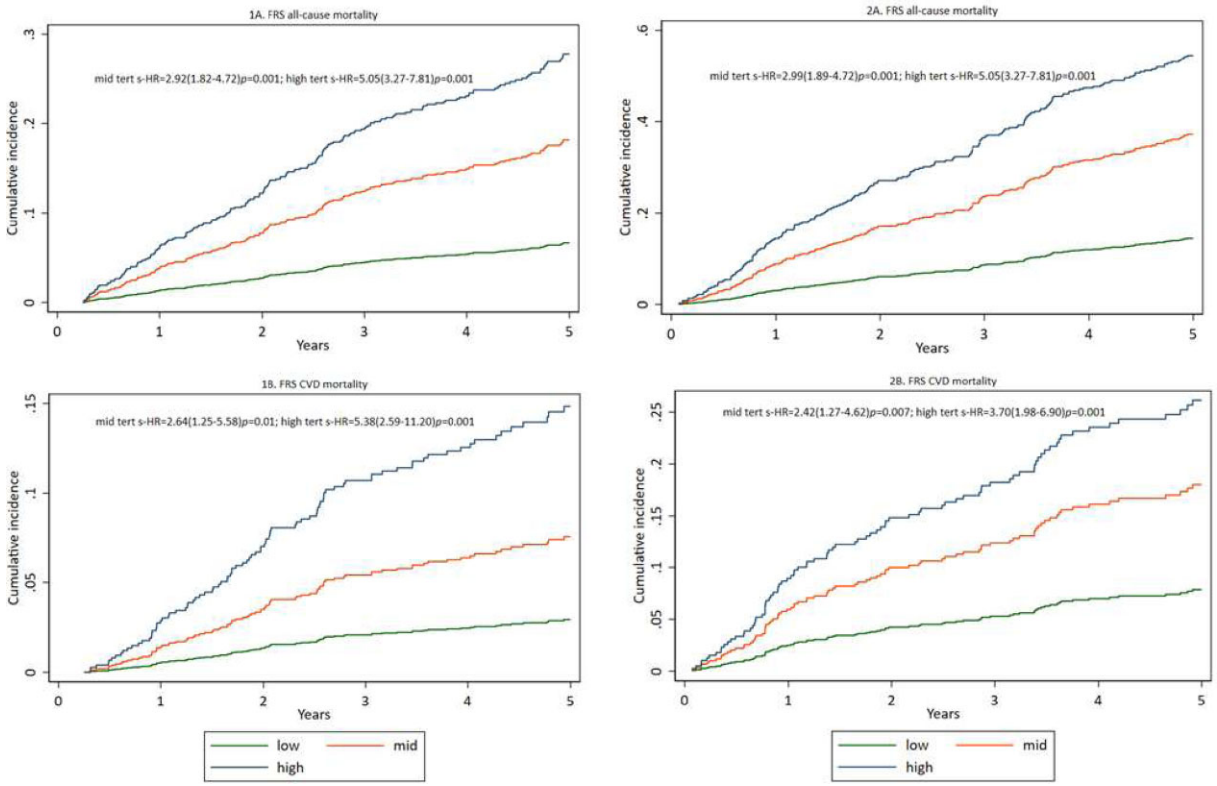

association between FRS and all-cause and CVD mortality in two cohorts of kidney failure patients from China and Sweden, respectively.

METHOD: In 1276 Chinese incident peritoneal dialysis [median age 50 years, 56% males, BMI 21 (19–23); incident peritoneal dialysis] and 559 Swedish incident or prevalent dialysis patients [median age 58 years, 62% males, BMI 24 (22–28)], FRS and baseline biochemical and metabolic biomarkers were analysed in relation to mortality during follow-up period of up to 5 years. All-cause and CVD mortality risk of were analysed with competing-risk regression models with transplantation as competing risk adjusting for BMI, serum albumin, hemoglobulin and calendar year.

RESULTS: Chinese patients were significantly younger ($P < 0.01$) and had lower BMI ($P < 0.01$) and FRS ($P < 0.01$) than Swedish patients but their sex distribution was similar. 'In the Chinese patients,' during median 3.6 years of follow-up, all-cause mortality rate was 16%, and 91 (46%) of the 199 deaths were caused by CVD. Both middle and high tertiles of FRS were associated with higher all-cause (Fig. 1A) and CVD mortality (Fig 1B) risk after adjusting for confounders. 'In the Swedish patients,' after median 2.1 years of follow-up, all-cause mortality rate was 36%, and 89 (44%) of the 204 deaths were caused by CVD. Both middle and high tertiles were associated with higher all-cause (Fig. 2A) and CVD mortality (Fig. 2B) risk after adjusting for confounders.

