

Papillary Carcinoma Which Arises in the Thyroglossal Duct Cyst: A Rare Case Report

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ABSTRACT

Carcinoma which arises in the thyroglossal duct cyst is a very rare; about 215 cases have been reported worldwide. We wish to report one such case of papillary carcinoma of the thyroglossal

duct cyst in a 20 year old female. In a majority of the cases, the diagnosis can be established only after the excision and the histopathological evaluation of the clinically benign thyroglossal duct cyst, as it happened in our case.

Key Words: Thyroglossal duct cyst, Cancer, Pathology

INTRODUCTION

Thyroglossal duct cyst (TGDC) is the most common congenital anomaly of the thyroid gland [1-5]. It arises from the epithelial remnants of the thyroglossal tract. About 1% of the TGDC cases can be malignant, but it is rarely diagnosed pre-operatively. It is believed that the TGDC carcinoma arises from the thyroid tissue remnants which are located in the TGDC [3]. Papillary carcinomas account for 85-92% of all the TGDC carcinomas [5]. They have a relatively non-aggressive behaviour and a rare lymphatic spread [5]. In the literature, about 215 cases of TGDC carcinomas have been reported [6]. We wish to report one such case in a 20 year old female

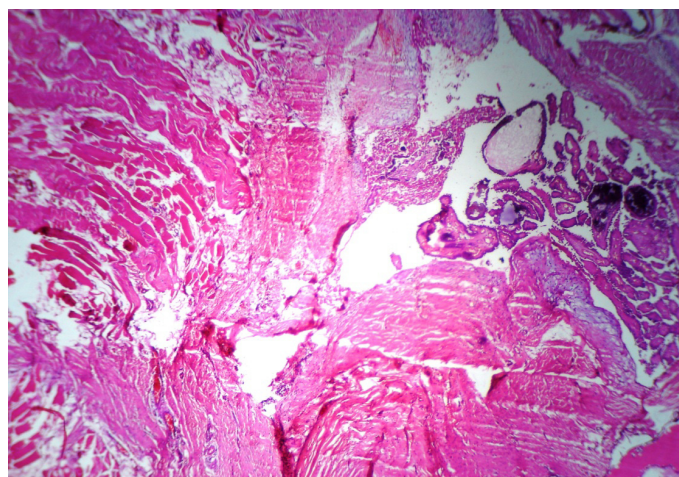
CASE REPORT

A 20-year old female presented with a painless mass in the anterior part of the neck of 6 months duration. She did not have similar kind of swelling during her childhood. She didn't have dysphagia or hoarseness of voice. Her physical examination revealed a 4 x 4cm mass on the anterior part of the neck between the thyroid cartilage and the hyoid bone. It was firm and it had moved up with deglutition and with protrusion of the tongue. The routine blood investigations and thyroid function tests were within the normal limits. A cervical USG showed a complex cystic mass, without any cervical lymphadenopathy or thyroid gland abnormality. The Fine Needle Aspiration Cytology features were suggestive of a benign thyroglossal duct cyst. An exploration was done through a transverse skin crease incision. There was a complex cystic mass of size, 4 x 4 cms deep to the strap muscles. It was lying above the thyroid cartilage and it was adherent to the central portion of the hyoid bone. The thyroid gland was found to be normal. The mass, the central portion of the hyoid bone and the remnant of the thyroglossal duct were removed enbloc (Sistrunk's procedure). The histopathology of the resected specimen revealed a papillary carcinoma which arose from the TGDC and the resected margins were free from tumour. She received thyroid suppression therapy as an adjuvant treatment. A regular post-operative follow up was conducted every 3 months, for one year. During the follow up, USG and clinical examination didn't reveal local recurrence, enlarged

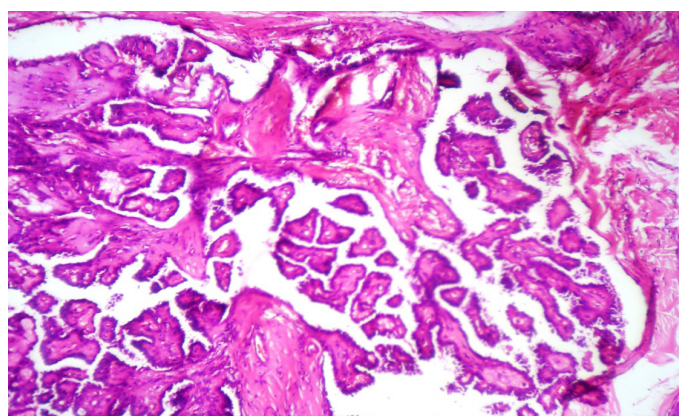
lymph nodes or any changes in the thyroid gland.

