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Thyroxine absorption test protocol for hypothyroid patients on high dose thyroxine replacement

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Background: Levothyroxine absorption test is a very useful tool in evaluating pseudo malabsorption from true malabsorption and non-compliance however, there is no standard protocol to date yet [2]. In our institution, we based our protocol from the study by Walker, J.N., et.al in 2013 [1].

Aim: The aim of this review is to determine whether we can reduce the duration of the test or not, in a safe manner, without losing the results. By continuing the 5 week course of the test, do we get additional information to aid the appropriate treatment regime of hypothyroid patients?

Methods: We collated all patients who were referred for thyroxine absorption test in the past 4 years at 2 district hospitals (Conquest and Eastbourne DGH) in East Sussex. Patients were pre-assessed prior to the test. A commitment between the patient and the performing ESN (endocrine specialist nurse) has been agreed for the completion and reliability of the test results. An oral weight related L-t4 bolus (calculation formula: 1.69 + 0.2mcg/kg per day x 7 days), crushed tablets, administered with jam and sips of water once every week for a total of 4 weeks.

Results: Out of 12 patients enlisted, 1 patient was deferred due to abnormal ECG on pre-assessment. A total of 7 patients completed the 5 week test. 9 patients showed >50% increase of their FT4 levels at 120min (same percent at 180 and 240min). Significant changes in TSH was noted on week 5 with a suppression of >50% on 2/8 patients.

Conclusions: A STAT (Short Thyroxine Absorption Test) may be performed to rule out non-compliance and PTAT (Prolonged Thyroxine Absorption Test) is needed if STAT is inconclusive. This approach will not just hasten the treatment but will also save patients time and institutions’ resources. A pre-assessment is highly recommended for patient safety and prevent further unnecessary investigation.

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Declaration of Interest
We declare that there is no conflict of interest reported that may cause impartiality of the outcome of this study.

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References:


