

ABSTRACT

Thyroid hormone deficiency is most commonly a primary disease of the thyroid (PRIMARY HYPOTHYROIDISM) and less frequently caused by deficiency of TSH (SECONDARY HYPOTHYROIDISM). Loss of hypothalamic TRH (TERTIARY HYPOTHYROIDISM) is rare. Hypothyroidism may present with various systemic manifestations including hypothyroid myopathy as a recognized feature. The frequency of myopathy in hypothyroidism ranges from 30 to 80%. It is characterized by muscle weakness, pain, muscle cramps and stiffness. The electrophysiological study reveals myopathy, neuropathy or mixed pattern. Laboratory investigation shows increased levels of muscle enzymes, CK, LDH, SGOT and low serum thyroid hormones, with thyrotrophic –stimulating hormone(TSH) being elevated. The treatment consists of hormone replacement and prognosis is good. The aim of the study is to confirm the involvement of muscles in hypothyroidism using biochemical markers of muscle damage such as serum Creatine Kinase (CK), Lactate Dehydrogenase (LDH) and Serum Glutamyl Oxaloacetate Tranferases (SGOT/AST) and also to correlate the activity of these muscle enzymes with fT_3 , fT_4 and TSH levels. The significant elevation of serum CK, LDH, SGOT and positive EMG and Muscle biopsy indicate muscle involvement in hypothyroidism and that these enzymes can be used as parameters for screening of hypothyroid patients.

Keywords:

Hypothyroidism, fT_3 , fT_4 , TSH, Creatine Kinase, Lactate dehydrogenase, Serum Glutamyl Oxaloacetate Transferases, Electromyography, Muscle biopsy.