2018

www.jmscr.igmpublication.org Impact Factor (SJIF): 6.379 Index Copernicus Value: 71.58 ISSN (e)-2347-176x ISSN (p) 2455-0450 crossref DOI: _https://dx.doi.org/10.18535/jmscr/v6i4.186



Journal Of Medical Science And Clinical Research An Official Publication Of IGM Publication

Case Report

Hasimoto's Thyroiditis with Micropapillary Carcinoma of Thyroid

Authors

T.Arivazhagan¹, G. Ridhi², P. Divya³, P. Viswanathan⁴, U. Manohar⁵

¹IInd Year Post Graduate, Department of Pathology, Rajah Muthiah Medical College, Annamalai University, Email: *drtarivu@gmail.com*

²IInd Year Post Graduate, Department of Pathology, Rajah Muthiah Medical College, Annamalai University ³Ist Year Post Graduate Department of Pathology, Rajah Muthiah Medical College, Annamalai University ^{4,5}Professor, Department of Pathology, Rajah Muthiah Medical College, Annamalai University

Abstract

Hashimoto's thyroiditis is the most common cause of hypothyroidism. This has a specific feature of autoimmune mediated thyroid failure which is gradual in onset. This is often associated with goiter development. Females are more likely to get commonly affected than the males (7times more common). Papillary thyroid carcinoma is the most common carcinoma of thyroid, 2.5 times more common in females then males. Papillary micro carcinoma is common variant of the papillary carcinoma of thyroid. It is defined as when the lesion are 1 cm or less in diameter. Though it is small in size sometimes it can identified in fine needle aspiration specimen itself.

Keyword: Hashimoto's thyroiditis, Micro papillary carcinoma of thyroid.

Clinical History

26 years old female had a complaint of swelling in the anterior aspect of the neck for the past 10 years of duration. Patient also had complaint of coarseness of voice for 1 month duration. Swelling was insidious in onset not progressive in nature. Also the patient is a known case of hypothyroidism of 10 years duration with history of irregular medication.

Introduction

Hashimoto's thyroiditis manifestation of an organ specific immune mediated inflammatory disorder generically designated as autoimmune thyroiditis. Itis characterized by production of autoantibodies that alter the normal thyroid function. Some authors say lymphocytic thyroiditis and Hashimoto's thyroiditis are synonymous.

Hashimoto's thyroiditis also known as Struma lymphomatosa. It is predominantly seen in females. The prevalence ratio from 5 to 20:1¹; usually present as firm diffuse enlargement of the gland, sometime associated with signs of tracheal or esophageal compression. The patient initially present with mild hyperthyroidism and later proceed to the status of hypothyroidism.

Papillary carcinoma of thyroid is also a common neoplasm in the thyroid malignancies like Hashimoto's thyroiditis. It account for 70 - 80%of all thyroid carcinoma¹. The prevalence ratio in male's vs female's range from 2.5to 4:1.

JMSCR Vol||06||Issue||04||Page 1140-1143||April

2018

The relationship between these two diseases were first proposed by Dailey, *et al.* in 1955⁴. It was highly debated in the initial period about the relationship between these two conditions and is controversial. Okayasu, *et al* studies showed 11-36% of the Hashimoto's thyroiditis patients were having papillary carcinoma of thyroid⁵.

Macroscopy

Specimen received in 2 containers.

Container- I Labelled as right thyroid has a single grey black grey brown soft tissue piece measures 4.5x2.5x1cm (Figure1). On cut section a solid white area measures 0.5cm in diameter (Figure 2). A grey well circumscribed nodule of 3 mm in diameter was observed which was sampled.

Container -II Labelled as right thyroid tissue has multiple grey white soft tissue pieces altogether measuring 0.1 ml in aggregate.



Figure 1:Single grey black grey brown soft tissue piece measuring 4.5x2.5x1cm



Figure 2: On cut section solid white areas with a central distinguished vaguely circumscribed area measuring 0.5cm in diameter



Figure 3:Vaguely circumscribed area measuring 0.5cm in diameter.

Microscopy

Sections studied reveal thyroid tissue where the entire tissue is infiltrated with cells of lymphoid series which forms aggregates and follicles with germinal centers (Figure6). Most of the thyroid follicles are compressed and devoid of colloid; few follicular cells show Hurthle cell changes. thyroid follicles. Amidst the а vaguely circumscribed lesion composed of follicular cells with clear cytoplasm and nuclei with indundations which are arranged in nodules which tend to form glandular pattern and papillary configuration (Figure 4, 5). The lesion is traversed by fibro collagenous tissue.



Figure 4: 4x Vaguelycircumscribed lesion composed of follicular cells with clear cytoplasm and nuclei with indundations; arranged in papillary configuration.



