ABSTRACT

Background

Concomitant thyroid and heart disease are frequently encountered in clinical practice. There are many studies evaluating thyroid function in acute critical conditions. Information on sick euthyroid in myocardial infarction ( STEMI & NSTEMI) is limited; its correlation with short and long-term outcome is not fully known.

Methods

100 Patients admitted at ICU with diagnosis of myocardial infarction were included in the study. Myocardial infarction was diagnosed based on electrocardiographic changes with lab evidence of myocardial damage. Thyroid hormone levels (TSH, fT3, rT3, fT4) were measured on day 1, 4, 7, & 30. Known hypo/hyper thyroid patients, patients on anti thyroid medications, were excluded in this study.

Subsequently patients were divided into two groups: Patients with low fT3 and elevated rT3 (sick euthyroid) in one group and patients with normal fT3 and rT3 in another group. The two groups were compared in terms of immediate & long term mortality & morbidity.

Results

Sick euthyroid was commonly seen in patients with AWMI.
ICU and hospital stay was more in sick euthyroid group. P value was significant (<0.001). There was a delayed short term recovery in sick euthyroid group.

Number of patients needing invasive management was (47% in sick euthyroid vs 18% in control group). P value was significant (<0.05). More patients needed invasive management on follow up in sick euthyroid group.

Markers for poor outcome such as depressed ejection fraction was more in the sick euthyroid group compared to control group. P value was significant <0.001. Readmissions & mortality was more in sick euthyroid group. Hence patients in sick euthyroid group had increased long term morbidity.

**Conclusions**

Thyroid dysfunction, particularly sick euthyroid syndrome, can be used to predict the short term & long term morbidity in STEMI & NSTEMI patients.

**Keywords**

fT3, rT3, fT4, TSH, STEMI, NSTEMI, sick euthyroid syndrome.