

복막투석 환자에서 갑상선 호르몬과 미세염증, 비만, 심혈관계 질환과의 상관관계

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Thyroid Hormone is Linked to Micro-inflammation, Obesity and Cardiovascular Disease in Peritoneal Dialysis Patients

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Objectives: Peritoneal dialysis patients frequently display low T3 level as an effect of impaired extra-thyroidal T4 to T3 conversion, or as a phenomenon secondary to peritoneal loss of thyroid binding globulin. Low T3 syndrome is a strong predictor of death in cardiac patients and might be directly implicated in the poor prognosis of cardiac patients. The purpose of this study was to evaluate the relationship between thyroid hormone and micro-inflammation, cardiovascular disease, obesity in peritoneal dialysis patients. The patients were divided to two groups according to obesity (non-obese; BMI <25 kg/m², obese; BMI ≥ 25 kg/m²) and also, two groups according to cardiovascular diseases (CVD vs. non-CVD).

Methods: We enrolled 30 peritoneal dialysis patients (M:F=15:15) without thyroid disease. The thyroid function profile was determined by measuring T4, T3, FT4, FT3 and TSH. The biochemical parameters were determined by measuring C-reactive protein, tCO₂, lipid profile, albumin and Kt/V.

Results: The cause of renal failure was hypertension 43.3%, diabetes 30%, glomerulonephritis 16.7%, unknown 10%. The mean of age, PD duration, Kt/V, BMI was 54.0±10.7 years, 32.1±32.3 months, 1.9±0.4, 22.7±3.6 kg/m² respectively. FT3 was significant positive correlation with tCO₂ and negative correlation with CRP (p<0.05). Also, FT3 in CVD (2.5±0.4 pg/dL, N=14) was significant lower than non-CVD (2.8±0.4 pg/dL, N=16). FT4 in obese (1.2±0.2 ng/dL, N=9) was a significant lower than non-obese (1.1±0.1 ng/dL, N=21) (p<0.05).

Conclusions: We suggest that low FT3 may be associated with micro-inflammation cardiovascular disease. Also, Low FT4 may be associated with obesity. Further studies should be need that the correction of low FT3 and FT4 may be helpful for the aim to prevent the complications of peritoneal dialysis.

Key Words: 갑상선 호르몬, 복막투석, 비만

Thyroid hormone, Peritoneal dialysis, Obesity