

## Chemo-thermotherapy with loco-regional perfusion in the treatment of the tumors of the liver and of the lung

We have treated 10 liver tumors that were considered inoperable because of local extension with infiltration of regional lymph nodes and caval or portal vein. Histologically they were 5 primitive hepatocarcinoma and 5 metastatic digestive tumors (colorectal neoplasms). We have associated locoregional chemotherapy with transfemoral puncture and intra-arterial pharmacological administration by chronofusor for 5 days during a week. The traditional use of 5-FU was combined with hyperthermic treatment at 13,56 MHz utilizing Leveen's unit and obtaining a deep optimizing heating. The patients underwent to thermotherapy for three times a week (90 minutes every treatment) for 2 months. All the patients were followed for a period of 18 months and were controlled every 60 days by radiological and ultrasound measurements.

The results showed a real stabilization or a complete remission (1 case) with a mean survival about 11 months. Our experience about the management of lung tumors with radiofrequency hyperthermia combined with intraregional chemotherapy is based on the treatment of 10 lung tumors, 5 adenocarcinomas and 5 squamous cells carcinomas; all the tumors were considered in advanced and inoperable stage because of local extension with a remarkable infiltration of mediastinal lymph nodes (stage III b). No one metastatic lesion was observed by radiological and ultrasound dates.

The hyperthermic and chemotherapeutic management followed the same modalities before described. The antitumor perfusion was given through the bronchial artery. The results after a follow up of 15 months showed an interesting increase of mean survival (more than 10 months) with a radiological stabilization of the tumoral mass, decrease of pain and cough and a good maintenance of general conditions.

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## Report in vivo experiment use of microwave esophageal

The esophagus microwave application on rabbit and to heat peristalsis. The result is as follows.

1. 20 rabbits were used to heat the esophagus in a special box and its mouth was closed. The applicator was inserted 15 cm. into the esophagus. First the normal temperature was measured by the temperature sensor. When the temperature of the esophagus was maintained automatically, the rabbits were tested once every other day for 2 weeks. Within 24 hours after they had received the microwave treatment, the esophagus which had been heated and its lungs were taken out for pathological examination. The results showed vacuolar degeneration of squamous epithelial cells in some rabbits. The esophagus and had infiltration of lymphocytes. In some rabbits were found edematous in the esophagus and inflammatory cells. Liver heart and lungs were normal.
2. 20 patients who were proved to have esophageal cancer by radiography and esophageal biopsy, but were treated by surgical operation, but were treated with hyperthermia. The applicator was put on the esophagus. The temperature was kept at 44°C. The patients received radiotherapy at the same time. At the end of the treatment, the patients received a total of 4000 rads. The effects are remarkable. Of the 20 patients, 10 were completely with normal esophagus, 10 were completely with slightly narrowed esophagus, half the length of the diseased part. The results showed significant improvement after the treatment. This will be shown in video tape. A disc of microwave thermotherapy combined with radiotherapy.

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