**Original article:**

**Biochemical evaluation of myopathy in Patients of hypothyroidism.**

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**Abstract:**

**Background:** Hypothyroidism is one of the most commonly occurring thyroid disorders worldwide. Muscle involvement in hypothyroidism is common with 30-80% of hypothyroid patients presenting with muscular symptoms varying from myalgia to true myopathy. The aim of the present study was to confirm the involvement of muscles in hypothyroidism using biochemical markers of muscle damage such as serum Creatine Kinase (CK), its isoenzyme CKMB, serum Lactate Dehydrogenase (LDH) and serum Aspartate Aminotransferase (AST/SGOT) and also to correlate the activity of these muscle enzymes with T3, T4, and TSH levels.

**Methods:** In this study thyroid function tests (T3, T4 &TSH), serum CK, CKMB, LDH and AST/SGOT were measured in 30 patients with newly detected overt hypothyroidism and the results were compared with that of 30 healthy adults who were taken as control.

**Results:** The results show that mean CK, LDH and SGOT/AST were significantly increased in patients with hypothyroidism while the rise in CKMB was statistically insignificant as compared to control subjects. A positive correlation was found between CK, CKMB, LDH & SGOT/AST levels with TSH levels and negative correlation was found with T3 and T4 levels.

**Conclusion:** The significant elevation of serum CK, LDH and SGOT activities indicate muscle involvement in hypothyroidism and that these enzymes can be used as parameters for screening of hypothyroid patients.

**Keywords:** Hypothyroidism, Creatine Kinase, Lactate Dehydrogenase