

Intraoperative indocyanine green fluorescence angiography in colorectal surgery - initial own experience

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Introduction: Leakage of the intestinal anastomosis is a serious complication. It can be caused by various factors such as adequate blood perfusion, no intestinal tensing at the anastomosis site and accurate tissue preparation for anastomosis. Fluorescence angiography with indocyanine green under near-infrared excitation allows a real-time perfusion assessment.

The aim of the study was preliminary assessment of perfusion in colorectal surgery using indocyanine green-enhanced fluorescence in near-infrared light.

Material and methods: The study included the initial group of 12 patients operated laparoscopically for colorectal cancer in July 2018. Near-infrared fluorescence angiography with indocyanine green was performed to assess tissue perfusion. The data of patient characteristics, data of surgery, data related to perioperative fluorescence angiography and postoperative complications were collected prospectively.

Results: Intraoperative angiography was performed in all patients. Contrast was administered at a dose of 0.2ml/kg body weight. The average time of intestinal wall contrasting was 31 seconds (24-40 sec). The average time needed to carry out the entire procedure was 4 minutes, which was about 3.2% of the total time of surgery. In 100% of patients, a good blood supply of the intestine intended for anastomosis was found. In all cases, the resection plan was not changed. In the postoperative period, no anastomotic leak was found, no side effects were observed after the administration of the contrast.

Conclusions: Based on preliminary own experience, intraoperative angiography with indocyanine green in near-infrared light is a safe and effective method of assessing intestinal perfusion. Routine use of intraoperative angiography requires further research.

Kategoria: K4. Chirurgia kolorektalna – nowe metody i techniki operacyjne / Chirurgia minimalnie inwazyjna w nowotworach narządowych / Powikłania w chirurgii minimalnie inwazyjnej / Colorectal surgery – new methods and surgical techniques / Minimally invasive surgery in organ tumors / Complications in minimally invasive surgery