

## Marine Lenhart syndrome: A case report

<sup>1</sup>Ojo OA, <sup>1</sup>Ojo OE, <sup>1</sup>Ajiboye JK, <sup>1</sup>Junaid OA

<sup>1</sup>Federal Medical Centre, Owo, Ondo State, Nigeria

### Introduction

Marine Lenhart syndrome is a rare clinical condition where there are autonomous thyroid nodules coexisting with Graves disease. Prevalence is between 1-4.1% in patients with Graves disease. Patients have positive titres of thyroid autoantibodies and thyrotropin receptor antibodies with thyroid scan showing diffuse uptake with one or more hyper functioning nodules.

We report a case of diffuse goiter coexisting with multiple thyroid nodules.

### Case report

A 19-year-old male who was referred from the Ophthalmology clinic on account of staring gaze of 1 year, and an anterior neck swelling which was noticed 3 months before presentation.

Anterior neck swelling was initially about the size of his thumb but progressively increased in size. It was not painful, and there was no antecedent history of trauma to the neck. There was no history of dysphagia, voice changes or yellowness of the eyes.

There was a positive history of heat intolerance, weight loss despite increased appetite, irritability, restlessness, palpitations and hyperdefecation. No history of exposure to goitrogens or chronic drug use. Patient consumes iodized salt.

There was no history of polyuria or polydipsia. No discoloration of the skin.

There is no known family history of anterior neck swelling or similar swelling in anyone in the neighborhood.

On examination, patient was restless. The palms were warm and moist, with fine tremors of outstretched hands. He had bilateral lid retraction, lid lag and exophthalmos, right eye was 12mm and left eye was 10mm. There was anterior neck swelling which moved with swallowing but not with tongue protrusion. Swelling was firm, non-tender, nodular, not attached to underlying structures or overlying skin. No retrosternal extension or scalp swelling. No cervical lymph node enlargement. Pulse rate was 104bpm and regular.

Results of investigations revealed, free T3- 30.3(3.1-6.8) pmol/L, free T4 – 88.2 (12.0-22.0) pmol/L, sTSH – 0.01 (0.27-4.2) uIU/ml.

An assessment of toxic multinodular goiter was made, to rule out Graves' disease.

He was subsequently placed on tab carbimazole 15mg tds, tab propranolol 80mg bd and to return for follow up in 8 weeks with results of thyroid ultrasound scan, FBC+ESR, chest x-ray with thoracic inlet, anti TPO Ab, anti Tg Ab, TSHR Ab, and repeat free T3, freeT4 and sTSH.

On follow up visit, patient reported significant improvement in symptoms. He was calm on examination and pulse rate of 68bpm.

Results of investigations revealed PCV 36%, total WCC 4300/cmm<sup>3</sup>, neutrophils 42%, lymphocytes 58% and ESR of >150mm/hr. Thyroid USS showed diffusely enlarged thyroid gland with multiple nodules. Repeat thyroid function: free T3- 7.08 (3.1-6.8) pmol/L, free T4- 22.99 (12.0-22.0) pmol/L, sTSH- 0.01(0.270-4.20)uIU/ml.

Thyroid antibodies were markedly elevated; anti TPO Ab- 855.20 (0-35) IU/ml, anti Tg Ab- 420.0 ( up to 40) IU/ml, TSHR Ab- 27.13 (< 1.75) IU/L.

A final assessment of Marine-Lenhart syndrome was made. Patient is being planned for surgical intervention once thyroid function normalizes.

### Discussion and Conclusion

The coexistence of thyroid nodules with Graves disease is rare. Cakir M also reported a case of Marine Lenhart syndrome in Turkey in 2005. Activating thyrotropin receptor mutations have been found in toxic adenomas and in hot nodules in toxic multinodular goitre. Activity in toxic thyroid nodules may be further enhanced by TSH and TSH receptor antibodies. Thyroid nodules should be looked out for in Graves disease as this will influence the treatment of choice.

### References

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