Thyroid squamous cell carcinoma

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ABSTRACT

Squamous cell carcinomas (SCC) are a very rare thyroid malignancies with aggressive behavior and poor prognosis. Diagnostic difficulties arise in differentiating SCC from other thyroid malignancies and due to scrutiny in primary or secondary pattern, which are both important for treatment strategy. A 62 year-old woman has been admitted to the endocrinology and thyroidology department on October 2013 with progressive enlargement of a right neck mass with palpable nodes in cervical region, right eye lid retraction and double vision, hoarseness, impotency and 3kg weight loss in the past two months. Physical examination revealed a fistula, adherent thyroid nodule, with impalpable inferior pole and without audible thyroid nodule. Laboratory thyroid-related biochemical parameters are within the normal range, with high anti-thyroglobulin antibodies. Complete blood count (CBC) and biochemical profile were also normal. Thyroid ultrasonography revealed a solid tumor with heterogeneous echogenicity and microcalcifications, measuring 42x27x25 mm. A biopsy was performed which revealed squamous cell carcinoma. In January 2014 thyroid resection was performed (throat resection up to 2 cm). Patient received adjuvant treatment with patients of thyroid SCC.

CASE REPORT

A 62 year-old female patient presented for progressive enlargement of a right neck mass, regional pain radiating toward the right ear and shoulder, cough, hoarseness, inspiratory stridor, weight loss (10 kg) lasting for two months.

Family history – hyperthyroidism.

Personal history – mild hyperparathyroidism.

Physical examination revealed a 5 cm hard, adherent right thyroid nodule, with impalpable inferior pole and impingement of the right carotid artery, dyspnoea, dysphagia and hoarseness. No lymph nodes were detected. Height – 145cm, weight – 68 kg, BMI – 33 kg/m2, normal BP, tachycardia (100 beats/minute), varicoce veins.

ENT exam – right vocal cord paralysis.

Ultrasound exam – right, 5 cm thyroid nodule, hypoechoic, with ill-defined margins, with multiple microcalcifications and necrotic areas. No satellite lymph nodes were found, no abdominal or pelvic masses. Liver sonography.

Contrast enhanced CT – 5.45/5.23 cm right thyroid mass with parietal microcalcifications (figure 1); tracheal displacement to the left; encasement of the right tracheobronchial trunk. No other masses (neck, chest, abdomen, pelvis) were found.

FNAC – absent follicular cells, frequent erythrocytes, rare neutrophils and lymphocytes.

Hormonal assessment – TSH 0.88/pU/mL (0.27-4.2), FT4 19.95 pm/L (12-22), ATPO 18/1u/mL (<34), anti TGAAb 19.35 IU/mL (<115), calcitonin<2p/mL (<13), thyroglobulin 1.43 mg/mL (0.3-5.7).

Laboratory assessment – normal except fasting blood glucose 144-118-144 mg/dL, HbA1c <6.4%, Cholesterol = 231 mg/dL and ESR 25/46 mm.

Pathological examination after total thyroidectomy (figure 2) confirmed SCC.

Right thyroid lobe – 5.45/4.5 encapsulated yellowish, inhomogeneous mass with hemorrhagic areas.

Histological examination – infiltrative, diffuse malignant epithelial proliferation with keratinous foci, keratin pearls, large areas of squamoid differentiation (figure 3), necrosis and hyalinization, calcifications, desmoplastic stroma, chronic inflammatory reaction and invasion of the adjacent thyroid and muscular tissue.

Left thyroid lobe – interstitial fibrosis, areas of necrosis and hemorrhage.

IHC – intense and diffuse positivity for CK7 (figure 4), 34BetaE12 (figure 5).

- Diffuse positivity for CK19 (figure 6), Gaeletin 3 (figure 7).
- Local positivity for p63.
- Negative for TTF1, CDS.

EVOLUTION

After thyroidectomy the patient was treated with thyroxine and one month later Paclitaxel 300mg/3 weeks and EBRT was started.

Local recurrence (three nodules up to 2 cm) was detected by neck ultrasound one month later (figure 8). No masses were detected in the skull, chest, abdomen or pelvis.

Glottic edema occurred after radiation therapy; improvement was seen after high dose glucocorticoid therapy.

The patient is alive (7 months after initial diagnosis).

REFERENCES


CONCLUSIONS

- Primary TSCC represents a diagnostic challenge and a therapeutic dilemma, the aggressiveness of the tumor.

- Though surgical resection was possible in this case, chemotherapy and radiotherapy could not prevent early recurrence.

- The rarity of cases imposes a thorough and detailed evaluation of each patient. An international registry is mandatory for a better management.

- Research is needed to find new therapeutic options. EGFR expression was noticed in primary TSCC (Long JL et al 2009) but EGFR inhibitors therapy was not reported.