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Early diagnosis of ovarian carcinoma

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Ovarian Carcinoma (OC) is the most lethal gynecologic tumor, with 22,240 new cases and 14,030 deaths in the USA in 2013. While cervical and endometrial carcinoma underwent a spectacular decline over the past 5 decades due to detection of precursors and early cancer stages, no significant decrease of OC occurred during this period. Most OC are diagnosed in Stage III when the tumor is spread to the abdominal cavity and the 5 year survival is about 35%. Precursors of OC are subtle changes in the ovarian and fallopian tube epithelium, difficult to assess because of the lack of clinical symptoms. They were studied in patients at risk for OC, with family or personal histories of breast and/or OC, bearing a mutation of BRCA genes. These patients however represent a minority, about 90% of OC being sporadic. Microscopic and molecular genetic studies identified changes on the ovarian and fallopian tube surface epithelium that may precede overt cancer, such as dysplasia, carcinoma *in situ*, P53 mutation (a potent discriminating factor of OC). These changes were identified in specimens removed prophylactically from women at risk for OC (a procedure that prevents the development of most OC), and in the vicinity of invasive OC. The diagnosis of stage I OC, when the tumor is confined to the ovary(ies) is rare. The early stage OC patients have a 5 year survival rate of about 90%. The early symptoms of OC are few and non-specific, and Ca125, the most frequently used tumor marker, is neither sensitive nor specific enough. While early OC is clinically silent in most cases, associated pathologic changes are likely to be symptomatic: pelvic and especially ovarian endometriosis manifested as painful pelvic masses, and uterine polyps, endometrial hyperplasia/neoplasia causing abnormal vaginal bleeding. The associated OC are often histologically different (endometrioid, clear cell or mucinous OC) from those diagnosed in late stages, unfortunately the most numerous, which are serous OC. The latter however are more often diagnosed in Stage I in patients under close medical surveillance due to known risk factors (family or personal history, BRCA positivity). New surgical approaches to the ovaries and search for specific and sensitive tumor markers will hopefully advance this recent insight into precursors and early stage diagnosis of OC to clinically effective ways to improve the present poor prognosis of OC.

Mechanisms of metabolic activity realization of specific antitumor activity of the novel medicinal preparation deglutam

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Metabolic mechanisms of realizing the activity of antitumor low-molecular weight peptid Deglutame (Dg), L-Glutamine (Gln) derivatives, were studied on W-256, SM-1, SM-45 and PC tumor-bearers rats. Dg on its enteral and parenteral injection (50 mg/kg) was proved to induce the glycolysis suppression and glyucogenesis activation and induces the impoverishment of free amino acids pool in tumor-bearers' liver. Gln on it's per oral injection at isomolar Dg dose exerted the single-oriented, but less expressed, influence upon the induce studied. After Dg or Gln injection, Gln concentration decreases while in SM-1 and PC-1 tumor bearers this decrease most evidently is displayed after Dg injection in liver, blood plasma and in the tumor itself, and in tumorous tissue only. Moreover, in blood plasma and liver of W-256 tumor-bearers the total amino acids content, competing with Gln for general systems of transmembranous transport decreases, but it practically does not change in the tumor itself. In liver and blood plasma of SM-1 and PC-1 tumor bearers the total amino acids content, on the contrary, does not change significantly and decreases in tumorous tissue only. After Gln injection the negative correlative relation existing in intact tumor-bearers and confirming the selective Gln absorption by the tumorous tissue between the Gln levels in liver and tumor disappears. According to the data of correlative analysis the "antiglutamine" mechanism of Dg influence is realized only on it's per oral injection depending on real endogenic Gln and amino acids concentrations.

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