



AUTOIMMUNE CONNECTIVE TISSUE DISEASES

## THYROID EYE DISEASE IN EUTHYROID PATIENTS

*Park Sang Myung<sup>(1)</sup> - Kim Ki Hun<sup>(1)</sup> - Choi Joong Yoon<sup>(1)</sup> - Lee Ye Jin<sup>(1)</sup> - Lew Bark Lynn<sup>(1)</sup> - Sim Woo Young<sup>(1)</sup>*

*Kyung Hee University School Of Medicine, Department Of Department Of Dermatology, Kyung Hee University Hospital At Gang-dongdermatology, Kyung Hee University Hospital At Gang-dong, Seoul, Republic Of Korea<sup>(1)</sup>*

**Background:** Thyroid eye disease (TED), also known as Graves' ophthalmopathy, is a complex orbital inflammatory disease. For those with TED, 85% have biochemical evidence of hyperthyroidism, 10% have hypothyroidism and 5% are euthyroid. TED is caused by retro-orbital inflammation, and interaction between thyroid stimulating hormone (TSH) receptor in skin fibroblasts and TSH receptor antibodies in the serum of patients with TED is major role in the pathogenesis of dermopathy.

**Objective:** To elucidate the clinical and histopathologic characteristics, pathogenesis, and outcome in euthyroid patients with TED.

**Method:** We performed the retrospective study of 3 euthyroid patients with TED. All the subjects were taken a biopsy in the eyelid. Serum levels of triiodothyronine (T3), thyroxine (T4), TSH were measured in all patients, with one patient also undergoing measurements for thyroid autoantibody.

**Results:** All patients had exophthalmos, periorbital swelling and eye movement restriction. Histopathologic assessment of the upper eyelid revealed deposition of mucin among the dermal collagen fibers in the dermis, along with lymphocytic infiltration in all cases, without affecting the epidermis. Laboratory tests showed that the T3, T4, TSH was normal in all patients, and one of them was euthyroid with negative thyroid autoantibodies. We treated the patients with corticosteroid pulse therapy, leading to a partial improvement of the symptoms.

**Conclusion:** We describe rare cases of a biopsy-proven TED manifesting in euthyroid patients. Duration of the eyelid swelling is long and the cause is uncertain, dermatologist suspect euthyroid ocular mucinosis and diagnose it by performing a skin biopsy. In this case, a thyroid function test and a thyroid autoantibody test should be performed to help diagnosis. In euthyroid TED, thyroid hormone cannot be corrected. So treatment is not easy and the treatment response to the steroid is poor. Therefore, the dermatologist should keep





in mind this point and start the treatment.

