Hyperthermic intraperitoneal chemotherapy (HIPEC) in combined treatment of locally advanced and disseminated gastric cancer: Results of a single-centre study

P. Yaremny1, M. Oliynyk1, Y. Oliynyk1, M. Mytsiak2, M. Zubarev1, P. Gyrya2, Y. Kovalchuk2, T. Safiyan1, I. Karel11, T. Semotuk1, T. Novicka2, L. Laba1, M. Yasysh1, T. Fetsych1
1. Danylo Halytsky L'viv National Medical University, Department of Oncology and Medical Radiology, L'viv, Ukraine; 2. L'viv Regional Cancer Center, L'viv, Ukraine; 3. L'viv Medical University, L'viv, Ukraine

Introduction: Patients with locally advanced gastric cancer (GC) and/or peritoneal metastases have a poor prognosis despite systemic chemotherapy or palliative surgery. The aim of this retrospective comparative non-randomized study was to evaluate aggressive cytoreduction in combination with hyperthermic intraperitoneal chemoperfusion (HIPEC) as a novel treatment strategy for patients with intraperitoneal disseminated and locally advanced GC.

Methods: 59 GC patients with serosal invasion (n = 24), limited peritoneal metastases (n = 25), or disseminated peritoneal metastases and tense ascites (n = 10) underwent combination therapy with HIPEC. Three matched control groups undergoing standard therapies were retrospectively identified.

Results: Combination therapy for serosa-invasive GC reduced the level of metachronous peritoneal carcinomatosis from 75% in the surgical control subgroup to 33.3% (p = 0.004) and increased median survival from 13.3 months to 32.5 months (p = 0.006). The median and 1-year survival rates for intraperitoneal disseminated GC patients undergoing therapy with the use of HIPEC were 12 months and 54.2% compared with 8.4 months and 20%, respectively (p = 0.004) for control subgroup patients (palliative chemotherapy). For patients with complete cytoreduction median survival was 14 months, one patient (4%) alive more than 5 years. The symptomatic use of HIPEC in GC patients with diffuse peritoneal carcinomatosis complicated by symptomatic ascites does not significantly increase survival, it allows effective elimination of recurrent ascites. The independent prognostic factors in GC patients with peritoneal metastases undergoing combined treatment with HIPEC are the stage of peritoneal dissemination in compliance with the classification of the Japanese Gastric Cancer Association and the score of cytoreduction completeness.

Conclusion: HIPEC is an effective method of adjuvant therapy for gastric cancer with high risk of intraperitoneal progression. Cytoreduction followed by HIPEC improves survival in patients with limited peritoneal carcinomatosis of gastric origin.