

Revising Guidelines for Pre-Operative Assessment of Patients with Thyroid Disease to Reduce number of Pre-operative fT3 Tests performed

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Aim

Preoperative thyroid function tests (TFTs) are regularly done in patients with a positive thyroid history due to concerns of perioperative morbidity associated with thyroid dysfunction. Despite international guidelines, there is frequent over testing of thyroid function, especially higher costing free tri-iodothyronine (fT3) component in Singapore General Hospital (SGH). This is due to the lack of clear local protocol. We embarked on a multidisciplinary project to revise SGH's guidelines, with the aim of reducing unnecessary fT3 tests by 20%.

Methodology

Perioperative anaesthesiologists, Internal Medicine Perioperative physicians and endocrinologists specializing in thyroid diseases collaboratively revised the guidelines on perioperative management of thyroid disease. Scenario based management guidelines and flow charts were incorporated. The date of implementation of the new guidelines was 1st October 2020. Retrospective review of number of fT3 tests and total number of patients presenting for surgery was performed from July 2020 to December 2020. Pre-intervention period was from July to September 2020. Post intervention period was October to December 2020. Balance measures were number of surgery postponements due to abnormal TFTs and incidence of thyroid storm or suspected thyroid storm peri-operatively.

Results

Pre-intervention, 411 fT3 tests were performed with 7154 patients presenting for surgery. Post intervention, 288 fT3 tests were performed with 7915 patients presenting for surgery. This was a reduction of 29.93% ($p < 0.001$). There were 5 patients in each period whose surgeries were postponed one day before or on day of surgery with abnormal TFTs. There were no incidents of thyroid storm or suspected thyroid storm amongst patients coming for surgery during the study period. Junior doctors found the revised guideline easy to use.

Conclusion

Revision of guidelines has resulted in better than expected reduction in fT3 tests performed. Estimated cost savings is \$2000 monthly, based on the listed unsubsidized price of \$49.70 per test.