Title of the project: Changes in Chemoresistance/Chemosensitivity of Ovarian Cancer Cells

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Principal Investigator: I. Sedláková

Co-investigators: J. Tošner, M. Červinka, J. Laco, A. Řezáč, J. Špaček

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Summary of 2009 results

Title of the presentation: Chemoresistance/chemosensitivity of ovarian cancer cells

Authors: Iva Sedláková (1), Miroslav Červinka (2), Jindřich Tošner (1), Kateřina Brigulová (2), Jitka Seifertová (2), Jan Laco (3), Adam Řezáč (1), Jiří Špaček (1), Peter Škapinec (1)

Dept. of Gynecology and Obstetrics University Hospital and Fac. Med. Hradec Králové (1)
Dept. of Medical Biology and Genetics Faculty of Med. Charles University in Prague (2)
Dept. of Pathology University Hospital Hradec Králové (3)

Ovarian carcinoma has the worst prognosis of all the gynecological malignancies. Current treatment comprising a radical surgical procedure, chemotherapy based on the combination of a platinum derivative and paclitaxel, has resulted in a quality of life improvement but provided no significant extension of the survival period. The selection of cytostatic agents is based on the results of multi-centre studies, without considering the biological individuality of the tumour.

The aim of this project is to find the changes in chemoresistance/chemosensitivity by means of MTT-WST-1 test and assessment of resistance proteins (MRP, LRP, p170). The samples of the solid tissue of ovarian carcinoma and ascitic fluid are taken during the primary surgery before the initiation of the first round of chemotherapy and subsequently during any additional surgery or intervention.

MTT (3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) chemosensitivity assay was performed in 19 samples of ascitic fluid and 27 samples of ovarian solid tumor. The highest chemosensitivity in vitro was proved to cisplatinum and topotecan. Tumor cells were more sensitive to cisplatinum than to carboplatinum. Frequent resistance in vitro was proven in paclitaxel and carboplatinum.

Better understanding of tumour biology and factors related to chemo-resistance will contribute to the greater efficacy of treatment and improved prognosis for ovarian cancer patients.

Address for correspondence: I. Sedláková, Dept. of Gynecology and Obstetrics, University Hospital and Charles University in Prague, Faculty of Medicine in Hradec Králové, Sokolská 581, Hradec Králové, 500 05, Czech Republic