

Peritoneal membrane characteristics' association with serum albumin in peritoneal dialysis patients

영남대학교 의과대학 내과학교실¹, 영남대학교병원 신장내과²

임주현¹, 도준영^{1,2}, 강석휘^{1,2}

Background/Aims: Three indicators (sodium dip, 4-hour dialysate-to-plasma creatinine concentration ratio [DP4Cr], and peritoneal protein loss [PPL]) are used to evaluate the peritoneal membrane function in peritoneal dialysis (PD) patients. This study aims to assess the association between three indicators, volume status, inflammation, and serum albumin level using mediation analysis.

Methods: Our study consisted of 174 PD patients. Mediation analysis was conducted using Baron and Kenny's regression approach to investigate the mediating effect of edema index or C-reactive protein (CRP) levels on the association between the three indicators of the peritoneal membrane and serum albumin levels.

Results: Sodium dip was not associated with PPL, edema index, and CRP and serum albumin levels. Linear regression analyses revealed that the DP4Cr, PPL, edema index, and CRP level were associated with serum albumin level (Figure 1). DP4Cr and PPL were associated with serum albumin level, and the association was partially mediated through edema index. DP4Cr was associated with edema index, and the association was completely mediated through PPL. CRP level was associated with serum albumin level, but the association was not mediated by sodium dip, DP4Cr, or PPL.

Conclusions: The present study demonstrated that if hypoalbuminemia was sustained without large volume overloading, clinicians should try to evaluate other volume independent factors associated with small or large pores rather than factors associated with ultra-small pores.

