

Oral Squamous Cell Carcinoma In Bundelkhand Region: Epidemiological And Histopathological Profile

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Abstract: *Aim:* To Study The Epidemiological And Histopathological Profile Of The Oral Cancers In Adult Patients In Bundelkhand Region. Our Aim Is To Describe The Oral Cancers In Adult Patients, Theirs Frequences And Their Histopathological Characteristics. **Material And Method:** The Tissue Material For The Study Was Obtained From Various Out-Patients And In-Patients Admitted In ENT And Surgery Department In MLB Medical College, Jhansi From January 2014 To July 2015. A Total Of 55 Cases Were Collected. **Results:** In Our Study, Patients Whose Age Is Above 40 Years Were The Age Most Affected By The Oral Cancer With 89.1%, While Patients Whose Age Is Less Than 40 Years Old Represented Only 10.9% Of The Cases Affected By The Oral Cavity Cancer. In Our Study, Males Accounted For 69% Of All Cases. Oral Well Differentiated Squamous Cell Carcinoma (OSCC) Was The Most Dominant Histological Type In 80% Of Cases. Tobacco Was The Most Dominant Risk Factor With 70% Of All Cases. **Conclusion:** Our Results Correlate Well With Previously Published Clinicopathological Data On Comparable Studies.

Keywords: Oral Cavity, Squamous Cell Carcinoma (SCC)

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I. Introduction:

Oral Cancers Are Emerging As A Major Public Health Problem In India, Which Are Related To Lifestyle, Have A Lengthy Latent Period And Need Dedicated Infra Structure And Human Resource For Treatment. More Than 95% Of Cancers Of The Oral Cavity Are Squamous Cell Carcinomas. They Constitute A Major Health Problem In Developing Countries, Representing A Leading Cause Of Death. Oral Squamous Cell Carcinoma Is An Aggressive Epithelial Malignancy That Is The Sixth Most Common Neoplasm In The World Today. There Are 500000 New Cases A Year Worldwide Of This Two Thirds Occur In Industrialized Nations.. It Is The Sixth Common Cause Of Death In Males And Seventh In Females. Oral Squamous Cell Carcinoma Usually Develops In Male In The 4th And 6th Decade Of Life. In Recent Days Despite Of Advantage Of Treatment, The Overall Long Term Survival Has Remained At Less Than 50% For The Past 50 Year [American Cancer Society]. [Cancer Facts And Figures 2007].

The Cancer And Its Treatment Involve Pain And Disfigurement And It Can Affect Speech, Swallowing And Breathing [Chaturvedi, P. Head And J Can Res Ther 2009]. Clinicopathological Criteria Are Very Important For The Management And Prediction Of Outcome Of Patients. However, It Has Been Observed That Within A Group Of Patients Sharing The Same Clinicopathological Features, There Is Still Significant Variation In Its Outcome. Studies On The Carcinogenesis In Oral SCC Can Lead To Understand Its Biological Behaviour And To Reveal The Underlying Mechanisms Of Cancer Progression And Therapy Resistance [Lingen W. Head And Neck, 2010.] Clinical, Epidemiological And Laboratory Data Has Established That Tobacco Usage And Alcohol Consumption As The Major Source Of Oral Cancers [Chin D, Boyle GM, Theile DR, Parsons PG, Coman WB, 2004]

Smoking Habits That Increase The Risk Of Developing Oral SCC Are Smoking Black Tobacco (Compared To Blond Tobacco), Smoking At A Young Age, Long Duration, High Number Of Cigarettes Per Day, And Deep Smoke Inhalation [Thomas GR, Nadiminti H, Regalado J. 2005]. Avoiding Cigarettes And Alcohol Could Prevent About 90% Of Oral ScCs. Tobacco Chewing Is A Major Cause Of Oral And Oropharyngeal SCC In The Indian Subcontinent, Parts Of South-East Asia, China And Taiwan, Especially When Consumed In Betel Quids Containing Areca Nut [Znaor Et Al., 2003] [Brugere J, Guenel P, Leclerc A, Rodriguez J, 1986]. In India, Chewing Accounts For Nearly 50% Of Oral And Oropharyngeal Tumors In Men And Over 90% In Women [Barnes Et Al., 2005] [Benhamou CA, Laraqui N, Touhami M, Chekkoury A, Benchakroun Y, Samlali R, Kahlain A, 1992].

The Highly Aggressive Expression Of Some Cancer Types And Its Progression To Locally Invasive And Metastatic States, And Recurrences Are Often Associated With Resistance To Treatments. This Could Be Explained By Accumulating Genetic And/Or Epigenic Alterations In Cancer Cells That May Contribute To Their Uncontrolled Growth, Survival And Invasion, As Well As To Their Intrinsic Or Acquired Resistance To Clinical Treatment [Znaor A, Brennan P, Gajalakshmi V, Mathew A, Shanta V, Varghese C, Boffetta P. 2003].

