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Photodynamic Therapy of Gynecological Tumors with Antibody guided Zn-Phthalocyanin

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We have developed a new technique of antibody-targeted photodynamic laser therapy using Zn(II) phthalocyanin as a photosensitizer in order to increase the selectivity of PDT for ovarian carcinoma. The first clinical use of the antibody targeted photodynamic cancer treatment was carried out in three patients, all of whom were suffering from an advanced carcinoma (FIGO III). All patients had elevated serum concentrations of the tumor-associated antigen CA 125. One milligram of an antibody-dye complex directed against CA 125 was diluted in 1 l Ringer's solution and was instilled intraperitoneally 72 h before the interventional laparotomy for tumor reduction was performed. Immediately after laparotomy, the intraperitoneal cavity was rinsed to remove unbound antibody complexes. During surgery, laser radiation was performed at 670 nm, using an argon-pumped dye laser system providing 50 J/cm². The devitalization of tumor cells was proved by sampling after 6 h. Ultramicroscopical analysis showed damaged mitochondria matrices after exposure to laser radiation in comparison to control tissue. The results suggest that tumor devitalization is possible using antibody-targeted photodynamic cancer therapy with Zn(II) phthalocyanine as a bonded photosensitizer.

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DNA PLOIDY BY IMAGE ANALYSIS (CAS-200) IN OVARIAN CANCER

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We reviewed 171 cases with ovarian cancer during the period 1980-1989. All patients underwent cytoreductive surgery plus combined chemotherapy. Their paraffin-embedded tumor samples were analysed by DNA image analysis. DNA ploidy patterns of ovarian Ca correlate with clinical stage.

The frequency of aneuploidy tumors increases from 16% in stage I to 31% in stage II and from 65% in stage III to 76% in stage IV. The 5-year survival rates were: 48% if D.I. < 1,2 (D.I.=DNA Index) but, 14% if D.I. > 1,2. 51% if s-cells (s-phase cells) < 11%, but 19% if s-cells > 11%. 63% if D.I. < 1,2 plus s-cells < 11%.

A strong correlation exists among ploidy patterns, s-phase cells and survival.

Thus, we have a better prognostic assesment of ovarian Ca.

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DIAGNOSTIC EFFICIENCY OF COMPUTERISED TOMOGRAPHY (CT) AND SERUM CA-125 LEVELS AFTER INTRA-PERITONEAL CHEMOTHERAPIES (IPC) IN PATIENTS WITH OVARIAN CARCINOMA

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In patients with ovarian Ca, intraabdominal fibrosis and adhesions are important complications of IPC. These complications interrupt the imaging methods. Therefore, in the evaluation of these patients after IPC, it is important to know the diagnostic efficiencies of abdominal CT and serum CA-125 levels.

In 19 ovarian Ca patients, diagnostic laparotomies were performed after 6 courses of IPC and at the same time serum CA-125 levels were detected. In 53% (10/19) of these patients residual tumours were detected by pathological diagnosis. For CA-125: sensitivity: 80% (5/10) (Confidence intervals at 95% level "CI": 44 - 97%), specificity: 75% (6/5) (CI: 35 - 97%), diagnostic efficiency (DE): 75%, positive predictive value (ppv): 56%, negative predictive value (npv): 56%. The values for total abdominal CT were: sensitivity: 60% (6/10) (CI: 26 - 86%), specificity: 56% (5/9) (CI: 21 - 86%), DE: 55%, ppv: 60%, npv: 56%. If CA-125 and abdominal CT were used together and if both of only one of them were positive: sensitivity: 60% (8/10) (CI: 24 - 97%), specificity: 50% (4/5) (CI: 16 - 84%), DE: 67%, ppv: 67%, npv: 67%. The results suggest us that serum CA-125 levels and abdominal CT were not found to be efficient enough methods in the evaluation of patients after IPC and the efficiencies of these investigations in the follow up of the patients must be studied further.

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"Surgical quality assurance in cancer of the Fallopian tubes and ovaries" by F. Uyttenbroeck, University ANTWERP, BELGIUM.

Radical surgery means a debulking surgery for all stages III and IV with total lymphadenectomy up to the renal veins. Fallopian tube malignant tumours and ovarian cancers are discussed together while surgical treatment for both groups is the same. 227 patients had a malignant tumour of the Fallopian tube (5) and the ovaries (222) in a series of 1593 invasive cancers or 14.2%. Staging of malignant tumours of the Fallopian tubes: one stage I, four stage IIc. 51.8% or 115 patients of 222 had stages III or IV of ovarian cancer. We include 56 primary debulking operations (53 for ovarian cancer, 3 for Fallopian tube cancer). The total number of debulking operations was 70 in 56 patients. 26 patients with ovarian cancer had a debulking in the last five years and 6 a third and one a fourth extensive operation. Thirteen patients with stage IIb-IV (44.4%) of 27 operated on survived 5 years. Three died in the 6th or 7th year, one at 7,5 years. Nine stage III patients are in good condition: one after 8 years. Two stage III patients of Fallopian tube cancer survived 5 years.