IJAE Vol. 115, n. 1/2 (Supplement), 2010

Glycodelin and p16 expression in cervical intraepithelial neoplastic lesions: differences between pregnant and non-pregnant patients

Antonio Zizzi[1], Guendalina Lucarini[2], Daniela Stramazzotti[1], Andrea Ciavattini[3], Gaia Goteri[1]

[1] Department of Neurosciences, Section of Pathological Anatomy, Polytechnic University of Marche Region, Ancona Hospital, Italy
[2] Department of Molecular Pathology and Innovative Therapies, Section of Histology, Polytechnic University of Marche, Ancona, Italy
[3] Department of Obstetrics and Gynaecology, Polytechnic University of Marche Region, Ancona Salesi Hospital, Italy

Cervical intraepithelial neoplasias (CIN) are Human papillomavirus/HPV-related lesions in which p16 is a key cell-cycle molecule induced by HPV integration in host cell DNA and directly correlated to the progression risk. In pregnancy, CIN lesions seem to have a favourable behavior and a high rate of regression, allowing a delayed treatment of the patients after delivery. The mechanisms underlying this biologic behavior are not understood, but suggest the important role played by factors directly related to the pregnancy. We focused our attention on glycodelin, which is a molecule highly expressed in uterine tissues during pregnancy with immunosuppressive properties which might influence the progression of Human papillomavirus/HPV-related CIN lesions. Glycodelin has been previously found in 60% of CIN cases, but no data are available for pregnant patients. The aim of our study was to compare immunoreactivity for glycodelin and p16 in 27 cases of CIN, diagnosed in 12 pregnant and 15 nonpregnant patients. Cases were classified as CIN I (5 cases), CIN II (8 cases), and CIN III (14 cases): no differences of histological grade were noted between pregnant and nonpregnant patients (P=0.10). Glycodelin expression appeared to be significantly lower in dysplastic lesions compared to normal squamous epithelium adjacent to CIN, but no differences of expression were noted among different histological grades and between the two groups of patients. p16 expression was highly correlated with CIN histological grade, but only in the nonpregnant group; in pregnant patients, instead, a loss of correlation between p16 and histological grade was observed; moreover, only in this subgroup of patients, p16 expression was inversely correlated with glycodelin. Our results suggest that in pregnancy, when CIN lesion has glycodelin preservation as in the normal epithelium, p16 might be not overexpressed. A possible explanation for these observations might be that during pregnancy, preservation of glycodelin might be a epiphenomenon of unknown mechanisms protecting dysplastic epithelia from HPV integration in the host cell DNA, thus reducing p16 expression and preventing risk progression, independently from the histological grade of the lesion.

Key words
Cervical intraepithelial neoplasias, glycodelin, p16, immunehistochemistry, pregnancy