Cervical Lymph Node Collision Tumor Consisting of Metastatic Squamous Cell Carcinoma and B-Cell Lymphoma

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ABSTRACT

Educational Objective:
At the conclusion of this presentation, the participants should be familiar with the clinical and pathologic features of collision tumors in the head and neck.

Objectives:
Present a case of collision tumor of the head and neck consisting of metastatic squamous cell carcinoma and B-cell lymphoma. Review the literature on collision tumors of the head and neck.

Study Design:
Case report

Methods:
Retrospective case review including a review of the relevant literature

Results:
The case of a 73 year-old-man with collision tumor of the cervical lymph nodes is presented. He had a history of resection of a squamous cell carcinoma of the nasal ala seven years prior to presentation with a neck mass. Fine needle aspiration of the mass was consistent with squamous cell carcinoma and he underwent neck dissection. Pathology revealed both squamous cell carcinoma and low grade B cell lymphoma in the same cervical lymph nodes. The patient underwent post-operative concurrent chemotherapy and radiotherapy directed at the squamous cell carcinoma. Subsequently, he initiated chemotherapy directed at the lymphoma.

Conclusions:
Collision tumors are rare entities that consist of two neoplasms of distinct origin found in a single anatomic location. In the head and neck, collision tumors often involve an incidental well-differentiated thyroid malignancy. Collision tumor involving metastatic squamous cell carcinoma and lymphoma is an exceedingly rare finding. A multidisciplinary team approach is required to optimize and coordinate management of these synchronous malignancies.

CASE REPORT

• A 73 year old male presented to the Head and Neck clinic with a left neck mass which arose one year prior. 5 months prior was seen by another surgeon who obtained a computed tomography (CT) scan and excised a left neck mass with benign results reported to patient

• The patient reported a history of squamous cell carcinoma of the left nasal ala resected 7 years prior. Physical exam revealed two firm immobile nodes adjacent to the left tail of parotid. No skin or mucosal abnormality was seen and cranial nerves were intact. Fine needle aspiration was performed and was consistent with squamous cell carcinoma

• CT demonstrated a 3 cm left periparotid lesion, also mildly enlarged lymph nodes in the left supraventricular region and left superior mediastinum; extensive upper abdominal lymphadenopathy and splenomegaly. (Figures 1, 3, and 4)

• PET revealed FDG avidity of the left neck mass with intense uptake within a lymph node immediately adjacent to the largest dominant left neck mass (Figure 2) and also within bilateral level IIB and level II-III cervical lymph nodes. No significant FDG avid uptake within the axillary, mediastinal, and upper abdominal nodes. Review of the prior surgical specimen revealed several foci of perineural and intranodal squamous cell carcinoma (SCC)

• Underwent direct laryngoscopy and bilateral neck dissections (left modified radical and right supraomohyoid). No mucosal primary identified. Pathologic examination revealed SCC involving subcutaneous tissue, skeletal muscle and salivary gland. There were foci of SCC (ranging from 0.2 cm to 0.8 cm) in 2 level III lymph nodes and 1 level IV lymph node in the left neck, well to focally poorly differentiated. In addition, all lymph nodes in the specimen were variably involved (some totally effaced and others partially involved) by a low grade B cell lymphoma (CD20+, CD5-, CD10-, CD23-, BCL6-, and cyclinD1-) consistent with marginal zone lymphoma. (Figures 5 and 6)

• Subsequently underwent adjuvant radiotherapy and chemotherapy (carboplatin) for the squamous cell carcinoma. This was followed by six cycles of chemotherapy (R-CHOP) for the lymphoma.

• Currently with no evidence disease (SCC or lymphoma).

DISCUSSION

• Collision tumors are rare entities defined by the presence of two tumors of independent origin in the same surgical specimen. They should be distinguished from tumors which contain two or more cell lines arising from a common source.

• Numerous variations of collision tumors have been reported. Some examples include renal cell carcinoma and transitional cell carcinoma in the kidney, and hepatocellular carcinoma and cholangiocarcinoma in the liver.

• In the head and neck, the most commonly reported location is the thyroid, with combinations of papillary, medullary, and follicular carcinomas described. Squamous cell carcinoma has also been reported in combination with lymphoma, melanoma, and thyroid cancer.

• There are two previous reports of collision tumor consisting of squamous cell carcinoma and lymphoma in the head and neck.

• Two hypotheses for the origin of collision tumor include (1) chance meeting of two independently arising primary tumors in the same location; (2) occurrence of one tumor which alters the surrounding microenvironment allowing for the development of a second tumor in the same location.

• In this case the relative immunosupression caused by the development of a B cell lymphoma may have allowed for the recurrence of the patient’s previously treated squamous cell carcinoma, or allowed for the development of a second primary cancer of unknown primary.

• A multidisciplinary team involving head and neck surgery, radiation oncology, and both head and neck and hematologic oncologists was assembled to address the proper sequence and choice of treatment.

• The decision was made to treat the aggressive squamous cell carcinoma first and follow with chemotherapy for the lymphoma. The treatment plan resulted in cure of both malignancies.

CONCLUSIONS:

• Collision tumors are rare entities that consist of two neoplasms of distinct origin found in a single anatomic location. In the head and neck, collision tumors often involve an incidental well-differentiated thyroid malignancy.

• Collision tumor involving metastatic squamous cell carcinoma and lymphoma is an exceedingly rare finding.

• A multidisciplinary team approach is required to optimize and coordinate management of these synchronous malignancies.

REFERENCES