CONCLUSION: Higher FRS (both middle and high tertiles of FRS) was independently associated with significantly higher all-cause and CVD mortality risk in Chinese as well as in Swedish patients with kidney failure. These results underline the importance of traditional CVD risk factors in kidney failure patients and suggest that FRS may be a useful risk-assessment tool for predicting clinical outcomes in these patients.

MO682 SERUM TOTAL INDOXYL SULFATE IS ASSOCIATED WITH INTRAPERITONEAL INFLAMMATION AND HIGH PERITONITIS EPISODES IN PERITONEAL DIALYSIS PATIENTS

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BACKGROUND AND AIMS: The accumulating evidence presented thus far supports the idea that indoxyl sulfate (IS) is a trigger of chronic inflammation in end-stage kidney disease patients. However, although serum IS is one of the most extensively studied uremic toxins, no single study exists which has investigated the association between serum IS and intraperitoneal inflammation in peritoneal dialysis (PD) patients.

The present study was undertaken to evaluate the association between serum total IS (tIS) concentration and the pro-inflammatory markers in peritoneal dialysis effluent (PDE) and peritonitis episodes in PD patients.

METHOD: In this observational cross-sectional study, we analysed serum tIS concentration and 24-h PDE levels of interleukin 6 (IL-6), tumor necrosis factor-α (TNF-α) and monocyte chemoattractant protein -1 (MCP-1) in 74 PD patients with an average age of 55 (38–64) years and dialysis vintage of 36 (30–58) months. All patients had been undergoing continuous ambulatory PD and had no PD-associated infectious complications for more than 3 months.

Serum concentrations of tIS were determined using the spectrophotometry method. The concentrations of IL-6, TNF-α and MCP-1 in PDE were analysed using ELISA.

For the statistical analysis, we stratified this PD patient cohort into two groups depending on experienced peritonitis: the peritonitis group ($n = 48$) and the peritonitis-free group ($n = 26$). The data were presented as the median and the interquartile ranges [Me (Q25–Q75)] and compared using the Kruskal–Wallis test. The Spearmen correlation test was performed to assess the association between IS and the pro-inflammatory markers.

RESULTS: Significant differences were found in serum concentrations of tIS and PDE levels of IL-6 between the peritonitis and the peritonitis-free PD patients (Table 1). In addition, serum tIS was significantly associated with number of experienced peritonitis episodes ($r = 0.26$, $P = 0.022$).

Although PDE levels of TNF-a and MCP-1 did not differ between the peritonitis and the peritonitis-free groups in our cohort, they had a direct association with serum tIS similar to those of IL-6 (Fig. 1, 2).

Moreover, serum tIS was statistically higher in the anuric PD patients compared with the non-anuric patients [33.6 (13.9–74) versus 20.2 (9.3–46) μg/mL, $P = 0.043$], had a negative association with residual renal function ($r = -0.39$, $P = 0.0017$) and, accordingly, total weekly Kt/V ($r = -0.27$, $P = 0.026$).

CONCLUSION: Serum tIS concentration has a significant direct association with PDE levels of the pro-inflammatory markers, high peritonitis episodes and their outcomes in PD patients. Further well-designed studies are required to establish the effect of serum tIS concentration on intraperitoneal inflammation and clinical outcomes in PD patients.

Table 1. The examined PDE pro-inflammatory markers in the PD patients according to peritonitis status

Markers	Peritonitis group ($n = 48$)	Peritonitis-free group ($n = 26$)	P-value
Serum tIS, μg/mL	37.2 (16.7–70.0)	18.0 (10.2–22.2)	0.016
PDE IL-6, pg/mL	48.0 (26.3–85.0)	23.0 (13.5–67.0)	0.015
PDE TNF-α,pg/mL	1.4 (0.7–3.0)	0.95 (0.49–1.75)	0.056
PDE MCP-1, pg/mL	545.3 (400–651)	448.5 (280.3–670.6)	0.167

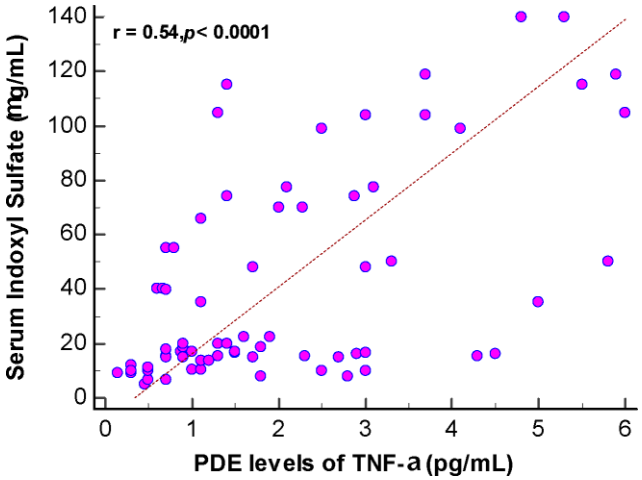

FIGURE 1: The relationship between PDE level of TNF-a and serum IS concentration in PD patients.

