Wnioski: Analiza materiału klinicznego wskazała na konieczność interdyscyplinarnego współdziałania i zastosowania leczenia skojarzonego. Podkreślono współpracę z patologami, okulistami, neurochirurgami, radiologami i radio-chemioterapeutami.

156. INFLUENCE OF ESTROGEN AND/OR IRRADIATION ON APOPTOSIS AND CELL CYCLE OF FIBROBLASTS DERIVED FROM SQUAMOUS CELL CARCINOMA OF THE CERVIX

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Aim: The subject of study was the influence of estrogen (17β Estradiol) or/and irradiation on cell cycle and cell death of fibroblasts derived from tumours of younger (< 50 years) and older (> 50 years) cervical cancer patients. A normal fibroblast GSH+/+ cell strain was used as a reference group. Our objective was to check if stromal fibroblasts were a good model for normal tissue late effects.

Material and methods: Fibroblasts were isolated from 9 younger and 9 older women. Four groups of fibroblasts were analysed: control with or without estrogen (E), irradiated with 4 Gy with or without E. 48-hours after irradiation, cytofluorometric analysis of the cell cycle, Bromodeoxyuridine labelling index (BrdUrdLI), and the percentage of debris (D) and apoptosis (AP) were analysed.

Results: Two days after irradiation significant decrease in the cell proliferation (BrdUrdLI), percentage of G1/0 cell (in fibroblasts derived from younger patients), decrease in SPF, and arrest of cells in G2 phase were observed in all experimental groups. A higher cell death [apoptosis (AP) and debris (D)] after irradiation was observed in fibroblasts from older than from younger patients. However, a difference in cell death of fibroblasts coming from patients differing in age and tumour stage was observed. Fibroblasts from smaller (stage I & II) tumours derived from younger women (< 50 years) had significantly higher (P = 0.02) percentage of dead cells (AP and D) after irradiation than fibroblasts from older women (> 50 years). However, after treatment with estrogen, the response was reverse. Cells from older women had higher incidence of AP and D than those from younger patients. Fibroblasts derived from bigger (stage III) tumours and older patients, showed nonsignificantly higher cell death (AP+D) than fibroblasts from younger patients. The results may indicate more severe normal tissue late reactions after radiotherapy in older women, specially after estrogen treatment.

Conclusion: Cell death dependence on tumour stage and patients' age precludes the usefulness of stromal fibroblasts in prediction of normal tissue response to radiotherapy.

157. THE EFFECTS OF RADIATION ON THE CYTOSKELETON OF HUMAN ENDOTHELIAL CELLS IN RELATION TO ENDOTHELIAL MONOLAYER PERMEABILITY

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Radiotherapy damages tumour cells as well as the microvasculature of solid tumours and surrounding normal tissues. An increase in normal tissue vascular permeability, a well known effect of radiation, is thought to be a major limitation for its use in cancer treatment. In the present study the effects of radiation on the cytoskeleton of cultured endothelial cells and on monolayer permeability were investigated. Using immunofluorescence