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Case Report

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Lindsay tumour

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ABSTRACT

The follicular tumours with nuclear features of papillary carcinoma are categorised as follicular variant of papillary thyroid carcinoma (FVPTC). They exhibit biologic and molecular properties that are different from conventional papillary thyroid cancer. Solid encapsulated follicular variant of papillary carcinoma of thyroid is termed as Lindsay tumour. Since they are encapsulated, they follow an indolent course. We present a case of Lindsay tumour in a 34-year-old female, who presented with swelling in the neck for six months. She had no other specific complaints. On local examination of her neck, there was a hemispherical swelling of size 6×5×2 cm, found in the midline which moves with deglutition. The swelling was firm in consistency and its surface was nodular. There were no palpable lymph nodes in the neck. The ultrasonogram of her neck revealed multinodular goitre. The fine needle aspiration cytology from neck swelling revealed colloid goitre with cystic degeneration. Her thyroid function tests were within normal limit. She was then, proceeded with total thyroidectomy. Her postoperative recovery was uneventful. Her histopathological report revealed an encapsulated follicular variant of papillary carcinoma of thyroid. She was then kept on half yearly follow-up with serum thyroglobulin. Therefore, this case provides an opportunity to review the encapsulated follicular variant of papillary carcinoma thyroid (Lindsay tumour) and its management.

Keywords: Encapsulated, Follicular, Lindsay, Papillary, Thyroid

INTRODUCTION

Most common histologic type of thyroid cancer is papillary thyroid carcinoma (PTC). Amongst the papillary cancers, the most common type is classical PTC (cPTC), accounting for 80%. The second most common type is follicular variant of PTC (FVPTC), accounting for 9-22.5%. Lindsay, in 1960 was the first to give the histological description of FVPTC, followed by Chen in 1977 and Rosai in 1983.[1-3] FVPTC contains nuclear features of PCT (nuclear clearing, grooves and pseudo inclusions) and a follicular growth pattern. The diagnosis of encapsulated FVPTC (EnFVPC) depends on the solid nature, its encapsulation and nuclear features of PCT. Though it is typically found arising within the thyroid gland, occurrence in other organs, including the ovaries in struma ovarii and lingual thyroid has been reported.[4,5] Rosai stated that for the diagnosis of EnFVPC, nuclear features of PCT needs to be displayed predominantly throughout the neoplasm.[6]

CASE REPORT

A 34 years aged female with chief complaints of swelling in the neck (Figure 1) for the past six months. She had no other specific complaints. On examination, there was a hemispherical swelling of size 6×5×2 cm, found in midline of the neck, which moved with deglutition and not with protrusion of tongue. It was firm in consistency and its surface was nodular. There were no palpable neck nodes. Ultrasonogram revealed enlarged left lobe of thyroid with multiple heteroechoic lesions, largest measuring 1.5×1 cm noted in both the lobes. Fine needle aspiration cytology (FNAC) revealed colloid goitre with

cystic degeneration (Bethesda category-2). Patient's thyroid function test was within normal limits. We planned to proceed with total thyroidectomy for the patient. Intraoperatively, we noticed dense adhesions between the thyroid and surrounding structures. Meticulous dissection was carried out and thyroid specimen was delivered in toto (Figure 2). Post-operative period was uneventful. The cut surface of gross specimen revealed single well circumscribed encapsulated nodule measuring 5×4×3 cm, filled with colloid and focal grey white areas. Section from grey white nodule in the largest lobe showed a neoplasm composed of closely packed follicles and clusters lined by cuboidal cells with nuclear overlapping, nuclear grooving and ground glass appearance. No well-formed papillae were made out. The neoplasm is separated from the rest of parenchyma by a thick fibrous capsule. No evidence of capsular or vascular invasion was noted. Thus, a diagnosis of encapsulated follicular variant of papillary thyroid cancer (Lindsay tumour) was made. She was then advised half yearly follow-up with serum thyroglobulin.

Figure 1: Preoperative picture.

Figure 2: Post total thyroidectomy specimen.

DISCUSSION

Most FVPTC are capsulated, which are difficult to distinguish cytologically from benign follicular lesions like follicular adenoma. A study of immunomarkers, galectin-3, cytokeratin 19, RET oncoprotein, and HMBE-1 have a high utility in differentiating benign lesions from malignant tumours.[7]This is reinforced by several studies which have demonstrated considerable interobserver variability in diagnosis of FVPTC.[8,9] There is also a non-encapsulated type of FVPTC (NFVPTC). These subtypes are distinct clinically and genetically. Liu et al showed that EFVPTC rarely exhibited lymph node metastases (5%), while NFVPTC was associated with lymph node metastases in 65%.[10] Most EFVPTC behave like follicular thyroid adenoma (FTA) or follicular thyroid carcinoma (FTC), while NFVPTC behaves like classical PCT. Rivera et al examined the oncogenic mutations in EFPVTC and NFVPTC.[11]They found that EFVPTC was similar to FTA and FTC, with 36% RAS mutations and no BRAF mutations. NFVPTC was similar to classical PCT. with 26% BRAF mutations and only 10% RAS mutations. Simoes et al described the diffuse follicular variant of PCT (diffuse FVPTC).[12] This occurred in females with multinodular involvement of one or both lobes of the gland Ivanova et al. found that diffuse FVPTC had increased local, nodal, vascular invasiveness, compared to other types of FVPTC.[13] Patients with EFVPTC can be managed with total thyroidectomy alone. Patients with NFVPTC and diffuse FVPTC should be managed with total thyroidectomy, central neck node dissection and RAI ablation.

CONCLUSION

EFVPTC-Lindsay tumour is a rare tumour of thyroid that carries low risk of metastasis and favourable prognosis. Because of the absence of lymph node metastases in patients with EFVPTC, more limited surgery should be considered. The need for radioactive iodine (RAI) ablation should also be reconsidered. The risk of completion thyroidectomy and RAI ablation outweigh the benefits in these patients.

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