there was no difference between CAPD and APD in terms of mortality, peritonitis and mechanical complication rate, RRF was better preserved in CAPD patients. The mortality rate of PD is high in older, diabetic and cardiovascular diseased patients. We conclude that PD as the initial RRT method could provide better survival rates.

REFERENCES

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