first 19 days, while the rest presented after 7 months of age. Of these, 24 cases (47.1%) were transient, with medications successfully discontinued at a mean age of 4.0 ± 2.13 years. Only 26 patients underwent thyroid scan, which was normal except for one case of thyroid agenesis. Imaging was not performed in others due to early discontinuation of therapy or loss to follow-up.

All hyperthyroid patients had autoimmune thyroid disease (4 Graves' disease, 2 Hashimoto's thyroiditis) with positive autoantibodies. The median age at presentation was 5.4 years (IQR: 2.3–10.2).

CONCLUSION

Screening for thyroid dysfunction successfully identified almost all cases in patients with Down syndrome. Notably, patients which hyperthyroidism in this cohort had co-occurring autoimmune thyroid dysfunction and demonstrated a significantly earlier age of presentation compared to the general paediatric population.

EP_P005

PREVALENCE OF HYPOTHYROIDISM AND GROWTH OUTCOMES AMONG PATIENTS WITH DOWN SYNDROME

Siti Nur Khairiah Bt Mohd Rozali[1,2], Suhaimi Hussain[1,3], Surini Yusoff[1]
[1]*Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia*
[2]*Hospital Miri*
[3]*Hospital Pakar Universiti Sains Malaysia, Health Campus, Universiti Sains Malaysia*

INTRODUCTION

Children with Down syndrome (DS) have a higher prevalence of hypothyroidism compared to the general population, and both conditions are linked to impaired growth. This study aimed to determine the prevalence and subtypes of hypothyroidism in DS and to compare growth outcomes with controls from general population at 2 years of age.

METHODOLOGY

A retrospective review was conducted on 248 children with DS (aged 2–18 years) followed at Hospital Pakar Universiti Sains Malaysia from 2020 to 2025. Growth outcomes were analyzed in a subgroup of 41 DS children with hypothyroidism compared to 46 controls. Growth was compared using standard CDC charts for and z -scores calculated with PediTools (CDC 2–20 age). Mid-parental height, target height attainment, and height velocity were evaluated. Statistical analysis used t-tests and chi-square tests (p <0.05).

RESULTS

Of the 248 children with DS, 63.7% had hypothyroidism, predominantly subclinical (85.4%). No cases of acquired or secondary hypothyroidism were found. Children with DS had significantly lower mean height z-scores (−1.91 ± 1.45 vs. −0.54 ± 1.25; p <0.001), borderline lower height velocity (5.80 ± 2.15 vs. 6.92 ± 3.56 cm/year; p = 0.050), and fewer achieved target height (35% vs. 64.1%; p = 0.030) compared to controls. Baseline characteristics were similar between groups. Thyroid ultrasound showed normal anatomy in 50%, hypoplasia in 28.6%, and nodules in 21.4%.

Common comorbidities included congenital heart disease (78.4%), pulmonary complications (16.2%), and other anomalies (32.4%).

CONCLUSION

Subclinical hypothyroidism was the predominant subtype in DS. Affected children demonstrated poorer growth, with reduced height z-scores, slower growth velocity, and lower likelihood of achieving target height.

EP_P006

CLINICAL CHARACTERISTICS AND OUTCOMES OF PAEDIATRIC HYPERTHYROIDISM: A 10-YEAR SINGLE CENTRE RETROSPECTIVE COHORT STUDY FROM NEGERI SEMBILAN

Munzir Jamil[1], Mastura Ibrahim[1], Meenal Mavinkurve[2]
[1]*Department of Paediatrics, Hospital Tuanku Ja'afar*
[2]*Department of Paediatrics, International Medical University*

INTRODUCTION

The commonest cause of paediatric hyperthyroidism is Graves' disease. Previous studies in the Malaysian context haven't captured data from Negeri Sembilan. This study aims to describe the demographic and clinical features of children with hyperthyroidism from Hospital Tuanku Jaafar.

METHODOLOGY

A retrospective cohort study collating socio-demographic and clinical data from electronic medical records was conducted. Statistical analysis was conducted using Microsoft Excel (v2602).

