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Determination of estrogen, progesterone receptor and Ki-67 immunoreactivity in early stage cervical carcinoma: association with human papillomavirus infection and prognosis

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Introduction The predictive values of estrogen (ER) and progesterone receptor (PgR) status and cell proliferation kinetics in cervical carcinomas are still unsettled. The purpose of this study was to clarify the associations among ER/PgR status and Ki-67 expression and to determine their relationship to human papillomavirus (HPV) infection, recurrence rate and other clinicopathologic parameters (age, tumor diameter, depth of invasion, histotype, grade, vascular involvement, inflammatory infiltrate, lymph node status) in early stage cervical carcinomas.
Materials and methods ER, PgR and Ki-67 immunostaining was performed in 72 cervical carcinoma radical hysterectomy specimens (pT1b1/pT1b2). ER/PgR staining was scored in a semiquantitative fashion, while to evaluate the cell proliferation, the Ki-67 labelling index (LI) was assessed in the surface area, center and invasion front of each tumor. HPV status was determined by CARD in situ hybridization.
Results and conclusion ER positivity was detected in 11 (15%), while PgR positivity in 14 (20%) carcinomas. ER/PgR values were in correlation with Ki-67 LI in all three tumors' compartments ($p<0.01$). In contrast to ER/PgR status, Ki-67 LI was strongly associated with HPV infection ($p<0.01$). No relationship was found between PgR or Ki-67 immunoreactivity and either recurrence rate or any other clinicopathological variable investigated. Nevertheless, reduced ER expression was significantly associated with larger tumor diameter ($p=0.04$) and poor differentiation ($p=0.03$), as well as lymphovascular involvement ($p=0.04$) and lymph node metastases ($p=0.02$). These results suggest that ER, PgR and Ki-67 expression are closely related to neoplastic cell proliferation, probably induced by HPV infection. Their determination may provide additional prognostic information in early stage cervical carcinomas.

P-070

Immunohistochemical assessment of heat shock protein 70 expression in epithelial ovarian carcinomas: Relationship with apoptotic markers as over-expression of bcl-2 and p53

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Purpose Heat shock proteins (hsps) occupy a central role in the regulation of intracellular homeostasis and especially hsp70 and hsp27 are potent antiapoptotic proteins. Overexpression of hsp70 protects cells from stress-induced apoptosis. The aim of this study was to determine the distrubition pattern of hsp70-expression in ovarian carcinomas by immunohistochemistry and to evaluate its relationship with the prognostic parameters and over-expression of bcl-2 and p53 proteins.
Materials and methods Thirty-five patients with ovarian carcinoma were included in the present study. Expression of hsp70 was assessed by immunohistochemistry. The relationship between expression of these proteins and other prognostic markers such as stage was evaluated.
Results Hsp70 was expressed in all of ovarian cancer cells with different intensity. The staining was localized in the cytoplasm and/or nuclei. There was a negative correlation between stage and both intensity of hsp70 positivity and bcl-2 positivity (respectively: $r= -0,478$; $p<0.01$; $r= -0.386$, $p<0.05$). Intensity of hsp70 positivity was statistically associated with bcl-2 positivity ($r=0.435$, $p<0.01$). There were no significant associations between p53 positivity and bcl-2 positivity, intensity of hsp70 or stage of ovarian carcinoma.
Conclusions These data show that the intensity of hsp70 positivity was significantly stronger in early stage than in advanced stage ovarian carcinomas. Hsp70 expression detected by immunohistochemistry was correlated with bcl-2 expression but not with p53 protein expression.

P-071

Endometrial avb3 integrin expression and pinopode formation in women receiving hormone replacement therapy

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Background avb3 integrin and pinopodes have been proposed as new markers of endometrial receptivity. There is also a very limited experience on the responses of these markers to hormonal therapies. The aim of this study is to evaluate the effect different hormone replacement treatment on these markers.
Design We studied 12 fertile controls and 16 women with ovarian failure receiving hormone replacement therapy (estradiol valerate (EV) and vaginal progesterone (VP), group E+EP). Those women were divided randomly into two subgroups of 8 patients. Group E+P received EV for 14 days and VP alone for 14 days. Group E+P+EP was given E+EP therapy but including episodic VP on days 8 and 11. All women underwent two endometrial biopsies during a single menstrual cycle (days +7 to +8 and four days later). avb3 integrin was detected in frozen tissue using the EnVision system. Pinopode formation was evaluated in tissue fixed in glutaraldehide using a Zeiss DSM940A scanning electron microscopy. Both avb3 integrin and pinopode formation were semiquantitatively evaluated.
Results Patients in group E+P+EP showed markedly decidualized endometria in the midluteal biopsy and a significant increase of avb3 integrin expression ($p=0.01$ for both parameters). No significant changes in pinopode formation were observed in midluteal biopsies. No differences were observed in late luteal biopsies.
Conclusions avb3 integrin expression and pinopode formation are signs of endometrial maturation related to progesterone action but their significance in terms of endometrial receptivity in the clinical setting remains to be shown. Supported by grant PI020036 (Fondo de Investigaciones Sanitarias).