Abstract: INTRODUCTION: Buccal mucosal squamous cell carcinoma (BMSCC) is one of the most common form of oral cavity cancer associated with a high rate of locoregional recurrence and poor survival. Most frequent sites of distant metastasis from cancer of the oral cavity include lung, bone and liver and distant metastases are usually uncommon in buccal carcinoma. METHOD: Case Report CASE PRESENTATION: 45 years old male patient with no known comorbidity was treated with concurrent chemoradiotherapy for carcinoma of right buccal mucosa in 2013. After one year, patient reported with sudden right lower limb weakness and multiple episodes of seizures. MRI Brain revealed a space occupying lesion in left parietal region. Stereotactic biopsy from the lesion revealed metastatic squamous cell carcinomatous deposits. IHC study of brain lesion revealed positivity for EMA P63 and the pattern of staining favoured the diagnosis of metastatic squamous cell deposits of buccal mucosal origin. Patient was then given Whole Brain RT and was followed up with palliative chemotherapy. CONCLUSION: Brain metastases though rare from a buccal mucosal- oral cavity cancer, it should be considered as a possibility and this case is presented for its rarity, being first of its kind.

Keyword: rare, buccal mucosa malignancy, brain metastases

INTRODUCTION: Brain metastases from oral squamous cell carcinomas (OSCC) are an extremely rare occurrence. Most distant metastases from squamous cell carcinoma (SCC) are reported to occur in the liver, lungs, and bones. Therefore, preoperative tumor staging is focussed on these sites (CT scan of the chest, radionuclide bone scans, and ultrasound of the liver). In the following case study, we present a patient who developed a histologically confirmed brain metastasis of OSCC. The patient developed symptoms from his cerebral metastasis 12 months after the primary disease was diagnosed.

CASE SUMMARY: 45 years old male patient, a known chronic betel-nut chewer was diagnosed with carcinoma of right buccal mucosa - well differentiated squamous cell carcinoma of stage T3N2cM0 in October 2013. He was then treated with concurrent chemo-radiotherapy - 66 Gy in 2Gy/2 - total of 33 # to tumor and neck nodes with 3 cycles of cisplatin and 5FU. After one year, patient reported with history of sudden onset multiple episodes of focal seizures involving right lower limb since one month followed by weakness of right lower limb.
Patient was conscious and oriented with poor performance status. Oral cavity examination was normal with no mass or lesions. There were no palpable neck nodes. Neurological examination revealed right sided lower limb weakness of power 4/5. Both upper limbs and left lower limb was normal. Right plantar was extensor. Other systems were normal. MRI Brain revealed a space occupying lesion in left parietal cortical region measuring about 2.8 x 3.8 x 3.1cm with moderate surrounding edema causing pressure effects over left lateral ventricle. Following contrast, the lesion showed central necrosis with peripheral enhancement. Stereotactic biopsy from the lesion revealed normal glial parenchyma infiltrated by nests of malignant squamous epithelial cells with foci showing hemorrhage and necrosis suggestive of metastatic squamous cell carcinomatous deposits. Immunohistochemistry study of brain lesion revealed positivity for EMA & P63 and the pattern of staining favoured the diagnosis of metastatic squamous cell deposits of buccal mucosal origin. Further metastatic workup ruled out other metastases. Normal DNE and VDL scopy ruled out other head and neck primaries. Patient was then given Whole Brain Radiotherapy along with antiedema measures and was then followed up with palliative chemotherapy.

**DISCUSSION:**

Malignant tumors can metastasize into every part of the brain. The underlying factors relating to the differential propensity of primary tumors to metastasize into the brain remain unknown. Oral Squamous Cell Carcinoma (OSCC) classically metastasizes to cervical lymph nodes first. The mechanism of spread is probably lymphatic. Late presentation of distant metastatic disease from OSCC is increasingly reported, in particular those metastases that are most likely the cause of death after locoregional control of the primary tumor was achieved. It has been suggested that lateoccurring metastases may result from differences in the proliferative potential of a subgroup of cells in the growth-arrested metastatic tumor. The presence of cervical metastases is the most significant oncological factor in the prognosis of HNSCC because early detection and treatment may prevent distant metastases. Brain parenchymal metastases can cause headache, seizures, increased intracranial tension, neurological deficits. Whole brain radiotherapy is considered the best treatment in patients with brain metastases and with systemic disease which is under control or absent.

**CONCLUSION:**

Buccal mucosal SCC is an aggressive malignant tumor, with its degree of differentiation being the most important factor affecting prognosis and survival. Of late, the incidence of central nervous system metastases has been increasing in patients with cancer. According to this knowledge, a brain metastasis should be taken into consideration in case of neurological deterioration even in a patient with a primary which can rarely metastasize to the brain. Despite treatment, survival and prognosis will be poor in patients with brain metastases.

**REFERENCES:**
