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Cytological Atypia in a Thyroid Treated with Carbimazole

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Abstract:

A 59 year old woman presented with diffuse thyroid enlargement and symptoms of thyrotoxicosis. Following initial management with carbimazole a total thyroidectomy was performed. Microscopically thyroid gland showed features of a multinodular goitre and a hyperplastic nodule. In multiple foci the follicular epithelial cells displayed increased nuclear to cytoplasmic ratio, pleomorphic and hyperchromatic nuclei. Occasional bizarre forms were evident. Such cytological atypia is seen in atypical follicular adenoma, follicular carcinoma with anaplastic transformation, Hashimoto thyroiditis and treatment with radioactive iodine. In this case, histological evidence of such pathologies was not seen. Radioactive iodine was not given. Carbimazole treatment is attributed to the cytological atypia.

Key words: Thyroid Neoplasms, Carbimazole, Thyrotoxicosis, Goiter, Thyroidectomy, Humans.

Description

A 59 year old woman presented with diffuse thyroid enlargement and symptoms of thyrotoxicosis of 6 months duration. Following initial management with carbimazole a total thyroidectomy was performed. The thyroid gland weighed 17 grams (normal weight, 10-30 grams). The left and right lobes measured 4x4x3.5 cm and 3x2.5x2 cm respectively. The left lobe showed a cyst (3.5 cm) with a white nodule (1 cm) in the cyst wall. The rest of the thyroid showed multiple colloid nodules [Fig.1]. On microscopic evaluation the white nodule revealed a hyperplastic nodule. The remaining thyroid showed features of a multinodular goitre with regressive changes. In multiple foci the follicular epithelial cells displayed increased nuclear to cytoplasmic ratio, pleomorphic and hyperchromatic nuclei with prominent nucleoli [Fig.2]. Occasional bizarre forms were evident [Fig.3]. Such cytological atypia is seen in atypical follicular adenoma, follicular carcinoma with anaplastic transformation, Hashimoto thyroiditis and treatment with radioactive iodine [1]. In this case histological evidence of such pathologies was not seen. Radioactive iodine was not given. Carbimazole treatment is attributed to the cytological atypia.

Learning Points

- An unusual atypical follicular epithelial cell with large nuclei could be mistaken for malignancy especially in the cytological preparations.

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Fig.1: Cut section of the thyroid gland showing left lobe cyst with the white colour nodule and the colloid nodules.

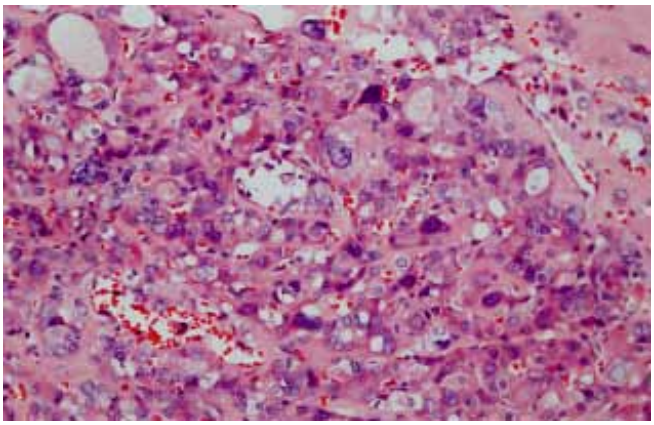

Fig.2: Photomicrograph of atypical follicular epithelial cells (Hematoxylin and Eosin x 200).

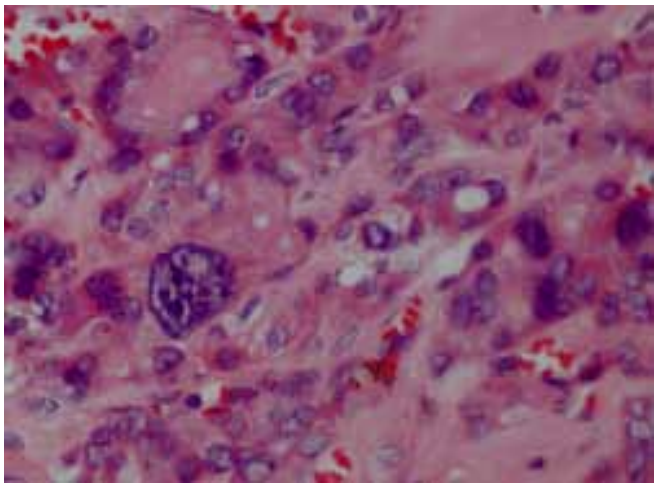

Fig.3A: Photomicrograph of occasional bizarre forms of the follicular epithelial cells (Hematoxylin and Eosin x 400).

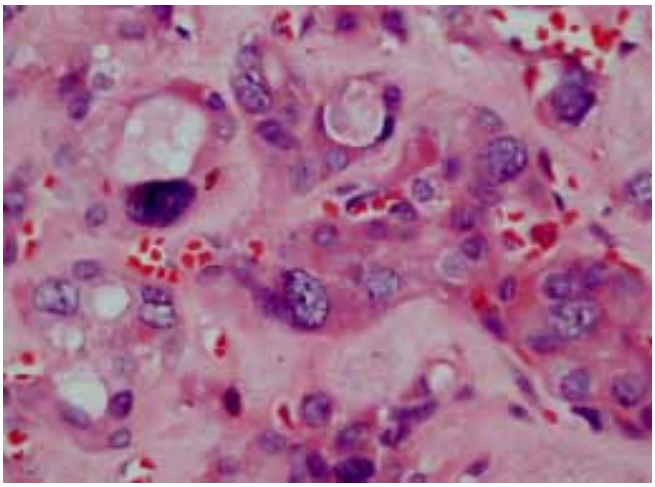

Fig.3B: Photomicrograph of occasional bizarre forms of the follicular epithelial cells (Hematoxylin and Eosin x 400).

- A varied cytomorphology occurring as a result of carbimazole therapy may result in a serious diagnostic dilemma.
- A careful overall architectural and cytological interpretation, with complete clinical details, including that of hormonal levels, and the treatment history, can avoid unnecessary interpretative confusions.

References

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