Accumulation Of Genetic Changes In Epithelial Cells Results In Tumor Formation. A Number Of Agents Causes Genetic Damage And Induces Neoplastic Transformation. This Genetic Damage Result In Tumour By Disrupting The Normal Regulatory Pathways That Control Basic Genetic Function Including Cell Division, Differentiation And Cell Death Which Lead To Uncontrolled Cell Proliferation And Development Of Malignancy.

II. Materials And Methods:

This Study Was Conducted In The Department Of Pathology,MLB Medical College Jhansi(UP) From January 2014 To July 2015 . The Tissue Material For The Study Was Obtained From Various Out-Patients And In-Patients Admitted In ENT And Surgery

Department Patients With Oral Cavity Cancers. A Total Of 55 Cases Were Collected.

Cases Were Selected. Patients Diagnosed With Carcinomas Of The Oral Cavity Are Included In The Study. Histological Grading Of Tumours Is Performed Following The WHO Criteria For Squamous Cell Carcinoma. From These Selected Patients, The Data Pertaining To Age At Diagnosis, Sex, Tumor Location, Lymph Nodal Status And Assessment By Histology/Cytology (Wherever Available) Is Noted In Particular. Follow Up Data Were Obtained From Case Files/Hospital Records/Surgeons Notes.All Patients With Pathological Examination Which Did Not Allow To Define The Nature Of Cancer, Patients With Cancer In The Nasopharynx, Maxillary Sinus And The Parotid Gland, Patients Having A Cancer Other Than Cancers Of The Oral Cavity; And Patients With Benign Tumors Of The Oral Cavity Were Excluded From The Study.

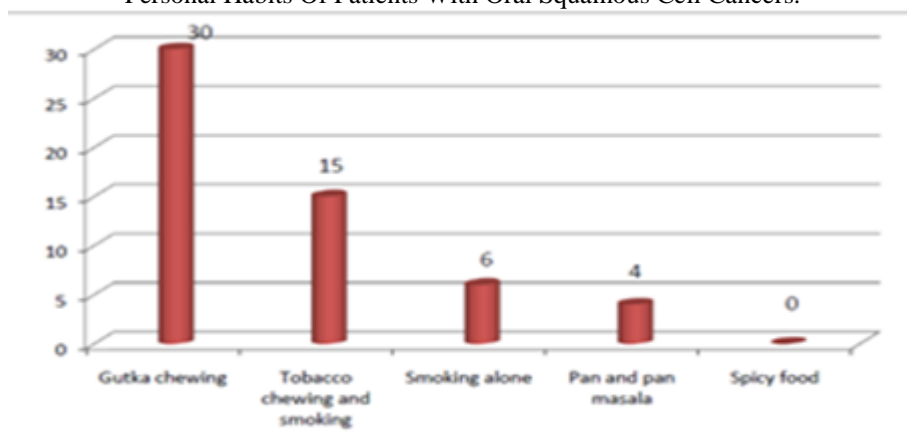
III. Results:

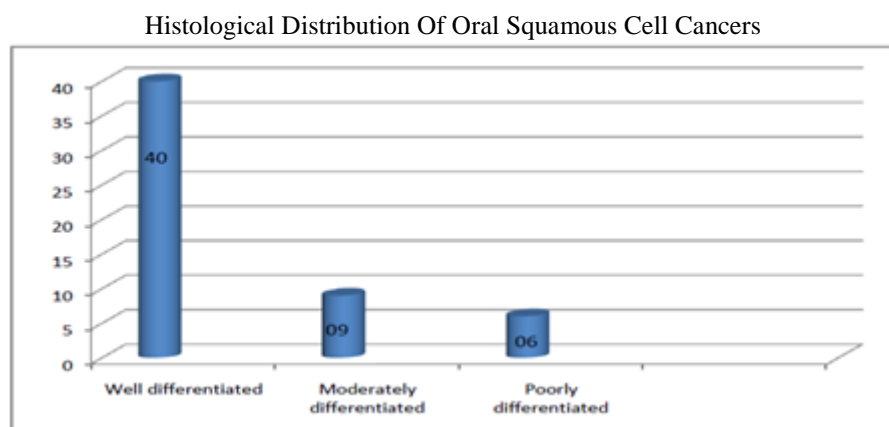
Of The 55 Cases Of Oral Cancers 38/55 (69%) Males And 17/55 (31%) Females. The Present Study Showed A Male Preponderance (69%) Of Oral Squamous Cell Carcinoma With Male: Female Ratio As 2.2:1. The Age Group Ranged From 31-80 Years With A Mean Age Of 56 Years. The Peak Incidence Was Found In The Age Group Of 41-60 Years (65%). The Most Common Site Of Oral Cancers In The Present Study Was Found In The Oral Cavity (80%). Majority Of The Cases Were Well Differentiated (72.74%) And Almost Equal Number Of Moderately And Poorly Differentiated Cases. . Tobacco Was The Most Dominant Risk Factor With 70% Of All Cases.

