International Journal Dental and Medical Sciences Research
Volume 3, Issue 2, Mar-Apr. 2021 pp 894-897 www.ijdmsrjournal.com ISSN: 2582-6018

Metastatic Clear Cell Adenocarcinoma of Lungs to Mandible- An Unusual Case Report.

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Submitted: 30-03-2021 Revised: 05-04-2021 Accepted: 08-04-2021

ABSTRACT: Oral metastasis constitutes the first indication of an undetected malignancy at a distant site. In oral region Mandibular Jaw bone and oral soft tissues are the common sites encountered with metastatic tumours. Metastatic tumours to oral cavity symbolize the final stage of tumour metastasis. Careful examination and detection of metastatic tumours to oral cavity is essential as it bears resemblance to many other lesions. This could also be the terminal metastatic site of tumour cells which makes the treatment options limited. The present case accentuates the occurrence of metastasis of clear cell variant of adenocarcinoma of lungs to mandible. Histopathological, immunohistochemical and radiological examination confirmed the presence of metastatic deposit of adenocarcinoma of lungs to mandible.

KEY WORDS; Adenocarcinoma, Clear cell tumour, Jaw carcinomas

I. INTRODUCTION

The metastatic tumour to oral region is extremely infrequent in distribution. Oral metastatic tumour constitute to only one percent of oral malignancies. [1,2]Metastasis to jaw bone is reported more than oral soft tissues region. [3] Renal carcinoma is the third most common malignant primary lesion that metastasizes to the oral cavity followed by lungs and breast carcinoma [4,5]. It is herculean in diagnosing the metastatic tumour of the jaw which could be even an indication of an undetected malignancy at a distant site. Other intraosseous malignancies involving jaw include primary intraosseous squamous cell carcinoma, odontogenic carcinoma, intraosseous malignant salivary gland neoplasm and jaw sarcomas. Tumour heterogeneity, tumour angiogenesis and apoptotic inhibition of malignant cells are the cascades of metastatic dissemination [6,7]

II. CASE DESCRIPTION AND RESULTS

A 65-year-old male patient presented with the chief complaint of swelling on right side of the mandible for the past 6 months. History revealed that the patient had a swelling which was gradual onset in relation to lower right back teeth region along with the mobility of teeth in that region. A further increase in the size of the swelling was noticed after of the extraction of teeth.

On extraoral examination, a diffuse swelling is present on the right side of the cheek of approximately 2cm size. Intraoral examination revealed the presence of a diffused swelling on right side of the edentulous mandible. The swelling is approximately 4x3 cm size extending anteroposteriorly in relation to 44,45,46,47 region. Swelling shows buccal and lingual cortical plate expansion. The swelling also extends to buccal vestibule with the obliteration of buccal vestibule (figure1A). On palpation the swelling is tender and firm in consistency, non compressible and non fluctuant.

Orthopantomogram revealed the presence of an ill defined radiolucnecy with ragged, poorly defined borders on right side of the body of the ramus of the edentulous mandible substantiating bone destruction which is consistent with an intraosseous malignancy [figure1B]. Excisional biopsy of the lesion microscopically shows unencapsulated lesion with greyish white to greyish tan colour. Histopathological examination revealed small nest of clear cells. The clear cells are round

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to polygonal in shape with varying size. Clear cells are arranged in nest and cords with connective tissue septa in between(figure2A). The clear cells show cytoplasmic glycogen with Periodic Acid Schiff staining before and after diastase digestion [figure2B]. A strong immunohistochemical Cytokeratin 7 expression was shown by the clear cells [figure2C]. A chest radiograph and computed tomography (CT) scan was taken subsequently at this time revealed a right upper lobe lung mass.

