Studies on changes of body fluid compartments during peritoneal dialysis

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Changes of body fluid compartments and chemical substances during peritoneal dialysis were studied.

Concentration ratio of HTO, $^{22}$Na and PAH between dialysate and plasma in cases of chronic renal insufficiency 2 hours after intravenous injection of HTO, $^{22}$Na and PAH were about 50%, 20% and 30%, respectively. These ratio between ascites and plasma were somewhat lower in cases of patients with ascites (carcinomatous peritonitis and liver cirrhosis etc.). Reversely concentration ratio between plasma and dialysate or ascites after intraperitoneal injection of HTO, Na and PAH were about 40%, 20% and under 5%, respectively. In comparison with other chemical substances after one hour peritoneal dialysis, concentration ratio of HTO between dialysate and plasma was almost equal with concentration ratio of urea nitrogen, creatinine, uric acid and K, and concentration ratio of $^{22}$Na and PAH were lower.

Body fluid compartments during peritoneal dialysis were measured with HTO, $^{22}$Na and RISA. After dialysis total body fluid, extracellular fluid and circulating plasma volume were reduced. Especially in cases of edematous patients, the reduction of extracellular fluid was dominate.