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**Program Speaker – Gurkaran Preet Singh**

**Title**

A Study of Medication Related Osteonecrosis of the Jaws: An update on the Tata Memorial Centre Experience and Exploring the Scope to Re-Classify Stage II Disease

**Abstract**

**Background:** Medication related osteonecrosis of jaws (MRONJ) is a specific necrotic condition of jaw bones secondary to administration of anti-resorptive and/or, anti-angiogenic medications. MRONJ is associated with significant morbidity and is challenging to treat.

**Aims:** The aim of our study is to report institutional data on MRONJ in patients receiving anti- resorptive and/or, anti-angiogenic medications. It also throws light on the heterogeneity of Stage II MRONJ lesions with similar clinical presentation yet varying radiographic extent of osteolysis, leading to differing response to treatment.

**Methods:** All patients referred/ reported to Dental and Prosthetic Services, Tata Memorial Hospital for diagnosis and treatment of MRONJ between 2014 to 2022 were included. Socio-demographic information, primary disease-and-treatment-related details, MRONJ diagnosis along with follow-up details were recorded from departmental records and/or, electronic data management software (EMR). All patients belonging to AAOMS Stage II were re-categorized into proposed stage IIa and IIb as per clinical and radiologic extent. Descriptive statistics were calculated according to standard procedures. Data analysis was carried out using SPSS (SPSS 21.0, IBM, NY, USA).

**Results:** A total of 66 patients with 72 MRONJ lesions were reported within the study period. The cohort consisted of 40 females and 26 males with a mean age of 60.5 years. Majority of these patients diagnosed with MRONJ were on bisphosphonates therapy for breast carcinoma (n=32), or multiple myeloma (n=16). An overwhelming majority (n=60) had received the drug in the intravenous form at monthly/ 3-monthly intervals. Mandibular posterior region was the most common site of MRONJ and teeth extraction was the most common triggering event. All patients received conservative treatment as put forth by AAOMS. Twenty-one patients with refractory MRONJ lesions underwent piezo-surgical debridement followed by primary closure with autologous advanced platelet rich fibrin (aPRF™). A sub-cohort consisting of 35 AAOMS stage II lesions with atleast six months of post-treatment follow- up were re-classified into proposed stage IIa (n=14) and IIb (n=21) as per clinical and radiologic extent. The sub-cohort of stage II patients presenting with diffuse radiographic disease (stage IIb), who underwent minimally-invasive surgical therapy,

demonstrated a marked favourable response [Complete Resolution rate (CR) – 63.6%] than those who underwent non-surgical therapy (CR – 30%). This result was statistically significant ( $p < 0.005$ ).

**Conclusion:** Our retrospective institutional data is reflective of the MRONJ burden at a high-volume tertiary care cancer centre. Extraction can be regarded as the main triggering factor for development of MRONJ. Additionally, our exploratory analysis showed that the two proposed sub-cohorts of stage II MRONJ, IIa and IIb, differ in their response to treatment (non-surgical therapy or minimally-invasive surgery). Based on our observations, we hypothesize a sub-classification of stage II lesion in the existing AAOMS staging system, namely stage IIa and stage IIb.

## Biography

Dr. Gurkaran Preet Singh (MDS in Prosthodontics, Affiliate Fellow of American Academy of Maxillofacial Prosthetics, AAMP) is an Associate Professor in the Department of Dental and Prosthetics Surgery at Tata Memorial Hospital, Mumbai. He has a cumulative experience of more than eleven years as a Specialist Prosthodontist. He completed Fellowship in Dental and Prosthetic Oncology from Tata Memorial Hospital in 2017. He is the Founder Member, and Secretary of the Association of Prosthetic and Dental Oncology (ADPO). He is also an executive committee member of the Mumbai-Navi Mumbai branch of the Indian Prosthodontic Society. His expertise includes dental implant-supported prosthetic rehabilitation of head and neck cancer patients, oral manifestations of systemic oncologic therapy, and medication-related osteonecrosis of jaws. He is a member of the American Society of Clinical Oncology and the International Society of Maxillofacial Rehabilitation.