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Case Report Open Access

Surgical Treatment of Large Neglected Tall-Cell Thyroid Papillary Cancer with Neck Skin Infiltration and Exulceration: A Case Report and Literature Review

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Abstract

Background: To present for the first time a clinical case of a patient with giant neglected and exulcerated tall-cell papillary thyroid cancer, who was surgically treated..

Methods: We report a case of a 73-year-old woman with large firm infiltrated and exulcerated anterior neck tumefaction (12 cm in diameter) clinically suspected as anaplastic thyroid cancer. Patient had a goiter for more than 20 years with rapid growth in last months, after that presented with infiltration and exulceration of the skin.

Results: Fine needle aspiration biopsy (FNAB) revealed papillary thyroid cancer (PTC). Total thyroidectomy with en-block dissection of the infrahyoid muscles and skin was performed. Lymph node metastasis were not present. Pathologically, goiter and tall-cell papillary carcinoma were present without anaplastic dedifferentiation. Postoperative radioiodine therapy was done, than L-thyroxin suppressive therapy, patient refused transcutaneous radiotherapy. Serum thyroglobulin was 0.15 ng/ml. Vocal cord paralysis and hypocalcaemia were not present. In following 3 years patient did not come to postoperative control, then she came with local recurrence of disease and tracheostomy. Tumor reduction was a second operation which was performed. Pathologically, it was tall-cell papillary carcinoma with regional lymph node metastases. The skin defect was reconstructed with a local transpositional flap. Patient refused radioiodine and transcutaneous radiotherapy and died 4 years after first operation, she was 77-years old.

Conclusions: Skin infiltration and exulceration are rare in papillary thyroid cancer but they can be found in patients with neglected and poorly differentiated papillary carcinomas. Exulcerated tall cell papillary carcinoma can be unpredictable even in radically performed operation.

Keywords: Neglected papillary carcinoma; Skin exulceration; Thyroid tall cell carcinoma

Introduction

Tall cell variant (TCV) of papillary thyroid carcinoma was first described in 1976 by Hawk and Hazard, as an aggressive histological variant of papillary thyroid cancer [1]. Incidence is 3%-12% of papillary carcinomas. Tall cell variant histology is generally reported as an independently poor prognostic factor. These patients tend to suffer local recurrences in the neck, often with invasion of the trachea. We report a case, surgical treatment of large neglected tall-cell thyroid papillary cancer with neck skin infiltration and exulceration.

After a thorough search of the English literature, only a few cases of a neglected papillary thyroid carcinoma with the enormous dimensions such as that presented here have been reported, but giant exulcerated tall-cell variant of papillary cancer was not described to the best of our knowledge [2-4].

Case presentation

A 73-year-old woman with large firm infiltrated and exulcerated anterior neck tumefaction clinically suspected as anaplastic thyroid cancer was admitted to our Centre in January 2010 (Figure 1). Written informed consent was obtained from the patient for publication of this case report and any accompanying image. The neck mass at this time measured 12 × 11 cm with skin ulceration area of 2.5 cm in diameter. Patient had a goiter for more than 20 years with rapid growth in last 3-4 months, after that presented with infiltration and exulceration of the skin 3 weeks before she came. FNAB revealed papillary thyroid cancer. Lymph node metastases and distant metastases were not present.

After wide skin excision and resection of the infiltrated infrahyoid muscles, we started with thyreoidectomy. The tumour was not present in posterolateral regions of the lobes, just the thyroid tissue without tracheal and oesophageal infiltration with normal parathyroid glands and they are successfully preserved (Figure 2). Total thyroidectomy with en bloc resection of the infrahyoid muscles and skin was performed (Figures 3-5). Lymph node metastases were not present.

Pathologically, tall cell papillary cancer and goiter were present with infiltration of the skin and subcutaneous tissue. Anaplastic dedifferentiation was not present (Figure 8).

Postoperative radioiodine therapy was done, than L-tiroxin

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Figure 1: Infiltrated and exulcerated anterior neck tumefaction.