The Present Study Is Comparable To The Previous Study By **Oliveira MVM Et Al, Mineta H Et Al** And **Boslooper K Et Al** Which Showed Oral Cavity As The Most Common Site.

Treatment Was Based On Surgery Alone With A Rate Of 52%, Followed By Surgery And Radiotherapy Combination With 33% Of Cases .Regarding Followed Patients, Treatment Was Favorable In 56% Of Cases, 35% Had Tumor Recurrence, 6% Developed Metastases,.

Personal Habits Of Patients With Oral Squamous Cell Cancers.





IV. Discussion

The Oral Squamous Cell Cancer Is A Malignant Neoplasm, Multifactorial And Considered The Highest Incidence Among All Oral Cancers. Just As Other Carcinomas, The Risk Of Oral Squamous Cell Carcinoma Increases With Age, Especially In Men.

It Is A A Disease Stemming From Environmental Insult, Because It Occurs Among Those With Prolonged Exposure To Smoking, Betel Quid, Tobacco Chewing & Alcohol Drinkingthe Studies On The Carcinogenesis In Oral Cancers Can Lead To Understand The Biological Behavior And Help To Reveal The Underlying Mechanism Of Cancer Progression And Therapy Resistance.

In The Present Study, 69% Were Males And 31% Were Females. There Was A Clear Male Preponderance With M:F Ratio Of 2.2:1 Which Was Comparable To The Studies By **Vicente J Et Al**, **Mineta H Et Al** And **Oliveira MVM Et Al**.

P. N. Wahi (1968) In His Study Found That Those Who Were In The Habit Of Chewing Tobacco Daily Had An 8 Times More Risk To Develop Oral Cancer Than The Non-Chewers. The Prevalence Rate Was Observed To Be Closely Associated With Age At Which The Patient Started Chewing And The Frequency Of Tobacco Chewing Per Day.

Martinez (1969) In A Case Control Community Based Study Of 1100 Patients With Cancer Of The Esophagus, Mouth And Pharynx Estimated That The Relative Net Increased With The Increasing Amount Of Tobacco Use. The Risk Was From 2.5 To 5 Times Higher For Heavy Smokers Than For Non-Smokers. The Problem Of Heavy Smoking Was Always Greater Among Patients Than Controls.

Reddy (1974) In His Study In Andhra Pradesh Found That For Females The Estimated Risk Of Developing Hard Palate Carcinoma With Reverse Smoking Of Chutta Was 132 Times That Of Females Without The Habit. Females Had Twice The Incidence Of Hard Palate Cancer As Do Men. The Method Of Smoking Not Withstanding, There Is Ample Evidence To Support The Premise Of Tobacco Consumption As A Dose/Time Related Entity In The Etiology Of Intra-Oral Cancer.

However, In India Where Chewing And Smoking Tobacco Is Practiced, There Is A Striking Incidence Of Oral Cancer- These Cases Account For Approximately 50% Of All Cancer Cases. As The Distribution Of Tobacco Consumption Is Not Uniform, It Is Often Found To Be Significantly Higher Among Lower Socioeconomic Groups. Such Results Have Been Reported By **Rahman Et Al (2003)**; **Waruakulasuriya (2005)** And **Subapriya Et Al (2006)**. Smokeless Tobacco Has A Stronger Effect Than A Smoking Type Because Of The Direct Contact Of The Tobacco Carcinogens With The Oral Epithelium As The Chewing Tobacco Products Are Chewed Or Kept In The Mouth. However, The Etiologic Role Of These Factors Is Not Well Understood And Further Methods For Modifying Them Need To Be Developed (**Weinberg And Stefan, 2002**).

Tobacco Addiction Has Been Widely Implicated In The Etiology Of Oral Cancers. In The Present Study, 82.0% Cases Were Tobacco Users, Which Strongly Suggests Close Relation Between Tobacco Use And Cancers Of Head And Neck. Tobacco Chewing And Smoking Had Been The Most Common Personal Habit Accounting For In 44.0%. Tobacco Chewing Alone Was Observed As Next Common Personal Habit And Smoking Accounted For 11.0% Cases.

Agarwal Et Al (2011) Also Reported That Tobacco Chewing, Smoking And Alcohol Intake Are The Most Common Identifiable Factors For Both Oral As Well As Oropharyngeal Cancer.

V. Conclusion:

Despite Advances In The Treatment And Understanding Of The Underlying Molecular Mechanisms Involved In The Pathogenesis Of Oral Cancer, Survival Rates Have Improved Significantly. Our Results Correlate Well With Previously Published Clinicopathological Data On Comparable Studies, Which Is

Important When Considering The Applicability Of Results From Biomarker Studies Performed On This Material Compared To Other Retrospective And Studies, And Vice Versa.

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