ABSTRACT

Most of the thyroid malignancies occur in either euthyroid or hypothyroid status. Thyroid malignancies with hyperthyroidism are very rare. There are numerous reasons for hyperthyroidism in thyroid cancer. The incidence of hyperthyroidism in thyroid malignancies was <1%. But recent report showed increased incidence due to mutation of thyroid receptors. The problem with hyperthyroidism and thyroid cancer was diagnostic difficulty and management part, because for most of the cases of hyperthyroidism thyroid malignancies are not suspected. This is a case report of papillary thyroid carcinoma presenting in hyperthyroid patient who has diagnostic difficulty and management.

KEYWORDS papillary thyroid carcinoma, hyperthyroidism, total thyroidectomy

INTRODUCTION

Most of the thyroid malignancies occur in euthyroid or hypothyroid status. Occurrence of thyroid cancer in hyperthyroid patient is very rare. The incidence of hyperthyroid with thyroid malignancies is <1%. Now there is increased incidence of hyperthyroidism with thyroid malignancies from 1% to 6.9%. A problem with hyperthyroidism and thyroid malignancies was diagnostic difficulty and therapeutic part.

CASE REPORT

A 34-year-old female presented with complaint of swelling in front of neck for 6 months. There was a history of palpitation and weight loss, and amenorrhea for 5 months. She did not have history of compressive symptoms. No other history of any other swelling in the body was noted. There was no history of irradiation to head and neck. On examination, the patient was anxious and irritable. Her pulse rate was 132 per minute and blood pressure was 138/92 mm Hg. There was a diffuse enlargement of thyroid gland, which was soft to firm in consistency (Fig. 1).

Investigations showed thyroid-stimulating hormone (TSH) was 0.01 micro IU/ml (normal 0.5–5.5 micro IU/ml) and serum total T4 was 19.08 µg/dl (normal 5–12 µg/dl); total T3 was 350 ng/dl (normal 80–180 ng/dl). Ultrasound examination of head and neck region showed an enlarged thyroid gland with nodules on both lobes of thyroid which measured around 1.5 × 0.8 × 0.3 cm on the right lobe of thyroid. No significant cervical lymphadenopathy was present. Patient was controlled with anti-thyroid drugs, and proceeded with ultrasound-guided fine needle aspiration cytology (FNAC) of the nodules which showed features of papillary carcinoma thyroid. Initially, FNAC was not performed because of hyperthyroidism.

After the patient became euthyroid, the patient underwent total thyroidectomy (Figs. 2, 3). Postoperative histopathology report showed papillary carcinoma (Fig. 4). Postoperative follow-up with thyroglobulin and radioiodine uptake study showed no evidence of metastasis.

DISCUSSION

Most of the hyperthyroidism-associated thyroid malignancies will be small carcinoma, say <1 cm nodules, as we know that one of the important investigations for thyroid malignancies was fine needle aspiration cytology. But in
Uncommon feature of papillary carcinoma

Case of hyperthyroidism, FNAC will not be preferred as initial investigation because of the risk of haemorrhage and thyrotoxicosis. Without tissue diagnosis, we cannot confirm thyroid malignancies, so diagnosis get delayed until patient becomes euthyroid.

The etiologies of hyperthyroidism in thyroid malignancies are numerous, like:

1. Focus of malignant tissue in hyperthyroid patient.
2. Carcinoma thyroid presenting with hyperthyroidism.
3. Bulky metastasis can produce hyperthyroidism.

Most common malignancy reported which was associated with hyperthyroid was papillary carcinoma followed by follicular carcinoma.

Activating mutation of thyroid hormone receptor gene has been demonstrated in a hyper functioning differentiated cancer. This mutation through activation of camp signals transduction is believed to cause hyperthyroidism.

Carcinoma associated with hyperthyroidism is rarely diagnosed before surgery. Most of the time while doing thyroid scintigraphy, most of the benign lesions appear as hot nodules, but not all hot nodules are necessarily benign. Malignant nodules can trap technetium pertechnetate and appear hot on technetium scan, but may appear cold on radioiodine scan. So, thyroid scintigraphy with radioiodine scan was advised in a sonographically suspicious nodules even if it appears hot on technetium scan.

Management of thyroid malignancies with hyperthyroid makes more complicated, because toxic solitary nodules thyroid required hemithyroidectomy, whereas either papillary or follicular carcinoma required total thyroidectomy as a treatment of choice.

CONCLUSION

One of the differential diagnosis for hyperthyroidism was thyroid carcinoma either primary or metastatic.
carcinoma. There is a diagnostic difficulty in patient with hyperthyroidism with thyroid carcinoma. Most of the time, thyroid scan fails to identify thyroid carcinoma. Thyroid carcinoma with thyrotoxicosis must be managed with total thyroidectomy compared to toxic solitary nodules.

REFERENCES