RESULTS

Fourteen children between 2015 and 2025 were identified. Females comprised 93% (n = 13). The mean age at diagnosis was 9.76 ± 3.4 years, with 64% (n = 9) aged >10 years. Malay ethnicity comprised 64% (n = 9). Family history was positive in 43% (n = 6). Three (21%) children were detected

on routine screening. At presentation, 50% (n = 7) were prepubertal and 36% (n = 5) were underweight, with mean BMI SDS −1.4 ± 1.2. All had high fT4 78.43 ± 72 pmol/L and suppressed TSH TRAb positivity was 86% (n = 12). Anti-TPO or anti-thyroglobulin antibodies positivity was 79% (n = 11). In one child, all three antibodies were negative. Thyroiditis was the commonest ultrasound finding. Carbimazole starting dose was 0.6 mg/kg/day and average treatment duration was 3.5 ± 2.4 years, which achieved biochemical euthyroidism in 49 days. Relapse rate on carbimazole was 57% (n = 8). No adverse effects occurred, and none had definitive therapy. Currently, 71% (n = 10) are euthyroid on a mean carbimazole dose of 0.2 mg/kg/day; one is off carbimazole. Current height is −1.1 ± 1.31 SD and BMI SDS −0.42 ± 1.7 SD respectively.

CONCLUSION

Graves' disease is the commonest form of paediatric hyperthyroidism in Negeri Sembilan, affecting prepubertal Malay females who commonly present with thyrotoxicosis. Carbimazole effectively achieves biochemical euthyroidism with minimal side effects. However, linear growth is affected. Future studies should evaluate the factors associated with these findings.

EP_P007

CLINICAL AUDIT OF CLONIDINE AS A FIRST-LINE PROVOCATIVE AGENT TO EXCLUDE GROWTH HORMONE DEFICIENCY IN CHILDREN WITH SHORT STATURE

Mazidah Noordin[1,2], Sook Weih Lew[1,2], Alexis Anand Dass[1,2], Jay Yin Lim[2], Noor Shafina Mohd Nor[1,2]
[1]Department of Paediatrics, Faculty of Medicine, Sungai Buloh Campus, Universiti Teknologi Mara (UiTM)
[2]Department of Paediatrics, Hospital Al-Sultan Abdullah, UiTM Puncak Alam, Universiti Teknologi Mara (UiTM)

INTRODUCTION

Clonidine is frequently utilized as a stimulus of growth hormone secretion to diagnose growth hormone deficiency in children. This clinical audit evaluates the efficacy and safety profile of clonidine as a sensitive, first-line screening agent to exclude GHD in children.

METHODOLOGY

A clinical audit was conducted on seven patients (4 females, 3 males) aged 7.1 to 12.3 years (median age 11.1) evaluated with clonidine stimulation test. The cohort included one prepubertal and six post-pubertal (highest tanner 2) children. Bone age was delayed at BA/CA ratio at 0.63–0.9 (median 0.8). Baseline IGF-1 levels ranged from 56 to 264 ng/mL. None of the children received sex steroid priming. A peak GH threshold of >10 ng/mL was utilized to exclude GHD. Safety profiles, specifically hemodynamic stability and level of consciousness, were actively monitored.

RESULTS

Clonidine effectively stimulated GH secretion and excluded GHD in six out of seven patients, yielding peak GH levels between 10.3 and 20.6 ng/mL. One patient with peak GH of 7.6 ng/mL with clonidine, and subsequent test with insulin tolerance test (ITT), confirmed GHD with a peak GH of 7.4 ng/mL. All participants (n = 7) experienced drowsiness. Hemodynamic adverse events were notable. Three patients experienced mild hypotension, and three patients developed clinically significant hypotension requiring normal saline fluid bolus.

CONCLUSION

Clonidine is a highly effective, sensitive first-line screening agent to exclude GHD, as it reliably stimulates GH peaks above diagnostic thresholds. However, close supervision is required due to drowsiness and the potential for severe hypotension requiring fluid resuscitation. Clinical judgment remains essential as secondary testing with another GH secretagogue is warranted when clinical suspicion persists.

EP_P008

CLINICAL OUTCOMES OF GONADOTROPIN-RELEASING HORMONE AGONIST THERAPY IN CHILDREN WITH CENTRAL PRECOCIOUS PUBERTY

Siti Zakiyyah Bakhtiar[1], Jia Nyuk Chong[1], Hooi Peng Cheng[2]
[1]Department of Pharmacy, Sarawak General Hospital
[2]Department of Paediatrics, Sarawak General Hospital

INTRODUCTION

Central precocious puberty (CPP) is the premature activation of the hypothalamic-pituitary-gonadal axis, often compromising adult height and psychosocial well-being. Timely treatment with gonadotropin-releasing hormone agonists (GnRHa) such as triptorelin is critical to halt pubertal progression and preserve growth potential. This study evaluated the clinical outcomes of triptorelin therapy in CPP at Sarawak General Hospital (SGH).

METHODOLOGY

A retrospective cross-sectional study was conducted among patients with CPP treated with triptorelin at the Paediatric Endocrine Clinic, SGH, including those currently receiving