**Awareness of Oral Melanoma at clinical and histological level**

**INTRODUCTION:**

*.****1. Melanoma Cancer***

Melanoma is the deadliest form of skin cancer and is caused by the malignant transformation of melanocytes [[1](https://www.mdpi.com/2227-9032/12/1/105#B1-healthcare-12-00105)]. Oral diseases are an important public health problem and have a high prevalence. [2] They affect all age groups and can be chronic and progressive, causing great negative impact on quality of life.[3]. Melanocytes are specialized pigment-producing cells found predominantly in the skin, which produce melanin to prevent damage from UV radiation. [4]... Primary melanoma of the head and neck mucosa is a rare malignancy, first described by Weber in 1859 [5]. Malignant melanoma occurs in various parts of the human body, but the most common sites are the hand and feet, followed by the head and neck, trunk, and mucosa [6].

Once considered among the most refractory of cancers to traditional modes of therapy including chemotherapy, radiation therapy, and the early days of targeted therapy, the clinical and therapeutic approaches toward patients with melanoma have witnessed dramatic improvements in cancer cell biology and immunology over the past decade. Striking responses to novel targeted and immunotherapies, with resultant improvements in both quality of life and OS, have substantially altered our approach to patients with metastatic melanoma. In this review, we will provide oncologists with a navigational map to approach this powerful and growing armamentarium.

The accurate histopathological diagnosis of melanoma in the skin can be challenging. Metastatic melanoma may have a varied presentation and be difficult to discern from primary melanoma. In addition, there are unusual cytomorphological and phenotypical variants of melanoma that may cause diagnostic confusion with neoplasms derived from different lineages. In this review article, key concepts of metastatic disease will be reviewed and select rare morphological variants of melanoma highlighted in an effort to help the practising pathologist in daily practice and reinforce the many faces of melanoma.

To date, the risk factors are poorly understood and the pathogenesis remains unclear [7].  The overall five-year survival rate for MM is 10–20% [8]. MMs are very rare tumors representing less than 2% of all melanomas. [9]. MMs are diagnosed in people aged over 65 years, with a rate of 6.3 per million, and they are more frequent in women than men [10]. MM tends to manifest at advanced ages in comparison to CM, with a median age of diagnosis at 70 years. Moreover, it is more frequently identified in women, primarily due to the prevalence of vulvovaginal melanoma, which represents the most common subtype affecting women. In men, the head and neck region emerge as the principal site of MM. [11]. Histologically it resembles to squamous cell carcinoma with large polyhedral cells with eosinophilia cytoplasm and sometimes exhibiting fusiform and mixed type of cells with downward invasion into the connective tissue [12]. Immunohistologically the typical melanoma is reactive for valentine, S-100, protein, HMB -45, melon –A, tyrosine and micropthalmia transcription factor. [13].

**OPERATIONAL DEFINITIONS**

**Histopathological Definition**: Oral melanoma is defined histopathologically as a malignant neoplasm originating from melanocytes within the oral cavity. This definition includes criteria such as the presence of melanin-producing cells exhibiting cytological atypia, mitotic activity, and invasive growth patterns within the oral mucosa or adjacent tissues.

**Clinical Definition**: Clinically, oral melanoma is defined as a pigmented lesion located within the oral cavity, including the lips, gums, tongue, palate, or mucosal surfaces, which exhibits signs such as asymmetry, irregular borders, color variation, and/or rapid growth. This definition emphasizes observable characteristics that may raise suspicion for malignancy upon clinical examination.

**Imaging Criteria:** Oral melanoma can also be defined based on imaging criteria, such as computed tomography (CT), magnetic resonance imaging (MRI), or positron emission tomography (PET) scans. Radiological features suggestive of oral melanoma include a hyper intense or hypo intense mass with irregular borders and invasion into adjacent structures, aiding in staging and treatment planning.

**Staging and Classification system :** Oral melanoma can be defined according to established staging and classification systems, such as the American Joint Committee on Cancer (AJCC) TNM staging system or the World Health Organization (WHO) classification of tumors. These systems categorize oral melanoma based on tumor size, lymph node involvement, distant metastasis, and other prognostic factors, guiding treatment decisions and predicting patient outcomes.

**OBJESTIVES**

* To improve early detection rates of oral melanoma through public awareness campaigns, educational initiatives targeting healthcare professionals, and regular screenings for individuals at high risk.
* To identify and understand the risk factors associated with the development of oral melanoma, including genetic predisposition, exposure to ultraviolet (UV) radiation, immunosuppression, and other environmental factors.
* To develop and implement preventive strategies aimed at reducing the incidence of oral melanoma, including sun protection measures, smoking cessation programs, HPV vaccination, and lifestyle modifications targeting modifiable risk factors.
* To promote health equity and ensure equitable access to high-quality screening, diagnosis, treatment, and supportive care.

**HYPOTHESIS**

**Alternative hypothesis:** There will be the effect of increased exposure to ultraviolet radiation through chronic sun exposure is associated with a higher incidence of oral melanoma within the oral cavity.

**Null hypothesis:** There will be no effect of increased exposure to ultraviolet radiations through chronic sun exposure is associated with a higher incidence of oral melanoma within the oral cavity

**RATIONALE:** Studying oral melanoma is vital for advancing our understanding of this aggressive cancer, improving diagnostic and treatment approaches, and ultimately reducing its burden on individuals and healthcare systems. Understanding the psychosocial impact of oral melanoma on patients and caregivers is essential for providing comprehensive care and support services. Research addressing the emotional, social, and financial aspects of living with oral melanoma can improve patient well-being and enhance the overall quality of care.

**REVIEW OF LITERATURE**

Antoine Thayer, Romaine Nicety, Marie Boolean, and Genial Raoul was researched the term “oral mucosal melanoma “.The research on oral melanoma was between 01/01/2000 and 03/15/2021 on patients presenting oral melanoma and treated in our centers between January 2009 and January 2020 .The aim of this study is to review the current literature on OMM .This research predicts that gingiva and hard palate were the two main locations. The study concludes that treatment protocols varied but radical surgery was the cornerstone treatment associated with adjuvant therapies for treating oral melanoma.

**MATERIALS AND METHODS**

**Study design:** The study design will be

**Place of study:** This study will be conducted at Shauna Khan am Memorial Hospital in Lahore.

**Duration of study:** The duration of this study will be of three months

**Sample size:**

**Sampling Technique:** Non-Probability convenient sampling technique will be used as it’s not convenient to find oral melanoma patients commonly.

**Inclusion criteria:** The people who smoke cigarettes or guitar will be included in this research.

**Exclusion criteria:** The people who do not smoke cigarettes will not be included in this research

**Data collection Instruments:**

* Biopsy tools.
* Microscopes.
* Imaging Modalities.
* Clinical Assessment Tools.

**Research Tools:** This research will be carried out by self –structured preform.

**Data collection Method:**

**Ethical Consideration:** A copy of the project information sheet and a written consent form will be given to each participant before they participate in the study .Any data gathered for this project that could be used to identify participants will be kept private, and any questionnaire responses will be stored in a safe area on university property .A special research identification code will be provided to each participants. Data will be de-identifiable at the time of collections so that each participant’s data can only be identifiable by their initials and unique research identification number.

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