

## BP\_P002

### INCIDENCE, CLINICAL PRESENTATION, AND OUTCOME OF HYPERTHYROIDISM IN CHILDREN AND ADOLESCENTS: A SINGLE-CENTRE STUDY

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#### INTRODUCTION

Hyperthyroidism in children and adolescents, although uncommon, has significant effects on growth, neurodevelopment, and quality of life. Local data in Malaysia are limited, and regional variations may influence disease presentation and outcomes. This study aimed to determine the incidence, clinical characteristics, and treatment outcomes of paediatric hyperthyroidism at a tertiary centre.

#### METHODOLOGY

A retrospective cohort study was conducted at the Paediatric Endocrine Clinic, Universiti Malaya Medical Centre, from 2014 to 2024. Patients aged below 18 years with confirmed hyperthyroidism were included. Demographic, clinical, biochemical, and treatment data were analyzed. Descriptive statistics were used, and associations were tested using chi-square and Fisher's exact tests, with  $p < 0.05$  considered significant.

#### RESULTS

Forty-three patients were included, representing 9.7% of paediatric thyroid disorders. The cohort was predominantly female (74.4%) and majority Malay, with a median age of 11.7 years. Most patients presented with typical features, including palpitations (72.5%), goiter (62.5%), weight loss (45.0%), and heat intolerance (40.0%). However, atypical presentations such as learning difficulties and psychological disturbances were also observed and, in some cases, constituted the chief complaints. Notably, 82.5% of patients presented with severe thyrotoxicosis. Grave's disease was the predominant etiology. All patients received antithyroid drugs, mainly carbimazole, with 80.0% achieving disease control and a median time to euthyroid state of 2 months. The duration of antithyroid drug therapy prior to cessation was shorter than international recommendations, indicating a significant reduction in time to treatment completion. Relapse occurred in 25.0% and was significantly associated with poor disease control ( $p = 0.014$ ), while no significant associations were found with demographic or biochemical factors. Definitive therapy was required in 35.0%, with older age, growth stunting, and prior relapse identified as significant predictors ( $p < 0.05$ ).

#### CONCLUSION

Paediatric hyperthyroidism in this Malaysian cohort is predominantly due to Graves' disease and frequently presents with both classical and atypical manifestations, which may delay diagnosis. Despite a high proportion of severe thyrotoxicosis at presentation, antithyroid drug therapy was effective, with a shorter duration to treatment cessation compared to international standards. Poor disease control emerged as the strongest predictor of relapse, while older age, growth stunting, and prior relapse predicted progression to definitive therapy. Early recognition and individualized management are essential to optimize outcomes. Larger multicentre studies are needed to inform national clinical practice guidelines.