Case Reports

Intrathyroid lymph node tissue in multinodular goiter in an Egyptian female

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ABSTRACT

We report a case of an incidental finding of intrathyroid lymph node tissue in a 40-year-old Egyptian female presenting with multinodular goiter. Collections of lymphoid tissue surrounded by capsule and mature fat cells were seen enclosed by normal thyroid follicles. Heteroplasia or deviation of the normal anatomy of the cervical lymph node groups may explain the presence of this lymphoid tissue.


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The development of lymphoid organs can be viewed as a continuum, since lymph nodes and spleen represent secondary lymphoid organs. Cellular accumulation arising during chronic inflammation represents ectopic or tertiary lymphoid organs that develop by the process of lymphoid neogenesis. Genetic preprogramming and pre-patterning affect the development of secondary lymphoid organs, whereas various environmental factors influence the development of tertiary lymphoid organs, that are not restricted to specific developmental or anatomical locations. 1 Ectopic lymphoid follicles, with or without germinal center formations were seen in many conditions and different locations, as in an autoimmune thyroid disease (Hashimoto’s thyroiditis), 2 in salivary glands of patients with Sjögren’s syndrome, 3 in the thymus of patients with Myasthenia gravis 4 and in the synovial membrane of patients with rheumatoid arthritis. 5 Beside autoimmune syndromes, chronic infections such as Helicobacter pylori 6 and hepatitis C 6 can also be associated with the formation of ectopic lymphoid follicles. Armengol et al 7 reported the structural characteristics and functional competence of the ectopic germinal centers in autoimmune thyroid diseases. By immunohistochemistry, they had viewed the intrathyroid ectopic lymphoid follicles as analogs of follicular structures found in secondary lymphoid tissues, and could be positive to the 2 major thyroid autoantigens (thyroglobulin and thyroidal peroxidase). The present study describes a rare case of intrathyroid lymph node to explain its origin, and the significance of its presence.
tissue exhibited the picture of nodular hyperplasia (multinodular goiter).

**Discussion.** The evolutionary association between thyroid gland and lymph node was recalled. The presence of thyroid tissue in lymph node was reported in the literature as a type of epithelial like inclusion. However, to our knowledge, no report mentioned the presence of intrathyroid lymph node as a part of cervical lymph node group, similar to that commonly seen in the parotid gland. The presence of this lymph node in our case could be explained by an aberrant differentiation of local tissue that is, a heteroplasia, which means different in Greek. Many reports showed the presence of heterotopic tissues in the thyroid gland as salivary gland tissue, ectopic parathyroid, and lipomatous lesions.

On the other hand, the ectopic thyroid tissue is a more common event, which is mostly seen in the midline along the pathway of the thyroglossal duct. In such situations, ectopic thyroid tissue may be present in addition to the normal thyroid gland, or the ectopic tissue may be the only thyroid gland present. Ectopic thyroid tissue was described in many locations including parotid salivary gland and submandibular region. The question is, could this lymph nodal microstructure be just some kind of lymphocytic infiltrate, like that seen in multinodular goiter as a reflection of an immunologic response? But, the process could not be simply lymphocytic infiltrate, as it is a well-defined lymphoid microstructure surrounded by a capsule, and embedded in mature fat. Also, it could not be an autoimmune Hashimoto thyroiditis, as the aggregate is localized neither diffusely infiltrating, nor destroying the surrounding thyroid tissue. So, we claim that our case represents true lymph node structure embedded deeply in the thyroid gland. By reviewing the literature, our report may be the first one mentioning this observation. Co-parallel with intraparotid lymph node, the significance of our finding focused on that any pathology could affect this lymph node primarily will lead to an enlargement of the thyroid gland subsequently, whereas no parenchymatous lesion will be found in the thyroid itself. Castleman's disease, for example had been reported in the parotid originating from the intraparotid lymph node. Furthermore, the involvement of lymph node with metastasis either originating from the adjacent thyroid or elsewhere could raise the anatomical and oncological importance of these lymph nodes. Moreover, the interpretation of lymphocytic aspirate of FNAC of the thyroid, which is a common practice, could be wrongly directed towards thyroiditis or even lymphoma. So the alertness of the presence of this group of lymph node could be important, however, more cases need to be detected.

**References**


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