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Case report

Nasopharyngeal mucoepidermoid carcinoma: A case report and review of literature

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ABSTRACT

Background: Salivary gland-type tumors originating in the nasopharynx are rare, and only a few articles about mucoepidermoid carcinomas (MEC) in this location have been reported. We describe one case of nasopharyngeal MEC and, based on a review of the literature, discuss different therapeutic approaches that can be taken regarding the result of histological findings, radiological tests and extent of disease.

Case presentation: A 47-year-old woman diagnosed with mucoepidermoid carcinoma of nasopharynx, T1 N3 M0 (stage IV-B) was treated in 2007 with a combination of radiotherapy and chemotherapy to a maximum dose of 70 Gy and concomitant Cisplatin during the radiation. One year later, with the head and neck disease under control, mediastinal nodes relapse appeared which were treated with exclusive radiotherapy to a maximum dose of 65 Gy. One year after the first relapse, a second relapse was detected in the right lung, next to the previously treated mediastinal regions, and the patient initiated a treatment with exclusive chemotherapy based on TPF scheme.

Conclusion: For limited or resectable MEC, combined surgery with radiotherapy, or radiochemotherapy, should be considered the main treatment policy. On the other hand, in poorly differentiated, unresectable tumors or nasopharyngeal MEC, radiochemotherapy could be currently the main treatment approach.

1. Background

Mucoepidermoid carcinoma (MEC) is a common malignancy in the salivary glands, especially, in the major salivary glands and intra-oral minor salivary glands.[1] MEC has been less frequently reported to arise from other sites, including the lung, nasal cavity, paranasal sinuses and nasopharynx.

Salivary gland-type tumors of nasopharynx have been scarcely reported in the literature.[1–3] The etiopathogenesis, treatment and prognosis of salivary gland-type malignant tumors are still uncertain. We describe one case of

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nasopharyngeal MEC and, based on a review of the literature, discuss different therapeutic approaches that can be taken regarding the result of histological findings, radiological tests and extent of disease.

2. Case presentation

A 47-year-old woman with a 40-pack per year history of smoking tobacco and occasional alcohol consumption presented with bilateral lymph neck nodes, odynophagia and left neck pain. Her past medical history was only significant for a previous episode of infectious mononucleosis twenty-five years ago. She had no other medical history of note.

Physical examination revealed the presence of palpable bulky adenopathies in the left neck encompassing levels II–V, and levels II–III on the right neck. A CT-scan confirmed the presence of bilateral cervical lymph nodes along with asymmetry in the left cavum. Magnetic-resonance imaging revealed an anomalous enhancement in the left cavum suggesting a neuplastic growth. The PET-CT evidenced an increasing uptake of 18F-FDG in the left nasopharynx and cervical lymph nodes (see Fig. 1).

The biopsy of the nasopharynx and cervical lymph nodes evidenced the presence of multiple nests of cells forming ducts with eosinophilic material inside and the expression of low molecular weight cytokeratins detected by immunohistochemistry. All findings were consistent with a high grade MEC.

A final diagnosis of mucoepidermoid carcinoma of the cavum was established, cT1cN3M0 stage IVB according to the AJCC 7th edition.[4]

The case was evaluated in the head and neck tumors multidisciplinary recommending treatment with concomitant radiochemotherapy. The patient underwent radiotherapy with conventional 2 Gy/day fractionation up to a total dose of 50 Gy to the bilateral uninvolved II–V neck levels and retropharyngeal area. Palpable adenopathies less than 3 cm in diameter were boosted up to 60 Gy. Finally, the gross tumor located on nasopharynx and lymph nodes greater than 3 cm in diameter received a total dose of 70 Gy with identical fractionation. Together with the radiation therapy, the patient received 3 courses of cisplatin (CDDP) at a dose of 100 mg/m^2 each 21 days, and 3 additional courses of chemotherapy after completion of simultaneous radiochemotherapy based upon the Al-Sarraf regimen with CDDP (100 mg/m^2, day 1) and 5-FU (1 g/m^2, days 1–5) each 21 days.[5]

A 18F-FDG-PET/CT performed 3 months after treatment did not reveal any increase of metabolism, nor of nasopharynx or lymphatic cervical levels. Only a slight focal increased tracer uptake was detected in mediastinal and right lung hilus nodes without being able to distinguish between tumor tissue and infectious process.

