

Clinicopathological correlation of Cyclin-D1 expression with chemoradiation response in oral squamous cell carcinoma

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Cyclin D1 has been strongly implicated in cell cycle proliferation particularly in the G1/S checkpoint in the cell cycle, and prognosis in human malignancy. The current study was done to evaluate the correlation of Cyclin-D1 expression in terms of chemoradiation response.

Prospective case series of 97 cases of locally advanced stage III & IVA oral squamous cell carcinoma (OSCC) with performance status 0 and 1, receiving chemoradiation with two cycles of neo-adjuvant Cisplatin and taxol based chemotherapy at a interval of 3-weeks, followed by Radiotherapy with cobalt-60 along with concurrent Cisplatin as a radiosensitizer 4-weeks after completion of 2nd cycle chemotherapy. Treatment response was assessed in all cases by WHO criteria. Cyclin-D1 expression in tumor tissue was studied by immunohistochemical method and quantified as percentage positive nuclei.

The study group (n=97) include 29 Complete responders, 54 Partial responders and 14 Non responders. The percentage of cyclin-D1 expression varied from negative to strongly positive with >90% nuclear positivity. Interestingly all the cases with strong positive expression of cyclin-D1 (n=12) were non responders and cases with negative expression of Cyclin-D1 (n=13) showed complete response. There was significant difference in the mean cyclin-D1 positivity between complete, partial and non responders (p <0.001). Cyclin-D1 expression was significantly associated with higher tumour stage (p <0.001) and lymph node metastasis (p <0.001).

Therefore Cyclin-D1 seems to be useful prognostic factor, and could be a marker to help determine the appropriate treatment modality for patients with oral squamous cell carcinoma.

Keywords: Cyclin-D1, Immunohistochemistry, Squamous Cell Carcinoma, Chemoradiation.

Biography

Seema Gupta works as associate professor in Department of Radiation Oncology, Chhatrapati Shahuji Maharaj Medical University (Upgraded King George's Medical University), Lucknow. Her outstanding & innovative lectures are focused on Head & Neck Cancer. Dr. Gupta is performing two research projects in Molecular Oncology currently. She is recognized in the team for her excellence and the innovation of the works. Beside this She is guiding a PhD student of doing research work on Oral Cancer specially. Dr. Gupta has research experience of 10 years. She has published more than 25 papers in reputed journals.

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