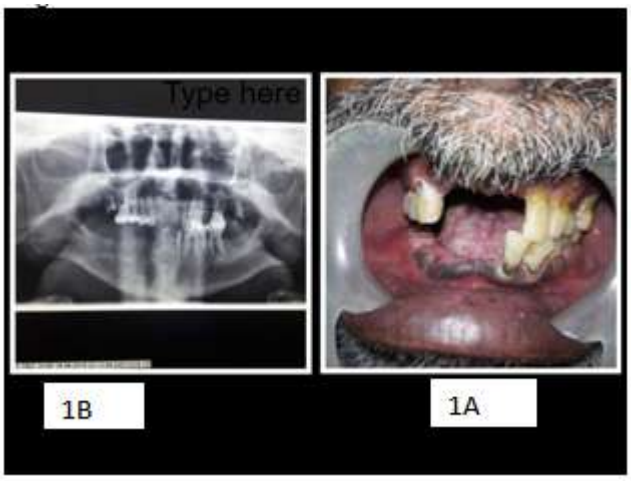

Figure 1

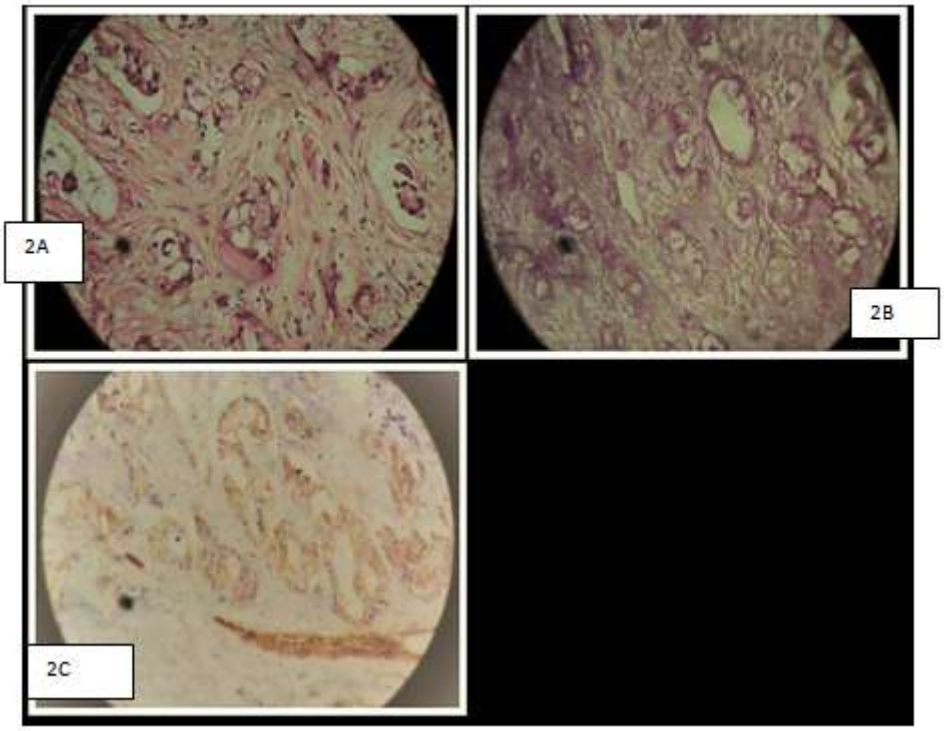

Figure 2

III. DISCUSSION

Based on the history and the findings obtained on the conventional radiographs, the differential diagnosis includes primary intraosseous squamous cell carcinoma, odontogenic carcinoma, intraosseous malignant salivary gland neoplasm and metastatic tumour of jaw. The histopathological differential diagnosis include clear cell malignancies like clear cell carcinoma salivary gland, mucoepidermoid carcinoma,

epimyoepithelial carcinoma, myoepithelial carcinoma, acinic cell carcinoma, oncocytoma, clear cell odontogenic carcinoma and metastatic clear cell carcinoma of jaw.

Central tumours of the jaws have its manifestations ranging from benign lesions, locally aggressive lesions and malignant lesions. This intraosseous malignancy on histopathological examination revealed the presence of small nest and cords of uniform clear cells separated by fibrous septa. These clear cells are Per Iodic Acid Schiff positive and negative for Mucicarmin which helps to exclude clear cell variant of Intraosseous Mucoepidermoid Carcinoma and adenoid cystic carcinoma. MEC usually exhibits the presence of mucin positive mucous cell along with epidermoid cells which is not evident in this lesion [8]. Lack of easinophilic lumen lining cells along with clear cells helps to omit Epimyoepithelial carcinoma. In Epimyoepithelial carcinoma and Myoepithelial carcinoma clear cells are Immunohistochemicaly positive for S100 and smooth muscle actin. In this particular case, the clear cells are S100 and smooth muscle negative [9]. Low grade clear cell carcinoma of salivary gland can be excluded as it is usually associated with minor salivary glands. Metastatic renal carcinomas were ruled out based on systemic and radiological investigation. A strong immunohistochemical Cytokeratin 7 expression in this particular case showed by the clear cells substantiates the diagnosis of metastasing clear cell adenocarcinoma of lungs [figure 7]. A chest radiograph and computed tomography (CT) scan was taken subsequently at this time revealed a right upper lobe lung mass.

Metastatic tumours to the oral region are uncommon, which constitutes only one percentage of all oral malignancies. It is important to diagnose metastatic tumours of the jaw which could be even an indication of an undetected malignancy at a distant site. The most common regions from where tumours metastasize to the oral region include the breast, lung and kidney. In the jawbones the molar area of mandible is the most common location for metastases. Metastatic tumour cells are found to have affinity towards hematopoitically active sites. Posterior regions of the mandible possess areas of hematopoietic active marrow thereby being a dominant site for tumour metastasis [10]. Usually, Metastatic tumours to oral cavity symbolize the final stage of tumour metastasis. The present patient was referred to oncology centre, but the patient expired after three weeks.

Metastatic tumours of the jaw and oral soft tissues indicate the presence of an undetected malignancy at a distant site. The present case accentuates the occurrence of metastasis of clear cell variant of adenocarcinoma of lungs to mandible. Careful examination and detection of metastatic tumours to oral cavity is mandatory as it mimics many other lesions and treatment options are limited as this could be the terminal metastatic site of tumour cells.

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