ASYMMETRIC GRAVES’ EXOPHTHALMOS IN A CHILD

Ana Torres Rebelo¹, Joana Borges², Diana Moreira³, Rosa Arménia¹ and Ana Luísa Leite⁴

¹Centro Hospitalar de Entre o Douro e Vouga, Pediatrics Department, Santa Maria Da Feira, Portugal., ²Centro Hospitalar de Vila Nova de Gaia/Espinho, Pediatrics Department, Vila Nova de Gaia, Portugal., ³Centro Hospitalar de Vila Nova de Gaia/Espinho, Pediatric Infectious Diseases Unit, Vila Nova de Gaia, Portugal., ⁴Centro Hospitalar de Vila Nova de Gaia/Espinho, Pediatric Endocrinology and Diabetes Unit, Vila Nova de Gaia, Portugal.

ABSTRACT None

KEYWORDS Asymmetric orbitopathy, Graves’ disease, Exophthalmos, Children

Figure 1:

Case report

A previously healthy, 5-year-old girl was referred to Pediatric Endocrinologic Consultation with two month-long history of weight loss, occasional facial flushing, increased heart rate, hypertension and new onset of right exophthalmos.

The mother’s pregnancy was complicated by hypothyroidism and hepatitis B. However, the child was full-term and appro-
appropriate for gestational age. No other thyroid-related diseases or autoimmune conditions were detected in the family.

On examination, the child was tachycardic (128 beats per minute) and hypertensive (131/70 mmHg; systolic blood pressure > 95th percentile and diastolic blood pressure 50-95th percentile). Body mass index was normal (16.1 kg/m², 50-75th percentile). She had goitre without nodules (Fig. 1) and right exophthalmos with lid lag (Fig. 2). No seizures, tremors or psychomotor abnormalities were detected. Motor and developmental mental milestones were normal, but her behaviour was hyperkinetic. Thyroid-stimulating hormone (TSH) was undetectable (<0.005 uU/mL) and free T4 was elevated (> 7.77 ng/dL). TSH receptor antibody and thyroid peroxidase antibody were positive (26 IU/L and 50.2 IU/mL, respectively). ECG showed sinus tachycardia, and the echocardiogram was normal. The child was examined by an ophthalmologist who confirmed right exophthalmos and recommended an orbit CT scan. Diagnosis of Graves’ disease (GD) was made. She was discharged with methimazole 2.5 mg twice daily (0.2 mg/kg/day) and propranolol 10 mg three times daily (1.4 mg/kg/day). At 10 days follow-up, ocular asymmetry was less marked. Thyroid function also improved (although TSH remained undetectable, free T4 was normal).

Discussion

Besides clinical manifestations of hyperthyroidism, GD is the most common cause of orbitopathy.[1] Graves orbitopathy (GO) is associated with significant morbidity leading to blindness in rare cases. Most patients present with bilateral disease. Asymmetry is an unexpected observation and may precede bilateral disease. It has been suggested that asymmetric GO is associated with older age and male gender. The explanation may be underlying asymmetry of the bony orbit or other local factors related to soft tissue anatomy, asymmetric distribution of inflammatory cells or shorter duration of symptoms.[2] Asymmetric GO may be an indicator of higher disease activity and severity.[3]

Conclusion

Since more active and severe diseases correlate with asymmetric GO, clinicians should be able to recognize this rare entity as timely detection may expedite referral to specialized services and facilitate further treatment.

Disclosure

The authors declare no conflict of interest.

Author contributions

ATR drafted and revised the initial manuscript. JB, DM, RA and ALL critically revised the manuscript for important intellectual content. All authors read and approved the final manuscript.

Consent for Publication:

Informed consent for publishing this case report was obtained from the patient’s mother.

References

