

ABSTRACT

DISSERTATION TITLE:

EXPRESSION OF CAVEOLIN-1 IN VERRUCOUS CARCINOMA AND IN ORAL SQUAMOUS CELL CARCINOMA

AIM:

To evaluate immunohistochemically, the expression of Caveolin-1 in Verrucous carcinoma (VC) and in Oral squamous cell carcinoma

MATERIALS AND METHODS:

This study was conducted on archival tissue samples of histopathologically confirmed cases of verrucous carcinoma and oral squamous cell carcinoma. This study comprised of a total of 60 samples in which 30 samples were of well differentiated oral squamous cell carcinoma, 30 samples were Verrucous carcinoma. Sections of 4 micron thickness were made from each block and slides were stained by immunohistochemical method using Caveolin-1 polyclonal antibody raised in rabbit. The observations were done using binocular light microscope with 40x magnification. The counting was done in five randomly selected high power fields. The positivity of cells was graded as 0, 1, 2, 3 and 4 based on the percentage of cells per high power field that had taken up the stain. The intensity of expression was evaluated as negative, mild, moderate and intense. Immunoreactivity scores were then obtained for by multiplying the average score for positivity percentage with the average score for staining intensity for each case.

STATISTICAL ANALYSIS:

Results obtained were analysed using T-test.

RESULTS:

In our study all 60 cases showed positivity for caveolin-1 expression, although the degree, extent and intensity of staining were different among both groups. The number of cells taking up Cav-1 (PP) decreased as the severity of lesion increases (i.e) from Verrucous carcinoma to squamous cell carcinoma. Both the groups showed mild, moderate and intense expression of Cav-1. There was a decline in IRS as the severity of lesion increased. In Verrucous carcinoma group all samples showed positive staining from basal layer to granular layers. In squamous cell carcinoma group, all samples showed positive staining from basal layer to spinous layers. Immunoreactivity for Cav-1 was highest in Verrucous carcinoma group when compared to squamous cell carcinoma group.

CONCLUSION:

In our study verrucous carcinoma showed increased expression when compared to squamous cell carcinoma indicating that when the severity of the lesion increases as from verrucous carcinoma to squamous cell carcinoma Cav-1 expression decreases. Probably cav-1 is lost during the process of ‘increase in malignant potential’ which may be due to oxidative stress.

KEY WORDS: Caveolin-1, Verrucous carcinoma, oral squamous cell carcinoma tumor suppressor, oxidative stress.