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Hyperthyroidism in Children – Clinical and Demographic Review

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Si Ling Y,[1] Kok Joo C,[1] Nurshadia S,[1] Mazidah N,[1,2] Muhammad Yazid J,[1] Azriyanti AZ[1]

[1]*Department of Paediatrics, University Malaya Medical Centre, Malaysia*

[2]*Department of Paediatrics, Faculty of Medicine, University Teknologi MARA (UiTM), Malaysia*

INTRODUCTION

Acquired hyperthyroidism in children is rare with reported incidence of 0.9 per 100, 000<15 years-old in UK and Ireland. The most common causes are Hashimoto's thyrotoxicosis (HT) and Graves' disease (GD). Children with Down syndrome (DS) are at higher risk to have thyroid disease.

METHODOLOGY

This is a retrospective, descriptive study looking at children with confirmed diagnosis of hyperthyroidism seen at paediatric endocrine unit, University Malaya Medical Centre. Patients demography and clinical profiles were obtained through medical record system.

RESULTS

A total of 20 patients were diagnosed from 2006-2018. Female predominates with the ratio of 3:1. There were 50% Malay, 45% Chinese and 5% Indian. Their mean age at diagnosis was 9.9±4.3 years. Two (10%) were diagnosed<5 years-old, 35% between 5-9 years, 35% between 10-14 years and 20% between 15-20 years-old. 45% had positive family history. Thirteen (65%) were diagnosed with GD, 20% had HT, 5% had multinodular goitre, TSH resistance syndrome and antibody negative hyperthyroidism respectively. Four (20%) of them had DS. At presentation, 50% had weight loss, 35% had goitre, 30% had palpitations and hyperactivity, 20% diarrhea, heat intolerance and lethargy, 15% had eye symptoms and excessive diaphoresis, 10% had sleep disturbances and deteriorated school performance and 5% had thyrotoxic hypokalemic periodic paralysis and acute psychosis. Of the 13 patients diagnosed with GD confirmed with positive autoantibody (TRab and TSI), 85% were female, and 30.8% had eye signs. No thyroid storm or hypertensive crisis recorded. These children have had symptoms with a mean duration of 15.8±16.6 weeks prior to diagnosis.

CONCLUSION

Despite common manifestation of acquired hyperthyroidism, there is a marked delay in diagnosis. Diagnosis of GD should not rely on eye symptoms alone and routine tests for TRAb/TSI should be done to confirm diagnosis.

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Malignant Clival Chordoma in a Child with Turner Syndrome Diagnosed after 4 Years of Growth Hormone Therapy

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Julia A, Arini Nuran I, Poi Giok L

Hospital Wanita dan Kanak-kanak, Kuala Lumpur, Malaysia

INTRODUCTION

Paediatric chordomas are rare malignant tumours originating from primitive notochordal remnants with a high recurrence rate. Only 5% of them occur in the first two decades; less than 300 paediatric cases have been described so far in the literature. Turner syndrome has been found to be associated with an increased rate of extra-gonadal neoplasm, sporadic report of Turner syndrome with various brain tumours such as medulloblastoma and meningioma have been found in the literature. However to date there's insufficient data to establish a definite relationship between brain tumours and Turner Syndrome.

CASE

We described the first case of a 14-year-old girl with underlying Turner Syndrome who was started on growth hormone therapy for the past 4 years. She achieved good height velocity with no side effects reported and her serial IGF-1 was within normal range. She developed intermittent headache which later associated with bilateral distal upper limb weakness and numbness.

Presence of upper motor neuron signs on examination prompted further evaluation with MRI of brain and spine which revealed a deep seated cystic lesion occupying the prepontine and retropharyngeal region measuring 5.9 cm x 4.8 cm x 6.8 cm. Histopathological examination of the mass biopsied confirmed the diagnosis of clival chordoma. Parents have opted for conservative management in view of high operative risk.

CONCLUSION

Current literature reviewed; no case of chordoma and Turner Syndrome that has been reported to date. Although Turner's syndrome is not one of the congenital chromosomal abnormalities which demand routine CNS screening, neuroimaging should be done in patients with Turner Syndrome that presents with neurological symptoms.