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Thesis Title	Glycoconjugates Profile in Hyperplastic, Dysplastic and Neoplastic lesions of the oral cavity.		
Year	2006		
Abstract	<p>Introduction: Cell glycoconjugates are carbohydrate rich molecules that play a significant role in the interaction between the cells with each other and between cells and their environment during growth and development and during disease process including malignant transformation.</p> <p>Aim: The main aim of this study is to investigate evaluate the expression of cell glycoconjugates in normal mucosa, oral leukoplakia and oral squamous cell carcinoma.</p> <p>Materials and Method: One hundred nineteen selected cases were included in this study. These represent 68 cases of oral leukoplakia and 46 cases of oral squamous cell carcinoma. The cases were collected as specimens from the archives of Oral Pathology Department in College of Dentistry, University of Baghdad retrospectively. Five cases of normal oral mucosa were also included as a control. A clinicopathological study was conducted on the studied group. Histochemical investigation of cell glycoconjugates was done using lectins.</p> <p>Results: Results were based on the analysis of clinicopathological and histochemical findings of the 119 cases under study. From the 68 cases with oral leukoplakia, 34 cases were diagnosed as having epithelial</p>		

hyperplasia, 20 of them were male and 14 were female patients (male: female ratio 1.4:1). Their age ranged from 8-80 years with a mean age of 41.8 years. The other 34 cases of oral leukoplakia were diagnosed as having different grade of epithelial dysplasia, 15 of them were male and 19 were female patients (male: female ratio 0.78: 1). Their age ranged from 24-78 years with a mean age of 53.47 years.

The remaining 46 cases were diagnosed as squamous cell carcinoma, 26 of them were male and 20 were female (male: female ratio 1.3: 1). Their age ranged from 25-85 years with a mean age of 60.1 years.

The buccal mucosa represents the most affected site in oral leukoplakia with epithelial hyperplasia (38.23%), in oral leukoplakia with epithelia dysplasia (47.05%) and in oral squamous cell carcinoma (26.09%). Oral leukoplakia with epithelial dysplasia mostly appears as white lesion (88.23%) while the rest appears as a mixed red and white lesion (11.77%). The most clinical representative form of oral squamous cell carcinoma is an area of ulceration (50%).

Histopathological investigation revealed that oral leukoplakia with epithelial dysplasia showed that 67.64% were mild dysplasia, 8.82% were moderate dysplasia, 20.60% were sever dysplasia and 2.94% were carcinoma in situ. Oral squamous cell carcinoma showed that 69.56% were well differentiated, 19.57% were moderately differentiated and 10.87% were poorly differentiated type.

Histochemical investigation of cell glycoconjugates using lectins revealed that aberrant glycosylation accompanied the process of malignant transformation.

- ◆ N-acetylglucosamine and N-acetylgalactosamine were abnormally glycosylated or disappeared during the course of malignant transformation.
- ◆ Galactose showed no significant differences in all studied group.
- ◆ Mannose, glucose and fucose were expressed strongly during malignant transformation.
- ◆ Thomsen-Friedenrich antigen was expressed strongly in dysplastic tissues and in well differentiated squamous cell

carcinoma and its intensity decreased as the tumor became moderately differentiated until in poorly differentiated type it shows very weak intensity or disappear completely.

- ◆ Sialic acid expressed strongly in the extracellular matrix of the cells of squamous cell carcinoma only.

Conclusion:

Aberrant glycosylation has accompanied the course of malignant transformation and the main change that occurred is the disappearance of the acetylated sugar. This disappearance could be either due to loss of the acetyl group from the glycoconjugates or due to the masking effects of sialic acid that surround malignant cells.