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THE OUTCOME OF DEFINITIVE THERAPY FOR PAEDIATRIC GRAVES' DISEASE: A SINGLE-CENTRE STUDY

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INTRODUCTION
Most paediatric hyperthyroid patients are diagnosed with Graves' Disease (GD). The low remission rate and adverse events associated with antithyroid medications may warrant definitive therapy for these patients. Options for definitive therapies include total thyroidectomy (TT) or ablative therapy with radioactive iodine (RAI). The age, size of the goitre, and frequency of relapses influence the choice of definitive therapy.

METHODOLOGY
Medical records of paediatric patients with GD receiving definitive therapy at the University Malaya Medical Centre from 2012 to 2022 were reviewed.

RESULTS
Ten patients received definitive therapy. Seven were female. The mean age at diagnosis was 10.7 ± 4.3 years old. The average duration of antithyroid medication use before definitive therapy was 4.1 ± 1.6 years. The median relapse rate for both TT and RAI groups was 2.5 (1-6) times. Three patients had TT performed post-puberty. The mean age at RAI was 14.9 ± 4.0 years, with the youngest at 8 years of age. The thyroid gland weight was the decisive factor favouring TT, 92 ± 17.8 grams (TT) versus 22.9 ± 6.2 grams (RAI). Hypothyroidism occurred earlier in those who underwent TT at 1.3 weeks versus 8 weeks for those who underwent RAI. Six patients became hypothyroid post-RAI, however, 3 patients relapsed. The dose of RAI was lower in the patients who relapsed (5.6 ± 3.8 mCi versus 9 ± 2.0 mCi), although the thyroid sizes were similar. Two patients became hypothyroid after the second RAI therapy. No significant adverse events were seen in all patients who underwent TT.

CONCLUSION
Definitive therapy is safe in non-remitting paediatric GD patients. TT should be considered if the thyroid gland size is large and less likely to respond to RAI with the provision of an experienced surgeon. RAI renders a good outcome in difficult GD, however, in younger children, small doses may not be sufficient, and repeat doses may be necessary.