Figure 5:4x Vaguely circumscribed lesion arranged in nodules which tend to form glandular pattern and papillary configuration.

JMSCR Vol||06||Issue||04||Page 1140-1143||April



Figure 6: 4xThyroid tissue where the entire tissue is infiltrated with cells of lymphoid series which forms aggregates and follicles with germinal centers

Discussion

Initially Dailey, et al. in 1955⁴ said about the relationship between these two diseases but it was a bit controversial at that time. Later onwards the incidental association between these two diseases increasingly recognized. had been Daniel Repplinger studies said 63 patient had coexisting papillary carcinoma of thyroid out of 217 patient who had Hashimoto's thyroiditis¹. And this study give satisfactory result that females are more prone to have coexisting lesion than males. This study also found the relationship with goiter is low with papillary thyroid carcinoma than in the hashimoto's thyroiditis¹; however the causative relationship between these diseases is unclear. There are some proposed mechanism available in the literature along with some attempt to explain it. For example Wirtsch after, et al. described expression of the RET/PTC1 and RET/PTC3 oncogenes in Hashimoto's patients⁹. Arif, et al. also supported this hypothesis, demonstrated both diseases have similar immunohistochemical staining, morphological features and molecular profile in regards to the RET/PTC gene rearrangement⁷. In addition, Unger, et al. found expression of p63 in Hashimoto's patients with papillary thyroid cancer⁸. This was further examined by Burstein, et al. who proposed that two diseases are both initiated by pluripotent p63positive stem cell remnants. 30 % of increased risk had been identified in females with Hashimoto's thyroiditis who can develop papillary carcinoma of thyroid when compared to those who do not have Hashimoto's thyroiditis¹. Thus, it is plausible to assume that Hashimoto's thyroiditis and Papillary thyroid carcinoma may be associated diseases.

Conclusion

The diagnosis of papillary micro carcinoma of thyroid is more frequently done by the availability of the ultra-sonogram and fine needle aspiration cytology methods. The prognosis is excellent in the micro papillary carcinoma of thyroid. Lobectomy is sufficient for majority of the cases. There is no need of TSH suppression therapy and radioactive iodine ablation for the remaining tissues. However the concern of high recurrence rate of 99.5% the regular follow up mandatory for the papillary carcinoma of thyroid.

References

- Repplinger, D., Bargren, A., Zhang, Y. W., Adler, J. T., Haymart, M., & Chen, H. (2008). Is Hashimoto's Thyroiditis a Risk Factor for Papillary Thyroid Cancer? *Journal of Surgical Research*, 150(1), 49-52. DOI: 10.1016/j.jss.2007.09.020
- Rosai and ackerman's surgical pathology, 2012 volume 1 10th edition page no :504-513
- Bloodworth, JMB.; Lechago, J.; Gould, VE. Bloodworth's endocrine pathology. Baltimore, Md:Williams & Wilkins; 1997. The thyroid; p. 178-181.p. 197-206
- 4. Dailey ME, Lindsay S, Skahen R. Relation of thyroid neoplasms to Hashimoto disease of the thyroidgland. AMA Arch. Surg 1955;70:291-297.
- Okayasu I, Fujiwara M, Hara Y, Tanaka Y, Rose NR. Association of chronic lymphocytic thyroiditisand thyroid papillary carcinoma. A study of surgical cases among Japanese, and white and

JMSCR Vol||06||Issue||04||Page 1140-1143||April

African Americans. Cancer 1995;76:2312–2318.

- PinoRivero V, Guerra Camacho M, Marcos Garcia M, Trinidad Ruiz G, Pardo Romero G, Gonzalez Palomino A, Blasco Huelva A. The incidence of thyroid carcinoma in Hashimoto's thyroiditis. Our experience and literature review. An Otorrinolaringol. Ibero. Am 2004; 31:223– 230.
- Arif S, Blanes A, Diaz-Cano SJ. Hashimoto's thyroiditis shares features with early papillary thyroidcarcinoma. Histopathology 2002;41:357–362.
- Unger P, Ewart M, Wang BY, Gan L, Kohtz DS, Burstein DE. Expression of p63 in papillary thyroidcarcinoma and in Hashimoto's thyroiditis: a pathobiologic link? Hum. Pathol 2003; 34:764–769.
- Wirtschafter A, Schmidt R, Rosen D, Kundu N, Santoro M, Fusco A, Multhaupt H, Atkins JP, Rosen MR, Keane WM, Rothstein JL. Expression of the RET/PTC fusion gene as a marker for papillarycarcinoma in Hashimoto's thyroiditis. Laryngoscope 1997;107:95–100.