INTRODUCTION

- Mammary analogue secretory carcinoma (MASC) is a newly described carcinoma of the salivary glands, characterized by morphologic and immunohistochemical features that strongly resembles Secretory carcinoma (SC) of the breast 1.
- MASC is known to have a recurrent balanced chromosomal translocation t(12;15) (p13;q25), which leads to an oncogenic fusion gene ETV6-NTRK3 which is similar to Secretory carcinoma of breast 2,3.
- This fusion gene encodes a chimeric tyrosine kinase that is known to play an important role on its oncosogenesis 3.
- Immunohistochemical similarities between MASC and SC of the breast also include being S100 protein, epithelial membrane antigen (EMA), and vimentin positive and “triple negative” (ER/PR/Her2 negative) 4.
- This low grade carcinoma predominantly affects men and parotid gland is the most common affected gland 5,6.
- We present a case of MASC occurring in a 66-year-old male presented with a painless bleeding mass in the right palate.
- Aim of this study is to present the best recommendations for the diagnostic approach of this newly described entity.

CASE REPORT

- A 66 year old male patient presented with a painless bleeding mass in right palate region.
- On physical examination demonstrated 2 × 1 cm, firm, fixed, non-tender bleeding mass in the right hard palate.
- No palpable lymphadenopathy was present on the neck region. Imaging was not done.
- Excision biopsy was done with the clinical suspicion of pleomorphic adenoma.

Histopathology: The tumour had a multinodular arrangement with nodules separated by fibrous septa. The nodules showed predominantly tubules with microcystic spaces lined by cuboidal cells with moderate cytoplasm, mildly pleomorphic nuclei and eosinophilic luminal secretions.

Immunohistochemistry: IHC was performed, which showed strong positive for HMWCK, S100 and focal patchy strong positive for Mammoglobin.

Final diagnosis was entertained as MASC on the basis of morphology and immunohistochemistry.

DISCUSSION:

- MASC was first described in 2010 by Skállová et al. in a clinicopathologic study of a series of 16 salivary gland tumors with histomorphologic and immunohistochemical features similar to SC of the breast 1.
- One of the principal similarities between MASC and SC of the breast is the presence of the translocation t(12;15) (p13;q25), that results in the formation of the oncogenic fusion gene ETV6-NTRK3 1,4, which is also present in other tumors such as infantile fibrosarcoma 1,4, myogenous leukemia 3, and congenital mesoblastic nephroma 1,3,4.
- The fusion of the transcriptional regulator gene ETV6 and the membrane receptor kinase-type NTRK3 results in a chimeric tyrosine kinase that activates cell proliferation and increases survival of the tumor cells playing a fundamental role on its oncosogenesis 2,3.
- MASC and SC of the breast also share immunohistochemical features such as being positive for S100 protein, EMA, and vimentin, while being “triple negative” (ER/PR/Her2 negative) 4.
- The most important differential diagnosis for MASC is the Acinic cell carcinoma (ACC) 1.
- ACC is characterized by the presence of large, serous, acinar cells with cyttoplasmic PAS positivezymogen-like granules that are absent in MASC 1.
- MASC is histologically characterized by the proliferation of uniform eosinophilic cells with a vaculated cytoplasm, growing within a microcystic, macrocystic, and papillary architecture 8.

CONCLUSION:

- MASC has a slight preference for male patients while ACC mainly affects women 5. Immunophenotypic features that can be used to differentiate MASC from ACC are the expression of protein S100 and positive mammoglobin staining 3, S100 is strongly positive in MASC, while it is negative in ACC 10.
- Immunohistochemistry is also helpful in differentiating SDC from MASC because SDC normally expresses androgen receptors or HER-2/neu and not S100 protein 3. Vimentin, STA15a and cytokeratin 7 are other important immunohistochemical markers present in MASC.
- MASC has also been misdiagnosed as cystadenocarcinoma because of the cystic component that is sometimes present 3.
- The treatment of MASC is not well defined because most studies in the literature are retrospective in nature 11. The reported disease free period for MASC ranges from 71 to 115 months, shorter than the one reported in ACC, which is 92–148 months.
- The treatment of choice in high-grade transformation MASC should be radical surgery with neck dissection in addition to adjuvant radiotherapy 5.
- In the future, the inhibition of ETV6-NTRK3 may become a therapeutic target for patients with MASC as for other tumors that express this mutation.

REFERENCES: