Novel opportunities of perioperative chemoradiotherapy in pancreatic cancer treatment
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Introduction: A novel treatment method involving regional chemoembolization of tumor vessels 7 days prior to surgery combined with Whipple procedure and intraoperative chemoradiotherapy (IORT+gemcitabine continuous infusion) followed by adjuvant chemotherapy was established for patients with resectable pancreatic cancer. The aim of this prospective study was to assess the safety and efficacy of new treatment method.

Methods: Records of 34 patients with resectable PDAC treated in Botkin Hospital between 2015-2018 were reviewed. In 19 cases was used combined perioperative chemoradiotherapy (cPeriCRT). Chemoembolisation contains Gemcitabine in dose 1000 mg/m² with Lipiodol ultra-fluid 10 ml), intraoperative chemoinfusion contains Gemcitabine in dose 1000 mg/m² in portal vein prior and during IORT (Carl Zeiss Intrabeam PRS 500 system).

Results: 23 patients were treated normal way (pancreatic resection and adjuvant chemotherapy), 19 patients with PDAC cPeriCRT. The estimated median survival was 25 and 31 month. Overall survival rate was 34,7% and 52,6% for 3-year survival, respectively (p< 0,05, 95% CI). New treatment method was well tolerated by all patients. Complications were estimated by Clavien-Dindo classification and it was no difference between both groups.

Conclusion: Good 3-year OS for resectable PDAC was achieved by using novel cPeriCRT treatment method.