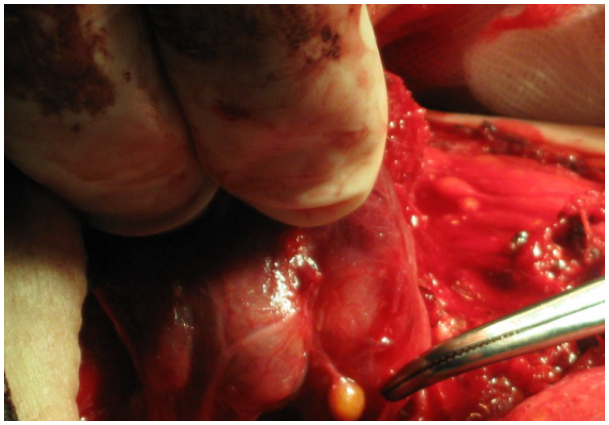

Figure 2: The end of right lobectomy. The tumour was not present in posterolateral regions of the lobes, just the thyroid tissue without tracheal and oesophageal infiltration. The lowering of the right parathyroid gland.

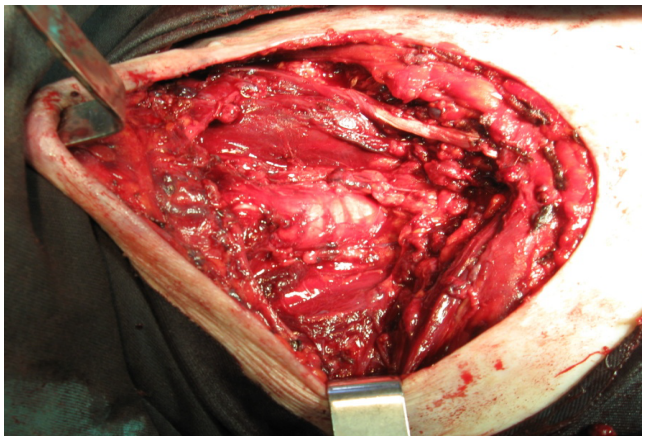

Figure 3: Total thyroidectomy with en bloc resection of infiltrated infrahyoid muscles and skin.

suppressive therapy, patient refused transcutaneus radiotherapy. Serum thyroglobulin was 0.15 pg/ml. Vocal cord paralysis and hypocalcemia were not present. Whole-body scan I131 was fixed three months later, but patient didn't come. In following 3 years patient did not come to postoperative controle, than she came with local recurence of desease (9 × 5 cm) and tracheostomy becouse of tracheal infiltration, paralyse and paresis of the recurent nerves (Figure 6). Serum thyroglobulin was 9 pg/

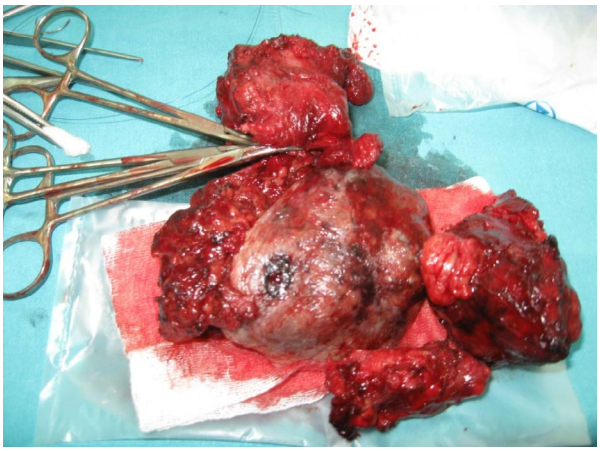

Figure 4: Total thyroidectomy with en bloc resection of infiltrated infrahyoid muscles and skin.

Figure 5: Total thyroidectomy with en bloc resection of infiltrated infrahyoid muscles and skin.

Figure 6: Three years after - local recurence of desease and tracheostomy becouse of tracheal infiltration, paralyse and paresis of the recurent nerves.

ml, we thought about the anaplastic dediferentiation, but fine needle aspiration biopsy revealed papillary thyroid cancer, again. She didn't have distant metastases. Second operation was performed - tumor reduction with skin excision, the skin defect was reconstructed with a local fasciocutaneuos transpositional flap (Figure 7). Pathologically, it was tall-cell papillary carcinoma with regional lymph node metastases, without presence of anaplastic dediferentiation. After second operation serum thyroglobulin measured 50.3 pg/ml. The patient left the hospital after deciding against further treatment, she refused to receive radioiodine and transcutanuos radiotherapy and died 4 years after first operation, she was 77-years old.

