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OPTIMISING TSH RECEPTOR ANTIBODY (TRAb) TESTING IN PREGNANCY: A SINGLE-CENTRE AUDIT

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INTRODUCTION

The course of Graves' disease in pregnant women is variable and there is a risk of fetal/ neonatal thyrotoxicosis as TSH Receptor Antibodies (TRAb) can pass through the placenta. TRAb should be tested in pregnant patients with Grave's thyrotoxicosis or Grave's with a past history of radioiodine or thyroidectomy. The 2017 American Thyroid Association Thyroid Disease in Pregnancy Guideline specified a cut-off TRAb of >5 IU/L (3 times the upper limit of normal) in the first trimester to identify patients with increased risk. Patients with elevated TRAb in the first trimester and/ or requiring anti-thyroid drugs (ATD) mid-pregnancy are recommended for repeat testing in the third trimester. Persistent TRAb >5 IU/L in late pregnancy predicts risk of neonatal hyperthyroidism. We aimed to review the practice of TRAb monitoring in pregnancy in Hospital Putrajaya (HPJ).

METHODOLOGY

A retrospective audit of pregnant women with a history of Grave's thyrotoxicosis seen between 2019 to 2022 in HPJ. We identified 23 women with at least 2 TRAb tests in pregnancy.

RESULT

Of 23 women, 19 were thyrotoxic on ATD, 3 were euthyroid on thyroxine replacement post-radioiodine therapy and 1 was euthyroid and without treatment. At baseline, 2 had normal TRAb (<1.75 IU/L), 13 had elevated TRAb but below the cut-off (>5 IU/L) and 8 significantly elevated TRAb (>5 IU/L). All 15 patients with initial TRAb below the cut-off, had repeat TRAb that remained either normal or below 5 IU/L. The TRAb level reduced to below 5 IU/L in 3 patients with initial high TRAb.

CONCLUSION

One patient had unnecessary initial testing and two-thirds of patients had unnecessary repeat TRAb testing. A TRAb level of <5 IU/L in early pregnancy correlated 100% with TRAb below the cut-off in late pregnancy. Overall, 1 in 5 women (21%) had risk of their fetus developing neonatal thyrotoxicosis. This audit highlights the need to improve awareness of the guidelines. A simple graphical algorithm has been developed as a guide.