

## 147 Surgery of rectal cancer after neoadjuvant radiochemotherapy.

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Neoadjuvant radiochemotherapy has become to be a standard for the treatment of Stage II and III rectal adenocarcinoma during last 15 years in majority of European countries including Czech Republic. The effect of radiation on rectal cancer has been known for 70 years, however the use of radiotherapy was expanded since 1980. The dose, timing, purpose and goal of radiation were under debate for a long time. Pahlman and Glimelius in 1990 (1), Swedish Rectal Cancer Trial (2) and Kapitejn, Kranenbarg et al (3) and others (4, 5) showed the significance of radiotherapy on rectal cancer and the superiority of preoperative radiation. Increased dose of radiation (6), longer time interval between neoadjuvant radiotherapy and surgery (7) and particularly the chemosensitization by combination with chemotherapy (8) enhance the effect of preoperative radiotherapy. It was proved that neoadjuvant radiochemotherapy allows to decrease local recurrency, to achieve a longer survival and longer disease free period, to downstage tumor and to perform more curative and sphincter saving surgeries. Preoperative radiochemotherapy leads to typical changes on tumor and lymphatic tissue and nodes. Tumor necrosis and sterilisation – disappearing of viable tumor cells – qualified and quantified by tumor regression grade – TRG – represents one of possible outcomes of RT (9). According to the literature the complete pathologic response (CPR) as the maximal effect of preoperative radiochemotherapy was found in the large range from 5 to 67% patients (6, 9). These patients qualified as ypT0N0M0 are free of cancer at the time of surgery.

The problem is to recognize the correct tumor stage before surgery. After neoadjuvant therapy there remain mesorectal tumor deposits or mesorectal microfoci and rectal wall microscopic foci covered by mucosa and fibrosis. Those are too small to be easily detected but causing tumor local recurrence (9, 10, 11, 12.). Despite to high sensitivity and specificity of present imaginative techniques such as CT, endosonography, 3D endosonography and especially MRI, 25 – 40% of these microfoci escape from any detection and postradiative reaction and fibrosis causes investigations more difficult. Only histopathological and/or histochemical investigation of removed bowel allows the definitive confirmation of tumor regression and extent of pathologic response. Due to the risk of oversight viable tumor in the irradiated tissue the surgery is still needed. The only exception represent studies of A.Habr-Gama. CPR after radiochemotherapy were observed in 27% of patients. These patients did not have surgery and were followed up, all of them survived over five years, 92% of them were disease free within this interval (12).

**Our experience** is based on the group of 188 patients treated for UICC stage II and III rectal cancer. They received 45 Gy preoperatively combined with 5-Fu (400 mg/m<sup>2</sup>). The surgery was performed after 4-6 weeks. Macroscopic regression was confirmed in 55 (29.2%), the stage ypT0N0M0 – CPR in 17 (9%), and nCPR with tumor deposits in 58 (30.1%) patients. One patient suffered initially from T2N0M0 rectal tumor. He refused surgery and the tumor disappeared completely after NeoRT/CT. He has no recurrence after three years.

### Conclusion

Neoadjuvant radiochemotherapy allows even to achieve complete pathologic response by significant part of patients with rectal cancer. Due to the risk of missing undetectable residual tumor after NeoRT/CT the surgery is still needed. To choose suitable candidates both for surgery and chemoradiation depends on precise identification before and after CT/RT. Due to increasing amount of patients (13) it is very important to recognize appropriate candidates of multimodal therapy and select patients who may best respond to preoperative therapy (14,15).

### Literature

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