



Ivan POPOV<sup>1</sup>  
Rosica VESKOV<sup>2</sup>  
Ivan SPUŽIĆ<sup>1</sup>  
Ljubisav RAKIĆ<sup>3</sup>

<sup>1</sup>INSTITUTE FOR ONCOLOGY AND RADIOLOGY OF SERBIA, BELGRADE, YUGOSLAVIA  
<sup>2</sup>BIOLOGICAL RESEARCH INSTITUTE "SINIŠA STANKOVIĆ", BELGRADE, YUGOSLAVIA  
<sup>3</sup>INSTITUTE OF BIOCHEMISTRY, FACULTY OF MEDICINE, BELGRADE, YUGOSLAVIA

## Bilateral lesions of the caudate nuclei and effects of the psychotonic drug Piracetam on cancer development in methylcholanthrene induced tumors in the rat

**KEYWORDS:** Neoplasms; Biogenic Monoamines; Piracetam Cyclophosphamide

The present investigation was designed to examine the effect of bilateral lesions of the caudate nuclei, the effects of a psychotonic drug Piracetam and cyclophosphamide, on survival and incidence of metastases in tumor-bearing rats. We used 102 Wistar rats. The tumors were induced by 3-methylcholanthrene. After surgical extirpation of the tumors, animals were treated with bilateral lesions of the caudate nuclei, the psychoactive drug piracetam, cyclophosphamide or nothing. Autopsy and histological examinations were performed in all animals. Rats with bilateral lesions of the caudate nuclei (12.5%) survived over 120 days vs. 81.2% from the piracetam group, 68.8% from the cyclophosphamide group and 50% of the control group. All animals with bilateral lesions of the caudate nuclei had metastases, whereas in the piracetam group no animals had metastases. In the cyclophosphamide group 45.4% of the animals was without metastases and in control group 27.3% of the animals was without metastases. The mechanism of the antineoplastic effect monoamine stimulator, included the interaction of influences both on the metabolism of the CNS and of tumor. Most probably, the neurotransmitter modulation exerted an influence on cancerogenesis not only by regulation/deregulation of brain homeostasis, but also via a direct effect on intracellular processes during cell development and differentiation. Our results indicate that increased monoamine level in the brain supports adaptive homeostatic mechanisms, which are among other responsible for the suppression of cancerogenesis.

Ljiljana RUDAN  
Vesna PLEŠINAC - KARAPANDŽIĆ  
Ivanka MARJANOV  
Slavica ZORANOVIĆ  
Sonja PETROVIĆ - STUPAR  
Slobodanka ČOLAKOVIĆ  
Miodrag MATIJAŠEVIĆ  
Jeremija JOSIFOVSKI  
Branka MIHAJLOVIĆ

INSTITUTE FOR ONCOLOGY AND RADIOLOGY OF SERBIA, BELGRADE, YUGOSLAVIA

## Ca ovarii (IC, IIC, IIIA,B,C - FIGO): Chemotherapy vs. chemotherapy + radiotherapy

**KEYWORDS:** Ovarian Neoplasms; Neoplasm Staging; Radiotherapy

In our practice of Ca ovarii mainly postoperative chemotherapy has been applied although according to our protocols either chemotherapy (CHT) or radiotherapy (RT) could be used. That is done in consonance with the general trends in the world. Our practice reveals that the survival is not significantly improved. So the aim of this investigation was to find out the best possible therapeutic modality. Two patient groups were investigated within the prospective study in the following way. Two groups were selected by disease stadiums. Groups included two series each (determined by random selection).

I Ca ovarii IA - IIB (pelvis) (except IA - IB G I)

1. Postoperative locoregional irradiation (pelvis) or
2. Postoperative chemotherapy (Cis. pl. + Endox) VI cycles

II Ca ovarii IIC - IIIC (FIGO)

1. Postoperative CHT (Car. pl. + Endox. VI cycles) or
2. Postoperative CHT (Car. pl. cycles.) + radiotherapy (RT abdomen + boost dose to the pelvis and paraaortal. lgl.

Ten patients (aged from 43 to 74 years) were controlled and followed up. All of them were in CII group because of the stadium of disease (stage III, mostly).

Already mentioned therapy modalities were done. Histopathological type was diagnosed as Adenocarcinoma. Preparation of patients for radiotherapy and planning were conducted according to the optimal European and world standards. In this stage of the research we evaluated the regression of the postoperative rest tumor and only early irradiation sequelae and/postoperative rest tumor regression or metastases (ascites, pleural effusion). In the period of only three months it was not possible to give valid data about survival, local relapse or metastatic disease. Preliminary results do not show the significant difference between tumor, metastases regression in two series CI-1 and CI-2. Nausea, vomiting and hematogenic toxicity appeared more frequently in the series CII-2. The results obtained justify the continuation of this treatment and follow-up of patients for at least two years. It would give the opportunity to compare new parameters: last sequelae, patients' survival, and appearance of local relapse or metastases.