

A Giant Euthyroid (Multinodular) Goiter: An Uncommon Entity

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ABSTRACT

The giant goiter is enormously a common endocrine abnormality and the interesting phenomenon of enlarged thyroid gland almost exclusively confined to regions of endemic goiter. Goiters can result from biosynthetic defects, iodine deficiency, autoimmune disease or nodular diseases and if left untreated can lead to some symptoms of dyspnea, dysphagia and hoarseness by compressing the trachea, esophagus, and recurrent laryngeal nerve respectively. A majority of patients with giant goiter frequently desire surgical excision for structural distortion (cosmetic) and social reasons. Some of them, however, experience repeated attacks of intercurrent respiratory tract infection which can complicate the postoperative prognosis and cure. About a fifth of giant goiter patients frequently present with acute respiratory distress that requires emergency surgical intervention like tracheostomy. The peri-operative management of this endocrine disease is both formidable and hazardous. The operative time is not merely larger than for a standard thyroidectomy but mortality can also be unacceptably high. Here, we present a case report of a giant euthyroid goiter found in a 70-year-old female patient. The patient underwent fine-needle aspiration cytology examination.

Key words: Goiter, iodine, multi-nodular, thyroid

ADVANCEMENT IN KNOWLEDGE


The only purpose of reporting this huge thyroid massive swelling case is to report so that clinical evaluation of any enlarged neck swelling should be thoroughly evaluated and not be overshadowed. Instead, it should always raise the possibility of a thyroid gland disorder particularly thyroid goiter or carcinomas and as a result, efforts should be made to arrive at a definite diagnosis and proper management. We as an author request to utilize this podium to raise a voice and recommend that iodination of salt/

flours program should be sustained by government and non-governmental organization (e.g., The National Iodine Deficiency Control Program and The National Fluorosis Control Program) together with accompanying public health education on the need to consume them as a mean of further reducing the incidence of this disease.

INTRODUCTION

Iodine is an essential micronutrient required for structural development and optimal functional activity of the central nervous system and thyroid gland.^[1] Iodine deficiency has been shown to be associated with endemic cretinism, endemic goiter and subcretinous mental subnormalities.^[1,2] Thyroid gland disorder are among the most common endocrine disorder occurs globally with an incidence of geographical variation and histopathological pattern

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related to age, sex, nutrition and environment-related factors. Goiter refers to an enlarged thyroid gland. Various causes of goiter include defects in thyroid hormone synthesis, iodine deficiency, autoimmune disease, and nodular diseases. Thyroid nodules may be solitary or multiple, and they may be functional or nonfunctional.^[2,3] Diffusely enlarged thyroid glands can cause compressive symptoms involving the trachea, esophagus, and recurrent laryngeal nerve. These symptoms are usually associated with malignant goiters, and benign nodular goiters do not normally cause obstructive symptoms.^[3,4] Thyroid gland enlargement usually produces a predominant extrathoracic obstruction causing inspiratory airflow obstruction, which could be demonstrated on spirometry.^[4-6] Computerized tomography scan and magnetic resonance imaging are better modalities in the diagnosis of thyroid disorders than ultrasonography for the estimation of thyroid gland volume and its relation to adjacent structures.^[7,8] Here, we present a case study of a giant endemic euthyroid multi-nodular goiter, with no obstructive or compressive symptoms.

CASE REPORT

A 70-year-old female patient reported to our outpatient department in which a massive neck swelling, which was accidentally seen which she used to cover with her sari (a garment). When the patient was being examined for unrelated symptoms, we were surprised to see such a huge massive neck swelling suggestive of thyroid disorder provisionally diagnosed was Goiter. When further queried she said to have it for last 30 years that had gradually increased in size. She had no symptoms related to it, and she had got used to having it. To avoid any discussion among peers she kept it wrapped in her sari. Patient had no coexistent morbidity, no history (surgical or medical), and no relevant family medical history (Figure 1).

The thyroid goiter in dimension was approximately 39 cm × 27 cm in its largest dimensions and displayed multidirectional enlargement. It was pendulous over the sternum, the lower border or edge of the goiter could not be palpated (which suggests being a substernal extension). Superiorly it was extending to the mandible and floor of the mouth. The goiter did not show mobility



