An evaluation of NFkB expression protein in patients with ovarian serous carcinoma in non-sensitive group to chemotherapy.

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BACKGROUND: Epithelial ovarian cancer (EOC) is one of the most important gynecological tumors related to death around the world. The standard treatment in ovarian cancer is maximal cytoreductive surgery followed by chemotherapy based on platinum and taxane. Although EOC initially have good response to platinum-based treatment, relapses and progression to resistance to chemotherapy have been observed. Many studies have focused on the role of NFkB in EOC, and they have been proposed that NFkB may be related to platinum chemoresistance in ovarian cancer cells line. NF-kB transcription factors are involved in several biological processes, such as inflammation, immune response, cell proliferation and differentiation, apoptosis, and tumor progression.

HYPOTHESIS: In this scenario, it is still difficult to identify at diagnosis if patients will have a more aggressive tumor or present resistance or sensitivity to chemotherapy. Thus, the aim of this study is evaluation of wheteher NFkB is needed to predict the characteristics tumor and ease the choice of a more appropriate and effective treatment for serous carcinoma patients with high-grade, responsible for high rates of mortality.

METHODS: We selected 55 primary tumours from high-grade serous ovarian carcinoma, in according to staging and maximal cytoreductive surgery. NFkB expression was assessed in tissue microarray by immunohistochemistry, using anti-NF-kB p65 antibody. We separed two groups in according to chemotherapy response, non-sensitive and sensitive groups, and correlated the NFkB nuclear expression with disease-free survival and disease-specific survival in 5 years.

RESULTS: Non-sensitive group (16/55) showed higher expression of p65 than sensitive group (36/55), but there was no statistical significance ($p = 0,0838$). Patients that showed nuclear NFkB negative expression (34/55) had better disease-free survival and disease-specific survival than those showed nuclear NFkB positive expression (21/55) ($p = 0,01$ and $p = 0,004$, respectively).