



Lecture Code : PD01-S4

Session Name : Peritoneal Dialysis

Session Topic : Peritoneal Dialysis in Special Populations: Challenge or Limitation?

Date & Time, Place : June 12 (Fri) / 08:30-10:10 / Room 2 (GBR 102), 1F

Peritoneal Dialysis in Patients with Metabolic Syndrome

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Background:

Metabolic syndrome (MetS), characterized by obesity, hypertension, dysglycaemia, and dyslipidaemia, has become increasingly prevalent worldwide and is highly represented among patients with end-stage kidney disease (ESKD). Several studies have shown that approximately half of patients initiating peritoneal dialysis meet criteria for MetS. Despite this, concerns regarding technical feasibility, infectious complications, dialysis adequacy, metabolic consequences, and survival continue to influence modality selection, leading many clinicians to hesitate in offering peritoneal dialysis (PD) to patients with obesity or MetS.

This talk will review evidence regarding the safety and efficacy of PD in patients with MetS or obesity, examine common misconceptions surrounding PD use in this population, and discuss practical strategies to optimize outcome. Contemporary evidence suggests that obesity is not associated with higher rates of catheter-related mechanical complications when modern insertion techniques and appropriate catheter configurations are employed. While some studies report a modest increase in peritonitis risk with increasing body mass index (BMI), findings are inconsistent, and patient education, catheter care, and centre experience appear to be important modifiable determinants. Concerns regarding inadequate solute clearance may be overstated; use of adjusted body weight rather than actual body weight improves interpretation of Kt/V, and current PD practice emphasizes patient-centred outcomes over numerical clearance targets alone. Although glucose absorption from dialysate contributes to metabolic burden, there are several approaches to minimise this including incremental dialysis, preservation of residual kidney function and icodextrin-based strategies. Available evidence does not demonstrate a higher incidence of new-onset diabetes in PD compared with haemodialysis,

while data regarding dyslipidaemia and weight gain remain inconclusive. Importantly, most contemporary studies report neutral or favourable survival outcomes for patients with obesity receiving PD, with outcomes often comparable to those observed with haemodialysis.

Conclusions:

Many traditional concerns regarding PD in patients with MetS are not strongly supported by contemporary evidence. Advances in catheter insertion techniques, biocompatible solutions, individualized prescriptions, and multidisciplinary care have improved outcomes and expanded the suitability of PD for patients with MetS. Modality selection should therefore be guided by patient preferences, lifestyle considerations, and shared decision-making rather than BMI alone. With appropriate clinical and technical strategies, PD can be safely and effectively delivered to patients with MetS and should remain an important modality option in this growing population.

Keywords: Peritoneal dialysis; metabolic syndrome; obesity; end-stage kidney disease; dialysis adequacy; peritonitis; survival