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INCREASED PERITONEAL SOLUTE TRANSPORT IS ASSOCIATED WITH VOLUME EXPANSION AND INCREASED PERITONEAL INFLAMMATION.

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Increased peritoneal solute transport is associated with decreased technique and patient survival in incident peritoneal dialysis (PD) patients. The postulated reasons for this include volume expansion and increased peritoneal inflammation. We studied the association between solute transport, volume expansion, and inflammation in 18 stable prevalent PD patients. Patients underwent multifrequency BIA (**Quadscan 4000, BodyStat**) followed by a Peritoneal Equilibration Test (PET). Serum and overnight PD effluent was assayed for TNFα and IL-6 by ELISA (R&D Systems). Serum was assayed for sensitive CRP. Waste:hip ratio (WHR) was measured prior to peritoneal fill.

Increased 4 hour d/p creatinine correlated with BIA measures of volume expansion including ECF (r=0.55,p=0.018). Increased d/p creatinine correlated with increased PD effluent IL-6 (r=0.512, p=0.03). PD effluent IL-6 levels were higher than, and did not correlate with serum IL-6, suggesting local intraperitoneal production. Serum and peritoneal TNFα correlated, and both showed a significant inverse correlation with hemoglobin, but not with IL-6, solute transport, or measures of volume expansion. Interestingly, d/p creatinine also correlated with WHR (r=0.55,p=0.018). The WHR showed correlation with other inflammatory markers including CRP (r=0.589, p=0.01) and serum albumin (r=-0.474, p=0.047).

In stable PD patients, increased solute transport is associated with increased markers of inflammation, and specifically markers of peritoneal inflammation. Patients with increased solute transport are also volume expanded based on BIA. Increased solute transport also correlated with WHR. WHR and central adiposity has been associated with markers of inflammation and may provide a link between inflammation and poor outcomes in high transport PD patients.