Case Report

A 40 year old lady who was four months postpartum, presented with a neck swelling and clinical and biochemical features consistent with postpartum thyroiditis. She had a family history of autoimmune thyroid disease. She underwent an ultrasound which showed features of diffuse thyroiditis and some nodules in the isthmus. An ultrasound-guided fine needle aspiration (FNA) biopsy of an isthmus nodule was undertaken which was reported as a follicular neoplasm (Thy 3f; corresponding Bethesda classification 4). Given that Thy 3 cytology carries a risk of malignancy at 9.5-40% and in accordance to the British Thyroid Association guidelines she was listed for diagnostic isthmusectomy [1]. The patient was referred to our hospital for a second opinion. At the time of review, she had been on thyroxine replacement therapy for approximately one month and was clinically and biochemically euthyroid and the anterior neck swelling had clinically improved. Thyroid peroxidase (TPO) antibodies were negative. A thyroid ultrasound was repeated which showed a diffusely and markedly hypoechoic, heterogeneous thyroid gland with a lobular outline that was consistent with chronic lymphocytic thyroiditis (CLT) (Figures 1-3). There were three small benign-appearing pretracheal lymph nodes and several others inferior to the lower pole of the thyroid gland (level 6). Indeed, the isthmus 'thyroid nodule' that was previously biopsied was noted to be the extra-thyroidal isthmus lymph nodes in close proximity to the thyroid. The patient was subsequently discussed in a thyroid nodule and cancer regional multidisciplinary team (MDT) meeting. A joint decision was taken by the MDT that surgery was unwarranted, but that the patient ought to be actively monitored clinically and radio logically. Indeed, a follow-up ultrasound scan about seven months after her original presentation to our services revealed on-going appearances of CLT with persistence of small reactive-looking lymph nodes in close proximity to the thyroid gland (Figure 4). Again we could not identify any concerning thyroid nodules or any other sonographic features suggestive of malignancy and hence no FNA was required.

Discussion

Given that we could not identify any thyroid nodules in the...
sonographic features of chronic lymphocytic thyroiditis (CLT) are well recognised and include the following: heterogeneously hypoechoic gland with a pseudomicronodular (‘swiss cheese’ or ‘honeycomb’), or pseudomacronodular pattern and occasionally profoundly hypoechoic appearances without nodules [2,3]. Late in the natural history of CLT there may be fibrous replacement of the gland that can be reflected sonographically as hyperechoic and heterogeneous or, even speckled appearances and, ultimately, a small atrophic and hypovascular gland [2,3] and biochemically by the development of overt hypothyroidism. Pseudonodular appearances may be confused in ‘less experienced hands’ with a multi-nodular goitre [2,3] but other sonographic features together with the clinical picture should guide to the correct impression. Diffuse heterogeneity, cyst with colloid clot, spongiform configuration and ‘giraffe pattern’ have previously been reported to confer 100% specificity for benign nodules in the landmark article by Bonavita et al. [4], and biopsy-avoidance is recommended when these features are present. Reactive lymph nodes are almost universally found in CLT; they are commonly found at levels III and IV [5], as well as in the pre- and para-tracheal region [6]. Given the higher prevalence of papillary thyroid cancer in CLT, such lymph nodes need to be distinguished from malignant lymph nodes using the same sonographic criteria as per patients without CLT [2,3,5]. Features such as presence of an echogenic hilum, oval shape with a short-to-long axis ratio of less than 0.5, hilar vascularity (as opposed to peripheral or chaotic vascularity), and absence of calcifications and cystic necrosis are consistent with benignity.

This case emphasizes the need to be well aware of sonographic aspects of CLT and always correlate the clinical, biochemical and radiological characteristics in order to diagnose CLT. Reactive lymph nodes in close proximity to the isthmus are common in CLT and can easily be mistaken for thyroid nodules, potentially leading to unnecessary investigations and treatment, and patient anxiety. A limitation to our study is that the FNA was not repeated but given the lack of any suspicious features on sonography when this patient presented to ourselves and on follow-up imaging, the consensus reached by our very experienced MDT, and patient preference factors, we believe that further FNA could not be justified.

We propose that whenever uncertainty exists one approach is to radiologically follow the lesion in question. This allows for assessment of development of any new concerning morphological
features or change in the dimensions of a lesion. The relevant time lag may also allow for the inflammation to ameliorate in line with the natural history of the disease. Moreover, evidence exists to suggest that thyroxine replacement therapy may have a beneficial effect in the clinical course of the disease and the antibody titer [7].

Finally, when thyroid FNA samples are sent for cytology it is prudent to inform the cytopathologist of whether there is underlying thyroiditis as it is not uncommon for thyroid nodules to be misdiagnosed as Thy 3a and 3f (Bethesda classification stage 3 and 4) in the presence of CLT.

Conclusion

In summary, reactive lymph nodes in CLT are common and can be mistaken with thyroid nodules because of their close proximity with the thyroid gland.

References

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