

Clinico-pathological features of oral squamous cell carcinoma in relation to conventional prognostic parameters and nucleolar organizer regions

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Oral squamous cell carcinoma (OSCC) is an aggressive tumor that accounts for over 90% of oral tumors, and which has high mortality rate. The aim of carrying this study was to establish the clinico-pathological features of oral squamous cell carcinoma in patients reporting at Muhimbili National Hospital and relate to traditional clinical staging and see if silver stained nucleolar organizer regions can provide additional information on biological behaviour of OSCC and therefore be applied as prognostic marker in order to aid treatment plan of an individual patient. This study was performed on 111 patients with OSCC. 1NM clinical staging was done as recommended by UICC. Two slides were prepared from paraffin-embedded tissue specimen, one for H&E stain which was reviewed for histological diagnosis and grading, and the other slide for silver staining following the procedure of Ploton et al (1986) and modified by Vuharlrla et al (1995). Thereafter the counting was done in randomly selected 100 nuclei. The results of this study showed that there were more males affected (56.8%) than females (43.2%) with male to female ratio of 1.3:1. The older age group (21-40 years {89.2%}) was more affected than the younger age group (<40 years {10.8%}). Majority of patients sought treatment when the tumors were already in advanced stage (88.3%) (Stage III and IV), only 11.7% reported with stage II tumors and none with stage I. Most of patients (94.6%) reported after the 4th month from the beginning of the symptoms with mean duration of 12.5 ± 7.82 (SD) months. More than eighty percent of metastasis to the lungs was encountered in one patient. This was detected by plain chest radiograph. Histologically, majority of the tumors (77.5%) were well differentiated, 14.4% were moderately differentiated and 8.1% were poorly differentiated. Mean AgNOR count of these 111 cases ranged from 3.79 - 14.90. Cut off point at 4.6 was established as it was the value which separated the distribution of Ag NOR counts into two groups when the scatter diagram of clinical stage and AgNOR count was plotted. Majority of tumors displayed high AgNOR count. The mean Ag OR count of each tumor was related to size, duration, anatomical location, lymph node involvement, histological grade and clinical stage. Strong correlation was established between Ag TOR count and lymph nodes involvement ($p=0.000005$). Furthermore, a positive trend towards increased AgNOR count with

advanced stage was observed with statistical significant difference differentiated tumors, but it was not statistically significant. There was no association established between AgNOR count with other parameters such as age, sex, size, MNH. These patients present late with advanced tumors (stage III and TV), lymph node involvement and large tumors. Assessment of OSCC by AgNOR has shown potential ability of this technique for estimation of biological behaviour of OSCC and therefore it may be performed prior to treatment planning of OSCC.