Primary cavernous hemangioma of the thyroid

**Meryem Ilkay Eren Karanis, Arif Atay, Ilknur Kucukosmanoglu,
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ABSTRACT

Introduction: Hemangiomas are common benign vascular tumors. Primary thyroid cavernous hemangiomas are extremely rare and have been reported only as case reports in literature. In this report, a case with thyroid cavernous hemangioma was reported.

Case Report: A 45-year-old female with history of enlarging anterior neck mass referred to our clinic. Ultrasonography showed a single hypoechogenic nodule in the right lobe of the thyroid. Right hemi-thyroidectomy was performed and cavernous hemangioma was diagnosed.

Conclusion: Preoperative differential diagnosis thyroid hemangioma is very difficult. Surgery should be indicated when malignancy or cavernous hemangioma is suspected or compressive symptoms developed and it provides a good prognosis.

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CASE REPORT

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Keywords: Cavernous hemangioma, Nodular goiter, Thyroid, Vascular tumor

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INTRODUCTION

Hemangiomas are common benign vascular tumors composed of blood vessels of various size lined by plump to flattened endothelial cells with no atypia [1]. Cavernous hemangiomas are common in children and adults and tend to invade the upper half of the body and mostly seen in cutaneous tissue, and it can be located in the deep soft tissue and in organs. Primary thyroid cavernous hemangiomas are very rare and have been reported in limited case reports [2]. Secondary hemangioma may occur as a result of repeated fine-needle aspiration biopsy (FNAB) [3].

Herein, we report a case with primary thyroid cavernous hemangioma.

CASE REPORT

A 45-year-old female was referred to our clinic with enlarging anterior neck mass for six months. She had no compressive symptoms, history of trauma, previous fine-needle aspiration biopsy or other invasive neck procedures. There was no family history of thyroid diseases. On physical examination, hard, painless, mobile mass was detected in thyroid region. Serum thyroid stimulating hormone and free T4 levels were normal, and no antithyroid antibodies were detected. Ultrasonography (USG) showed a single hypoechoic mass in the right lobe of the thyroid with a size of 41x60x65 mm in diameter. There were neither abnormal findings in the left lobe nor

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in cervical lymph nodes. Right hemithyroidectomy was performed and macroscopically; 5.5 cm in diameter, well-circumscribed encapsulated nodular lesion was extracted. Cross-sectional surface of nodular lesion was hemorrhagic in most areas, with patchy areas of fibrosis and myxoid change (Figure 1). Touch imprint method was applied to the nodular lesion and microscopically, intensive blood cells, and some small number of swollen endothelial cells were seen (Figure 2). On histopathology; the nodular lesion was composed of large, cystically dilated, anastomosing blood vessels that were filled with blood cells and lined by flat endothelium without atypia (Figure 3) and degenerative areas were also seen. Endothelial cells stained with immunohistochemical CD34 stain (Figure 4). As a result, primary cavernous hemangioma of the thyroid was diagnosed.

The patient was discharged from the hospital two days after surgery with no signs of complications. The patient currently remains asymptomatic 10 months after the operation.

Figure 1: Macroscopic appearance of the thyroid cavernous hemangiomas: Well-circumscribed nodular lesion with hemorrhagic cut surface in most areas, irregular areas of fibrosis and myxoid change.

Figure 2: Intensive blood cells and only very small number of swollen endothelial cells in touch imprint preparations (H&E stain, x50)

Figure 3: Microscopic appearance of the thyroid cavernous hemangiomas: Large, cystically dilated, anastomosing blood vessels in the right part of the picture and thyroid follicles in the left part of the picture (H&E stain, x50)

Figure 4: Immunohistochemical CD34 positivity in endothelial cells (CD34, x50).

DISCUSSION

Hemangiomas are one of the most common soft tissue tumors. They are benign and composed of various sized blood vessels, lined by plump to flattened endothelial cells with no atypia. Cavernous hemangiomas are common in children and adults. Cavernous hemangiomas tend to hold the upper half of the body and mostly seen in cutaneous tissue, else it can be located in the deep soft tissue and in organs [1].

Primary cavernous hemangiomas of the thyroid are very rare. In most cases, thyroid gland hemangiomas may be considered as a consequence of vascular proliferation that follows the organization of a hematoma after a trauma or FNAB and such hemangiomas of the thyroid are named secondary thyroid hemangioma. [3]. Primary thyroid hemangiomas are considered to be

a developmental anomaly [4]. A few cases of primary cavernous hemangioma of the thyroid gland have been reported [5]. We evaluated the case as primary thyroid cavernous hemangiomas because there are no history of trauma, previous FNAB or other invasive neck procedures.

Primary thyroid hemangiomas mostly seen as asymptomatic cervical mass. In the presence of intra-tumoral bleeding, fast growing masses could also be seen [6]. Most of the reported thyroid hemangiomas are located in left lobe, and are slightly higher in males [2]. Our case is women and the tumor was located in the right lobe of the thyroid.

Due to no specific pathognomonic findings on USG, and FNAB or computed tomography, diagnosis of cavernous hemangioma of the thyroid mostly cannot be made preoperatively. It is suggested by Shpitzer et al., that magnetic resonance imaging, single photon emission computed tomography, digital subtraction angiography and red blood cell scans can be useful for the preoperative diagnosis of hemangiomas [7]. Though, these methods are not used routinely because of their high cost and inaccessibility [8]. Most of the published cases, were able to get diagnosed by histopathologic examination after surgery [9].

In thyroid hemangiomas, FNAB provides intensive blood cells and are insufficient for diagnosis. Although not useful in the diagnosis of thyroid hemangiomas, FNAB is recommended for excluding of the other thyroid tumors [2].

If a thyroid nodule is suspicious for malignancy or there is presence of signs of compression, surgical treatment is proposed. Total thyroidectomy or hemithyroidectomy could be carried out for the treatment [10]. Surgical treatment provides a good prognosis at thyroid hemangiomas.

CONCLUSION

In conclusion, primary cavernous hemangioma of thyroid is quite rare and benign. Preoperative differential diagnosis is very difficult. Surgery should be indicated when malignancy or cavernous hemangioma is suspected or compressive symptoms developed and it provides a good prognosis. A definitive diagnosis can only be achieved by postoperative histopathological evaluation.

Author Contributions

Meryem Ilkay Eren Karanis – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Arif Atay – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Ilknur Kucukosmanoglu – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Cevdet Duran – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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