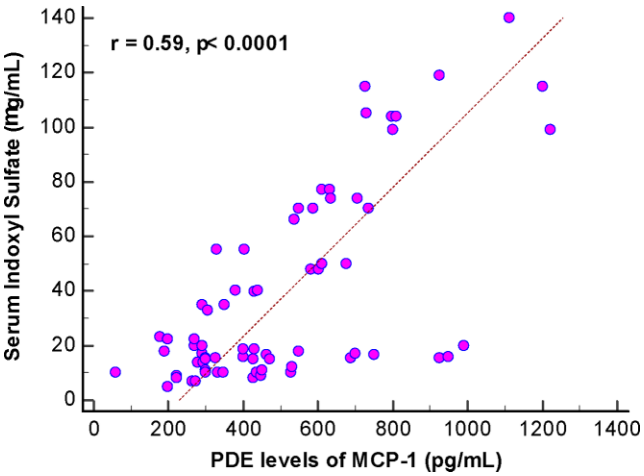

FIGURE 2: The relationship between PDE level of MCP-1 and serum IS concentration in PD patients.

MO683 **PERITONEAL TRANSPORT CHARACTERISTICS, SODIUM SIEVING AND DIALYSATE ELECTROLYTE CLEARANCE IN PERITONEAL DIALYSIS PATIENTS: 4.25% PERITONEAL EQUILIBRATION TEST ANALYSIS**

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BACKGROUND AND AIMS: Peritoneal dialysis (PD) is a well-established renal replacement therapy for patients with end-stage renal disease. The peritoneal equilibration test (PET) is widely used for assessing peritoneal solute transport. Recently, the International Society for PD committee recommended performing PET with 4.25% dextrose solution instead of traditional 2.5% dextrose solution to provide better information on ultrafiltration capacity. This study aims to explore the peritoneal transport characteristics, sodium sieving and electrolyte clearance with PET-4.25%.
METHOD: We conducted a cross-sectional study in PD patients treated in West China Hospital between June 2021 and December 2021. All patients underwent PET-4.25%. Peritoneal transport characteristics, sodium sieving and dialysate electrolyte clearance were analysed.
RESULTS: A total of 108 patients (61 males, 56%; mean age 48 ± 4 years old, median PD duration 17 months) were included. Dialysate to plasma (D/P) creatinine values at 4 h were distributed similarly in PET-2.5% and PET-4.25% (Fig. 1). The dialysate sodium decreased at the beginning of PET-4.25% and gradually increased, while other dialysate electrolyte levels continued to increase or decrease during the 4 h (Fig. 2). Most patients had their maximal sodium dip at 2 h ($N = 80$, 74%). The mean sodium dip at 1 h was 7.28 ± 2.93 mmol/L (sodium sieving ratio 0.057 ± 0.023), and the mean maximal sodium dip was 8.81 ± 4.18 mmol/L. In both univariate and multivariate analyses, sodium sieving was negatively correlated with 4-h D/P creatinine and glomerular filtration rate (GFR) and positively correlated with PET-4.25% ultrafiltration volume (Fig. 3). The total clearances of sodium, potassium, chloride, calcium, magnesium and phosphate with 2 L of 4.25% dextrose were 66.9 ± 22.4 mmol, 6.64 ± 1.25 mmol, 62.7 ± 27.7 mmol, 0.07 ± 0.27 mmol, 0.63 ± 0.19 mmol and 1.98 ± 0.63 mmol, respectively. The amount of electrolyte clearance was not related to peritoneal transport characteristics. Nine patients were diagnosed with ultrafiltration failure (UFF). Patients with UFF had significantly lower sodium and chloride clearance than non-UFF patients.
CONCLUSION: PET-4.25% could assess peritoneal transport characteristics with similar results to PET-2.5%, while it could provide more information on ultrafiltration capacity. Four-hour D/P creatinine, GFR and ultrafiltration volume are independent predictors for sodium sieving. Dialysate electrolyte clearance is not related to peritoneal transport characteristics, while sodium clearance is decreased in UFF patients.