Discussion

Tall cell variant papillary thyroid carcinoma is defined by having a significant proportion of the tumor composed of cells in which the cell height is at least twice its width, an eosinophilic cytoplasm and the nuclear features of papillary thyroid carcinoma. There is disagreement regarding the proportion of tall cells required to diagnose TCV. Most series have used a minimum of 30%, others 50 to 70% [5,6]. Our pathology level is 50% of tall cells. TCV exhibits poorer survival than classical PTC. When the major prognostic factor for thyroid cancer are controlled for, including age and extrathyroidal extension, tall-cell histology alone remains a significant prognostic factor for disease-specific death [7]. Extrathyroid extension is common and is found on average in 67% of the patients, in contrast with well-differentiated thyroid cancer that demonstrates extrathyroid invasion in less than 20% of patients. Distant metastases typically appear in the lung and bone and are found on average in 22% of the patients [8].

In our patient, at the first operation, centripetal preparation and en bloc resection which are the principles of oncologic surgery in thyroid cancer were performed. Serum thyroglobulin measured 0.15 pg/ml after first operation. Shaving procedures violate these basic rules of surgical oncology, but may be indicated in elderly patients with partial-thickness invasion and/or progressive multiple distant metastases that are not amenable to resection. We performed shaving procedure at the second operation because of tracheal infiltration with paralyse and paresis of the recurent nerves. After that, serum thyroglobulin was 50.3 pg/ml and patient, unfortunately, refused to receive radioiodine and transcutaneous radiotherapy, again. Radioiodine therapy should be used in all patients since it has been shown to be of benefit in some of them. Transcutaneous radiotherapy should be considered in patients

Figure 7: Patient after second operation – tumor reduction and skin excision. Local fasciocutaneuos transpositonal flap.

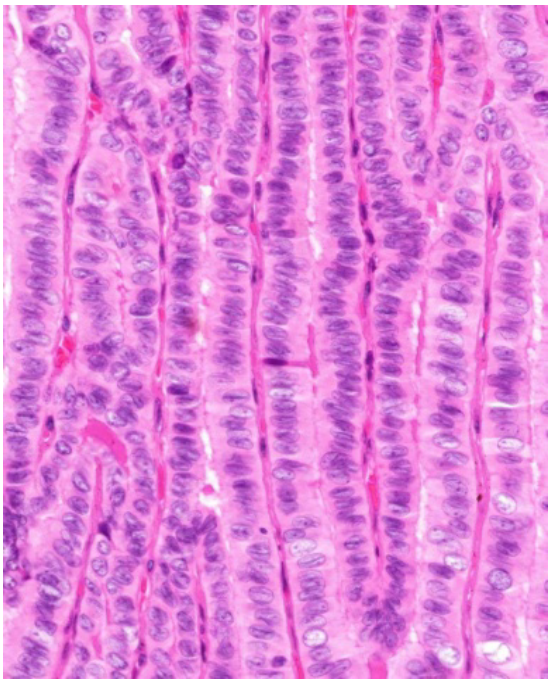

Figure 8: Histopathological finding of the patient, tall cell papillary cancer.

with incomplete resection, extrathyroidal extension of the tumor and positive lymph node involvement. In case of refuse of the surgical resection, that treatment options are not successful.

Although the majority of well-differentiated carcinomas expressed a high level of thyroglobulin, the expression of the same antigen was absent or only occasional weakly positive in 33 of 44 poorly differentiated carcinomas. Interestingly, N-*ras* mutation was restricted to the group of tumors with low or absent thyroglobulin expression, suggesting that this genetic change is prevalent in less differentiated tumors. The incidence of p53 mutations is significantly higher than in well-differentiated thyroid cancer, however p53 have not been demonstrated to be a predictor of worse outcome [9].

TCV has the potential to transform into squamous cell carcinoma, and its ability to proliferate might be higher than that of typical papillary carcinomas. Transformation into squamous cell carcinoma with higher growth capacity is suggested by the evidence of p53 transmutation [10]. Kleer et al. suggested that TCV arises from the conversion of papillary to squamous cell carcinoma [11].

Conclusion

Skin infiltration and exulceration are rare in papillary thyroid cancer but they can be found in patients with neglected and poorly differentiated papillary carcinomas, as for instance tall cell tumors, with worse prognosis. Exulcerated tall cell papillary carcinoma can be unpredictable even in radically performed operation.

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