투석전문의 연수강좌

Thyroid Function Tests in End Stage Renal Disease

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It is important to consider the physiological association of thyroid dysfunction in relation to kidney disease. Thyroid hormones have pre-renal and intrinsic renal effects by which they increase the renal blood flow and GFR. Low T3 levels are the most common laboratory finding followed by subclinical hypothyroidism in CKD and the prevalence of subclinical hypothyroidism increases consistently with a decline of GFR. However, TSH elevations do not always reflect hypothyroidism. Hyperthyroidism is usually not associated with CKD but has been known to accelerate it. Decreased renal function accounts for an ineffective clearance of inflammatory cytokines, iodide excretion, and an increase of nitrogen conservation. All of these factors have been clinically proven to affect the normal physiology and metabolism of thyroid hormones. Appropriate treatment for thyroid disease could decrease a chance of developing or exacerbating renal dysfunction. On the other hands, treating patients with a mild elevation of TSH might result in a negative nitrogen balance by increased muscle catabolism. Therefore, physiological benefits of a hypothyroid state in CKD emphasize on a conservative approach in the treatment of thyroid hormone abnormalities. Clinicians should consider the presence of thyroid dysfunctions and its appropriate treatment in conjunction to treating CKD.