

Paediatrics Oral Presentation

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A REVIEW OF CONGENITAL HYPOTHYROIDISM AND ROLE OF THYROID SCINTIGRAPHY IN UNIVERSITY MALAYA MEDICAL CENTRE (UMMC)

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INTRODUCTION

Thyroid scintigraphy (TS) is the gold standard investigation to determine the underlying cause of congenital hypothyroidism (CHT), which can be due to thyroid dysgenesis (agenesis/hypoplasia/ ectopic), dysmorphogenesis (TDH) or transient hypothyroidism (TH). In Malaysia, thyroid scan is done at the age of 3 years old. Some centres may opt to do ultrasound instead.

METHODOLOGY

This is a retrospective study from 2020 to 2023. TS in UMMC uses radioactive tracer technetium-99m. All patients suspected of having congenital hypothyroidism (CHT) or neonatal-onset hypothyroidism were subjected to TS and reassessment of thyroid function (TFT) at the age of 3 years. Children with abnormal TS and TFT were diagnosed with thyroid dysgenesis. Those with normal TS but abnormal TFT were diagnosed with thyroid dysmorphogenesis (TDH), and those with normal TS and TFT were regarded as having TH. Data pertaining to sociodemographic factors, biochemical markers and treatment were reviewed.

RESULT

A total of 120 patients underwent TS during the study period. Nine patients had incomplete data. Amongst the 111 children, 58 (52.3%) were females and majority were Malays (n = 71, 64%). Seventeen (14.7%) had Down syndrome and 7 (6%) were born premature. TS confirmed normal findings in 103 (92.8%) cases, 3 (2.7%) had ectopic thyroid, 3 (2.7%) had thyroid agenesis, 2 (1.8%) had thyroid dysgenesis/hypoplasia. Among those with normal TS, 12 (11.7%) were diagnosed with TDH and the rest had TH (n = 91, 88.3%). The mean cord TSH were 71.3 mIU/L, 104.3 mIU/L and 17.1 mIU/L respectively for those with thyroid dysgenesis, ectopic thyroid and TDH. Among those who started on thyroxine late after the age of 3 months old, 11/14(78.6%) of them were subclinical/transient causes of hypothyroidism. Two (14.3%) had TDH, while 1/14 (7.1%) had ectopic thyroid.

CONCLUSION

Transient hypothyroidism (TH) is highly prevalent in our population. Thyroid scan is important in determining TH, hence reducing prolonged and unnecessary treatment. Alternative investigation using ultrasound may not be able to detect an ectopic or hypoplastic thyroid gland.