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Neurotransmitter substance P mediates oral squamous cell carcinoma

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Oral squamous cell carcinoma (OSCC) is the most frequent type of head and neck cancer. Aim of the present study was to evaluate the expression and distribution of Substance P (SP) in different grades of OSCC and the potential of SP as a diagnostic marker. 40 OSCC biopsies (29 males and 11 females) were immunohistochemically analyzed by using SP antibody. 14 cases were well differentiated, 14 were moderately differentiated and 12 were poorly differentiated. Maximum cases fall in the age range of 41-60 years and 16 in 61-80 years. Mean age of females was 53.54 years while males were 51.24 years. 62% of cases were SP positive. Most of the positive cases were from floor of the mouth and belonged to the age group 41-60 years. 93% of moderately differentiated, 92% of poorly differentiated and 8% of well differentiated carcinoma cases were positive for SP. SP expression intensity was maximum in poorly differentiated cases having +3 intensity. More patients were males and having grade moderately and poorly differentiated while more females belonged to well differentiated group. 68.96% of males were positive while only 45.45% of females were positive. Among all OSCC positive cases, 48% belonged to poorly differentiated, 48% to moderately differentiate and 4% to well differentiated. Strong expression of SP in poorly and moderately differentiated OSCC suggests a role of SP in progression and development of tumor. SP antagonists can help in reduction and inhibition of oral cancer.

Biography

Riffat Mehboob is Assistant Professor in Department of Biomedical Sciences, King Edward Medical University, Lahore, Pakistan. She has done Ph.D. in Pathology (Neuroscience) from University of Milan, Italy and M.Phil in Medical Genetics from National Center of Excellence in Molecular Biology, Lahore, Pakistan. In Ph.D. she studied the expression of neuropeptide Substance P on brainstems of victims of sudden prenatal death. Different pattern of expression of substance P was observed in sudden fetal, infant and stillbirths as compared to normal controls. She is now involved in teaching to postgraduate medical students and Ph.D. students. She mentored many Ph.D. and M.Phil students. She has successfully co-supervised a Ph.D. Student on Mutation analysis in Retinoblastoma gene in Pakistani population and supervising 4 Ph.D. students on Multiple Sclerosis, Gene expression studies in Oral squamous cell carcinoma, Lung and colorectal carcinoma. Her research work is related to Cancer genetics, clinical research and epidemiology. She has published articles in the field of Neuropathology, Clinical Studies, Genetics, Cancer and Histopathology. She is a member of International Academy of Pathology and International Federation for Infection control. She is member of editorial board and reviewer of some journals.

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