Four month later, a repeated 18F-FDG-PET/CT confirmed an increase of tracer uptake in the previous hilum and precaval lymphadenopathies without other significant data in the rest of the examination (see Fig. 2). With the suspicion of tumor relapse, a CT guided FNA biopsy of the nodes was considered but the patient declined this approach. The case was discussed in the head and neck tumors multidisciplinary committee recommending that the images were assumed as viable tumor and a salvage treatment was proposed. The patient underwent radiotherapy to the mediastinal and hilum areas up to a total dose of 50.4 Gy (1.8 Gy/fraction/day). Significant lymphadenopathies by 18F-FDG-PET/CT were boosted a final dose of 65 Gy (1.8 Gy/fraction/day). Concomitant chemotherapy with CDDP was rejected because of the progression of disease with this scheme. Targeted treatment based on Cetuximab or Bevazucimab was dismissed due to the negative immunohistochemical analysis and PCR sequencing of EGFR and VEGR in the previous sample.

Six months after salvage treatment, a new 18F-FDG-PET/CT showed a good response in the hilum and mediastinal nodes treated, however, pathological images of new

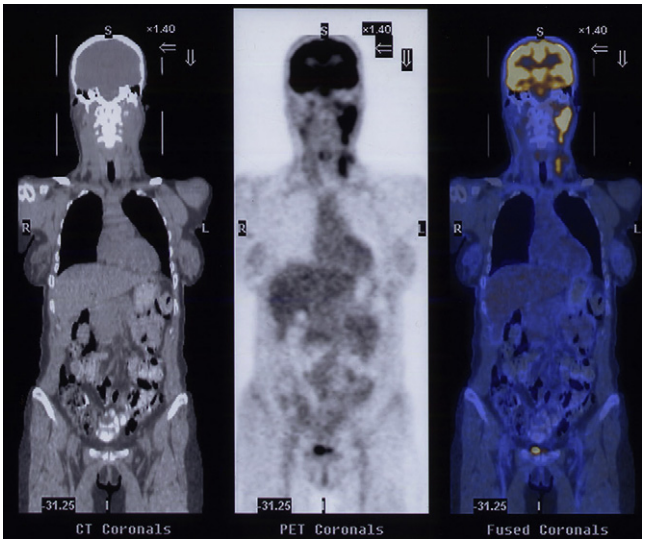

Fig. 1 – Diagnostic PET-CT with an increasing of tracer uptake of 18F-FDG in left nasopharynx and cervical lymph nodes.

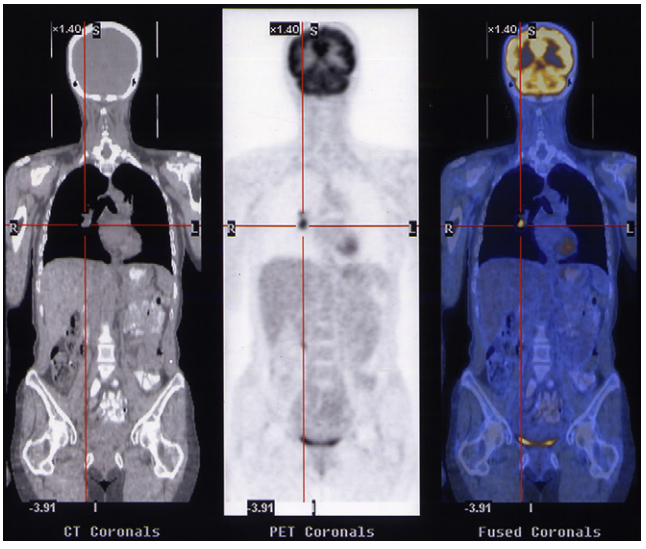

Fig. 2 – 18F-FDG-PET/CT, after 4 months of treatment, with an increased of tracer uptake in the right lung hilum and precaval lymphadenopathies without another significant data in the rest of the examination.