

A NEW MODEL OF PERITONEAL CARCINOMATOSIS IN RATS OBTAINED BY TRANSPLANTATION OF A 20 METHYLCHOLANTHRENE (20 MCA) INDUCED FIBROSARCOMA. M.Yakoun, M.Bissar, A.Campos, P.Vic and H.Joyeux. Centre Paul Lamarque, Cliniques Saint-Eloi, 34000 Montpellier, France.

Fibrosarcomas obtained by a single injection of 25 mg/kg of 20 MCA in rats take from 100 to 160 days to be well developed. In order to have a more reproducible tumour with rapid growth, intraperitoneal fibrosarcoma transplantation was performed in 100 Wistar rats.  $10^{10}$  cells of a chemically-induced fibrosarcoma were transplanted in the peritoneal cavity of 20 Wistar rats (weighing 200-250 g). Peritoneal carcinomatosis developed in all rats between 30 and 40 days. Transplantation of this tumour was performed in a third group of rats and then successively in four more groups thus obtaining seventh generation tumour bearing rats. All the animals were kept in metabolic cages. Cumulative weight gain, food intake, urinary nitrogen excretion, BUN and serum alkaline phosphatase were studied. The survival time was shorter after every generation, decreasing from 40 days (1st generation) to 15 days (7th generation). Although histological aspects of the tumour remained unchanged, the fibrosarcoma was more aggressive as shown by the survival time. Peritoneal and liver metastases as well as ascites were always present. Metabolic parameters as well as tumour to body weight ratios showed no significant difference in all groups. These results suggest that a more reproducible model of intraperitoneal fibrosarcoma with rapid growth in rats can be obtained by transplantation of tumour cells in the peritoneal cavity.

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#### TUMOUR PROMOTING PHORBOL ESTER-CELL INTERACTION.

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Phorbol ester tumour promoters bind to specific receptors of cellular membranes and it has recently been suggested that a novel protein kinase, called protein kinase C, is the phorbol ester binding site. After their binding to membrane receptors, the phorbol esters exert various effects on cellular membrane. Among them, the inhibition of cell-cell communication is now being extensively studied. We have demonstrated that tumour promoting phorbol esters reversibly inhibit cell-cell communication in culture, using (1) electrophysiological method and (2) dye transfer method, suggesting that both molecule and ion transfer between cultured cells are blocked by these tumour promoters. Such a blockage of cell-cell communication by phorbol esters was completely reversed when dibutyric cAMP and aminophylline were added to the culture, confirming the recent finding that cAMP is an upregulating factor of cell-cell communication. The block of cell-cell communication may lead the cell population into an uncontrolled situation and thus might explain why phorbol esters modulate a variety of programmes of cell differentiation, which in turn might play an important role in the mechanisms of tumour promotion.

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#### DIETARY FACTORS RELATED TO BREAST CANCER AMONG NATIVE AND MIGRANT WOMEN POPULATIONS.

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The purpose of this study was to carry out epidemiological characterization of breast cancer within selected female population groups within the Upper Silesia Industrial Region (Poland) to elucidate the possible role of some elements of diet in contributing to the relative risk of breast cancer. The case-control analysis includes altogether 328 cases of breast cancer presenting for treatment at the Institute of Oncology in Gliwice in the years 1979 to 1981. The group of native Upper Silesians contained 214 patients (i.e. 65.2% of the total) and migrants 114 (i.e. 34.8%). The two control groups contained 585 women.

The relative risk breast cancer incidence rates have been analysed among the native and migrant women populations with respect to certain elements of diet (consumption of fried and cooked meat, fat and raw vegetables). No obvious and significant relationships in this respect have been identified.