

Locoregional electrohyperthermia as treatment option for primary rectal carcinomas

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Summary: The article is devoted to the problem of primary operable rectal cancer. The research purpose was to study and to assess the use of local electrohyperthermia in combination with radiotherapy in primary operable rectal cancer and the role of neoangiogenesis in the relapses development. The data of 90 patients with primary operable rectal cancer over a period between December 2005 and September 2006 were analyzed. Depending on the treatment method patients were divided into 2 groups. Patients of the 1 group received complex treatment with use of neoadjuvant radiotherapy and local electrohyperthermia (1 hour after radiotherapy during 60 minutes at 45 °C) and radical surgery the next day. Patients of the 2 group (control) did not receive local electrohyperthermia. Neoangiogenesis was analyzed by expression level of vascular endothelial growth factor receptor and CD34 immunohistochemically. In the first group of patients local relapses occurred in 2 patients (4%). In the control group local relapses occurred in 7 cases (17,5%). The expression of VEGFR1 decreased by 34,5% and the expression of CD34 decreased by 35,7% in the 1 group while no significant changes took place in the control group. The use of local electrohyperthermia in complex treatment of primary operable rectal cancer improves treatment results decreasing relapses frequency with the help of neoangiogenesis reduction.