DISCUSSION

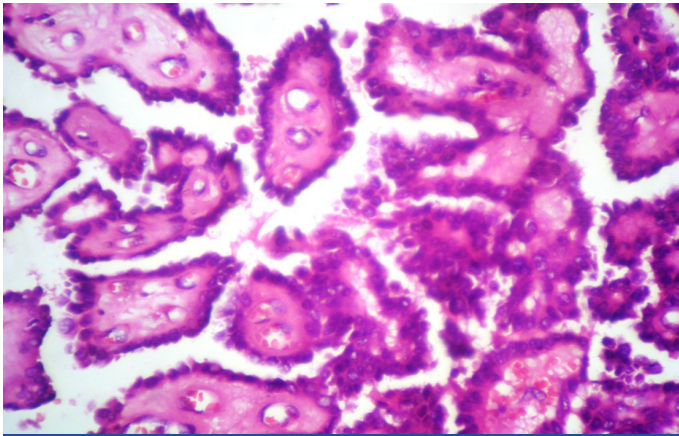
The thyroglossal duct cyst (TGDC) is one of the common cystic swellings which are seen in the anterior aspect of the neck, which arise from the remnants of the thyroglossal tract. They are usually painless and smooth swellings, lying in the region of the hyoid bone



[Table/Fig-1]: Microscopic features of papillary carcinoma of TGDC under low power



[Table/Fig-2]: Microscopic features of papillary carcinoma of TGDC under high power



[Table/Fig-3]: Microscopic features of papillary carcinoma of TGDC under high power

and move upward with the swallowing and protrusion of the tongue. Generally, they are benign, but about 1% of them are malignant neoplasms [2, 5]. Previously, it was thought that TGDC carcinoma was secondary to the metastasis from the thyroid gland carcinoma [3]. But now, it is believed that the TGDC carcinoma arise from the thyroid tissue remnants located in the cyst itself [3]. In the literature, about 215 cases have been reported [6] The first case was reported by Uchermann in 1915 [2]. The TGDC carcinoma usually presents as a asymptomatic neck swelling and the diagnosis is made most often after the excision and the histopathological examination of the specimen [3, 6, 7]. But, a rapid increase in the size, fixation, the history of radiation exposure and the presence of cervical lymphadenopathy strongly suggest a malignant transformation [3]. Papillary carcinoma is the commonest malignancy which is found in the TGDC (80%) [8,9], followed by follicular or papillary follicular carcinoma (9%), squamous cell carcinoma (5%), adenocarcinoma (2%), anaplastic tumours (1%) and others (3%) [3]. In about 14% of the cases, there may be microscopic papillary carcinoma in the thyroid gland [3]. A local invasion rarely occurs (4%) [4, 5], while metastasis in the cervical lymph nodes is present in 11% of the cases [4].

Fine Needle Aspiration Cytology and the imaging modalities like USG, CT and MRI are useful preoperative diagnostic procedures. The presence of a solid component and calcification in the TGDC should raise the suspicion of malignancy; calcification appears to be the specific indicator of papillary carcinoma [3]. In our case, the USG didn't reveal any calcification. If the carcinoma has not invaded

beyond the cyst wall, a simple complete excision of the cyst by using Sistrunk's procedure is adequate [3]. A capsular invasion, however, warrants a wider excision of the surrounding tissue [3]. Thyroidectomy should be considered if the thyroid gland exhibits changes clinically or radiologically, or if a history of radiation to the neck is present [3, 4, 10]. Neck dissection is recommended if there are suspected or positive lymph nodes [3, 4, 10]. Suppressive therapy is recommended for the TGDC carcinomas [3]. The results of adequate excision by using Sistrunk's procedure have been found to be excellent [10].

CONCLUSION

The TGDC carcinomas are very rare. They should be suspected when they exhibit a solid component and calcification on imaging. Surgical excision by using Sistrunk's procedure gives good results.

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