HLA-DR AS A NEW PREDICTORIAL BIOMARKER OF ENDOMETRIAL CANCER DEVELOPMENT

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Introduction/Background HLA expression is associated with inflammation, is found on the of tumor cells and is insufficiently studied in endometrial pathology.

Purpose of the study: to determine the features of HLA-DR expression in the endometrium in normal, chronic endometritis, polyps, endometrial cancer.

Methodology HLA-DR expression in epithelium and stroma of 227 endometrial samples was assessed by immunohistochemistry: normal endometrium (NE, n=56), chronic endometritis (CE, n=139), endometrial polyps (EP, n=14), endometrioid endometrial adenocarcinoma (EA, n=18). The expression of HLA-DR on immune cells of stroma was designated as HLA-DR-im. The expression of HLA-DR in the epithelium was designated as HLA-DR-ep and divided into High expression (HLA-DR+High - above 50% of the glands) and low (HLA-DR-ep+Low - less than 50%).

Results HLA-DR-im were observed in the stroma in all groups. HLA-DR Rep is heterogeneous in the endometrial epithelium. HLA-DR Rep negative expression was found in 55.6% of cases with AE; in 25.2% of cases with CE; in 27.7% with EP in 100% of cases with NE (p<0.05, Mann-Whitney test). HLA-DR Rep+High was found in 21.6% for HE; in 28.6% for EP and in 16.7% for AE, it is associated with a high amount of HLA-DR in the stroma (p<0.05 Mann Whitney) and significantly frequent detection of HLA-DR+ lymphoid follicles in AE (x2, p<0.05). HLA-DR Rep+Low is set to 51.8% at HE; in 27.8% with PE and in 27.7% of cases with AE and low content of HLA-DR in the stroma (p>0.05, Mann-Whitney test).

Conclusion We identified two main types of HLA-DR expression in AE: HLA-DR+ and HLA-DR+ (High and Low). We hypothesized that the HLA-DR expression of endometrial cancer cells associated with chronic inflammation and probably reflects a special mechanism of carcinogenesis which requires further complex molecular genetic research. HLA-DR expression in endometrial epithelial cells of chronic endometritis is a high risk factor for cancer.