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Giant Papillary Thyroid Carcinoma with Extensive Cystic Changes: A Rare Case Report of A 20-Year Evolution

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Abstract: ***Papillary thyroid carcinoma (PTC) is the most common malignant thyroid neoplasm, typically presenting as a slow-growing neck mass. While cystic degeneration is common in thyroid nodules, giant PTC with extensive cystic changes is rare. We report a case of a 63-year-old female with a massive 20 cm neck mass that evolved over two decades. Despite its size, the patient remained asymptomatic. Following total excision, histopathology confirmed PTC with characteristic nuclear features and psammoma bodies. This case highlights the importance of clinical suspicion even in long-standing, asymptomatic thyroid masses.***

Keywords: Papillary Thyroid Carcinoma, Giant Thyroid Mass, Cystic Change, Case Report

1. Introduction

Papillary thyroid carcinoma (PTC) accounts for approximately 80-85% of all thyroid malignancies. It is characterized by its indolent growth and excellent prognosis. Cystic changes within thyroid nodules are frequently encountered, but they are often associated with benign goiters. However, up to 10% of cystic thyroid nodules may harbor malignancy, most commonly PTC. A "giant" thyroid mass is generally defined when it exceeds clinical norms, often weighing significantly or reaching dimensions over 10 cm. Such presentations are now rare due to early diagnostic interventions.

2. Case Presentation

Clinical History and Examination

A 63-year-old female presented to our surgical outpatient department with a massive, gradually enlarging mass in the anterior and left lateral aspect of the neck. The swelling had been present for 20 years. Remarkably, the patient reported no symptoms of pain, dysphagia, dyspnea, or hoarseness of voice. Ten years prior, she was advised to undergo surgical intervention but declined due to the absence of functional impairment. Her medical history was otherwise unremarkable with no history of radiation exposure.

On physical examination, a giant, multi-nodular mass measuring approximately 20×12×10 cm was observed (Image 1). The mass was non-tender and exhibited a soft to firm consistency. It moved slightly with deglutition. There was no evidence of venous congestion or lymphadenopathy in the accessible regions of the neck.

Diagnostic Workup

Thyroid function tests (T3, T4, TSH) were within normal limits.

- **Ultrasound:** Revealed a complex, multi-nodular mass with solid and cystic components, raising suspicion for a neoplastic etiology.
- **FNAC:** Fine-needle aspiration cytology showed micro-follicles and papillae formation, categorized as Bethesda Category IV (Follicular Neoplasm).
- **CECT:** Contrast-enhanced computed tomography of the neck revealed a 20×14×15 cm multiloculated cystic mass on the left side. Findings included central necrosis, peripheral enhancement, internal septations, and areas of fatty attenuation, strongly suggestive of a neoplastic process.

Surgical Management

The patient underwent an excision of the thyroid mass. Given the extensive size and adherence, the left internal jugular vein (IJV) and associated fibrofatty tissue were excised along with the mass under general anesthesia.

3. Pathological Findings

Gross Examination

The specimen consisted of a large, lobulated mass (Image 4). On cut section, the tumor exhibited a variegated appearance with large cystic spaces and solid areas (Image 3). Central necrosis and internal septations were visible, correlating with the CT findings.

Histopathological Examination

Microscopic evaluation revealed classic features of Papillary Thyroid Carcinoma:

- **Architecture:** Predominantly papillary projections with fibrovascular cores and extensive cystic changes (Image 2).
- **Nuclear Features:** The cells displayed characteristic "Orphan Annie eye" nuclei (clear, ground-glass nuclei), nuclear grooving, and overlapping.
- **Inclusions:** Psammoma bodies (concentric calcifications) were identified throughout the stroma.
- **Cellular Variants:** The presence of tumor giant cells was noted (Image 5 & 6).

4. Discussion

Giant thyroid masses are increasingly rare in modern clinical practice. In this case, the 20-year duration of the mass and the patient's asymptomatic status likely contributed to the delayed presentation. The presence of tumor giant cells and extensive cystic change in a mass of this magnitude is a significant finding. While PTC usually has a favorable prognosis, giant tumors pose surgical challenges due to their proximity to vital neurovascular structures, as evidenced by the necessity to sacrifice the internal jugular vein in this patient.

5. Conclusion

This case underscores that long-standing, asymptomatic, and predominantly cystic thyroid masses can harbor malignancy. Large dimensions do not always correlate with immediate compressive symptoms, but they necessitate aggressive surgical and pathological evaluation.

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