

## IMPACT OF HYPERTHERMIA COMBINED WITH RADIOCHEMOTHERAPY IN LOCALLY ADVANCED PANCREATIC CANCER

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### **Background:**

Gemcitabine improved outcome of patients with locally advanced pancreatic cancer (LAPC) better than 5FU (Burris). Considering the synergistic cytotoxicity observed in vitro when Gemcitabine is combined with radiotherapy (Lawrence) and the hyperthermic enhancement reported by in vivo / in vitro studies (van Bree, Haveman), radiotherapy combined with Gemcitabine and hyperthermia (HT) could be a promising treatment in LAPC.

### **Methods:**

From 2000 to 2006 57 patients were treated in our department by using chemoradiotherapy combined or not with HT. Eleven patients were lost at follow up. Of 46 evaluable patients, 25 were treated by using chemoradiotherapy or chemotherapy combined with hyperthermia (Group A). In 5 patients affected by distant metastases (M1), RT was excluded. In 21 cases, according to decision of patients, only chemoradiotherapy was performed (Group B). Chemotherapy consisted of Gemcitabine alone (54.3%) or Gemcitabine combined with 5Fu or cis/oxaplatin. Radiotherapy was delivered at mean dose of 54 Gy (range 51-56 Gy), with an HT session once a week.

All patients were affected by primary tumor but five patients in group A and five patients in group B with local recurrence.

### **Results:**

All patients achieved an 1-year overall survival of 52.1%, with a mean survival of 15.4 months ( median 13 months). At 12 months 17 patients ( 68%) were alive in the group A and 10 (47%) in the group B. At 24 months, 9 patients ( 36%) were alive in the group A, whereas only 4(19%) in the group B. Chemoradiotherapy was well tolerated, with no more toxicity in the group A.

### **Conclusions:**

Hyperthermia is a promising therapeutic modality in the treatment of LAPC. HT doesn't increase acute or late toxicity of combined treatment, and seems to enhance the efficacy of radiochemotherapy and chemotherapy alone also in metastatic disease, seeing that 5 patients with distant metastases (M1) were included in group A (no metastatic disease was reported in group B).To statistically demonstrate the effectiveness of hyperthermia a larger randomized trial is needed.