Evaluation of serum LDH as a diagnostic and prognostic marker in pre and post treatment analysis of OSCC and compare with normal healthy individuals

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Oral cancer is one of the major global threats to public health. The development of oral cancer is a tobacco-related multistep and multifocal process involving field cancerization and carcinogenesis. In India, where the habits of chewing tobacco with betel nut, reverse smoking, and heavy alcohol usage are common, there is a striking incidence of oral cancer, which accounts for as many as 30-40% of all cancers. About 90% of oral cancers are squamous cell carcinomas (OSCCs). Tumor markers are the substances, which quantitatively change in serum, during tumor development. Tumor markers have now been introduced in the diagnosis of malignant lesions. One such tumor marker is serum lactate dehydrogenase (LDH). In the present study, an attempt was made to correlate the level of serum LDH with premalignant lesions/conditions and oral squamous cell carcinoma (OSCC). This study was carried out to evaluate the role of serum LDH as a biochemical marker in different grades of OSCC before and after treatment. Estimation of LDH level in serum was done by an autoanalyzer for spectrometry, and the statistical analyze was done by Anova. The mean value of serum LDH with lesions is 272.66IU/L and a SD of 81.06 in comparison with the control group of 226.55IU/L and 59.27 respectively. The intergroup comparison of pretreatment levels of serum LDH was significantly higher in poorly differentiated than well and moderately differentiated OSCC. (447.73IU/L, 514.36IU/L, 636.64IU/L respectively). There was a decline in the serum LDH after treatment within 6months. Serum LDH level can serve as a biochemical tool in assessing the malignant potential of premalignant lesions. Estimation of serum LDH may be used to screen the cases of oral malignancy as an adjunct to diagnosis. Serum LDH can be used as a prognostic marker and for decision making in treatment modalities.