Figure 1: Huge swelling

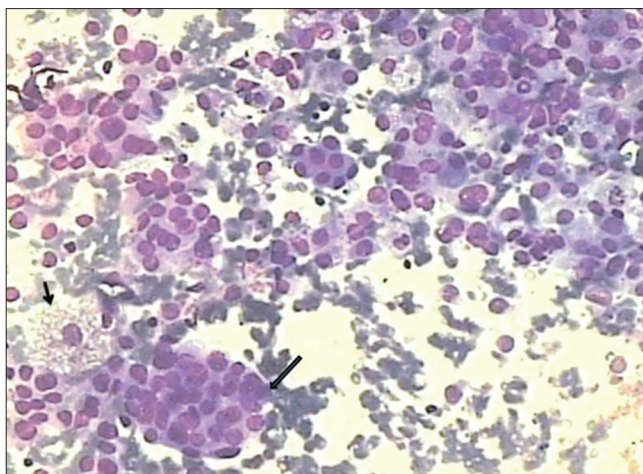


Figure 2: Abundant follicular cells in sheets and forming follicles (long arrow) along with foamy macrophages (short arrow) in hemorrhagic background

with deglutition. A thyroid hormone profile (thyroid function test) confirmed the euthyroid status of the patient. Keeping the possibility of malignancy, we further evaluated on ultrasonography, grossly enlarged thyroid with heterogeneous echotexture, small cystic areas and small specs of calcification were found. On 2 On fine-needle aspiration cytology (Figure 2) multinodular goiter with cystic degeneration was confirmed.. The patient declined any further evaluation and treatment due to economic status, and some personal problems mention by the patient. Now a days it has been demonstrated that in humans, effects on thyroid function are also associated with fluoride exposures of 0.05-0.13 mg/kg/day when iodine intake was adequate and 0.01-0.03 mg/kg/day when iodine intake was inadequate.^[9]

Recommended Guidelines

Guidelines from the American Association of Clinical Endocrinology's Task Force on Thyroid Nodules, 2006, for multinodular goiter recommend ultrasound to be used routinely for the diagnosis, to detect suspicious nodules requiring biopsy. This group recommends against use of suppression therapy in long-standing goiters.

CONCLUSION

In today's era few patients are still living with examples of some historical pathology. These presentations are

predominantly found in areas that are ignorant and unaware of diseases, suffering from a lack of primary health care services, as a result of social and economic problems. In the case mentioned above report, the patient's pathology was entirely preventive in origin. Such pathologies can be prevented if diagnosed and managed in the early stage. WHO has published guidelines to prevent iodine related disorders that are required to be followed in rural areas, for which awareness programs, camps, etc. can be conducted time to time to prevent such presentations. Apart from compressive symptoms they are unacceptable cosmetically too, so they should ideally be treated before they grow sub sternally, as any sudden growth in gland size which could seriously compromise with patient's life.

REFERENCES

1. WHO/UNICEF/ICCIDD. Assessment of Iodine Deficiency Disorders and Monitoring their Elimination. A Guide for Programme Managers. Geneva: WHO/NHD/2001/01.1; 2007.
2. Nada A, Mohamed Ahmed A, Vilallonga R, Armengol M, Moustafa I. A giant euthyroid endemic multinodular goiter with no obstructive or compressive symptoms. *Case Rep Med* 2011;2011:620480.
3. Ruppel GL, editor. Manual of Pulmonary Function Testing. 8th ed. St Louis: Mosby; 2003.
4. Bonnema SJ, Andersen PB, Knudsen DU, Hegedüs L. MR imaging of large multinodular goiters: Observer agreement on volume versus observer disagreement on dimensions of the involved trachea. *AJR Am J Roentgenol* 2002;179:259-66.
5. Jameson JL. Disorders of the thyroid gland. In: Harrison's Principles of Internal Medicine. 18th ed., Vol. 2. New York, NY: The McGraw-Hill Companies; 2012. p. 2930-1.
6. Clark H, Lal G. Thyroid, parathyroid, and adrenal. In: Brunicaudi FC, Anderson DK, Billiar TR, Dunn DL, Hunter JG, Poliack RE, editors. Schwartz's Principles of Surgery. 8th ed., Vol. 2. New York: The McGraw-Hill Companies; 2007. p. 37.
7. Hanks JB. Endocrine-thyroid. In: Townsend CJ, Beauchamp RD, Evers BM, Mattox KL, editors. Sabiston Textbook of Surgery. 17th ed. Sec. VIII Philadelphia: Elsevier Saunders; 2004. p. 34.
8. Clark OH, Caron NR. Endocrine surgery-fine needle aspiration biopsy of the thyroid: thyroid lobectomy and subtotal and total thyroidectomy. In: JEitor. Mastery of Surgery. 5th ed., Vol. 1. Philadelphia: Lippincott Williams & Wilkins; 2007. p. 34.
9. Committee on Fluoride in Drinking Water, Board on Environmental Studies and Toxicology, Division on Earth and Life Studies, National Research Council. Fluoride in Drinking Water: A Scientific Review of EPA's Standards Book. Washington, DC, USA: Academic Publishers, The National Academic Press; 2006. p. 263.

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