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Autor(en) des Beitrags:
Habermehl, Daniel; Wagner, Martin; Ellerbrock, Malte; Büchler, Markus W; Jäkel, Oliver; Debus, Jürgen; Combs, Stephanie E

Titel des Beitrags: Reirradiation Using Carbon Ions in Patients with Locally Recurrent Rectal Cancer at HIT: First Results.

Abstract:
Locally recurrent rectal cancer remains a dreaded event because curative resection is unlikely to be performed in a large number of cases. Carbon ion radiotherapy offers physical and biologic advantages. A high precise local dose deposition and sparing of normal tissue is possible. This work summarizes our experience on feasibility and early toxicity of carbon ion radiotherapy in previously irradiated and operated patients. Between 2010 and 2013, a total of 19 patients with a median age of 62 years (range 14-76 years) received carbon ion irradiation to treat locally recurrent rectal cancer at the Heidelberg Ion Beam Therapy Center (HIT). All patients had a history of surgery and pelvic radiotherapy of at least 50.4 Gy. Median dose was 36 Gy [relative biologic efficacy (RBE)] [range 36-51 Gy(RBE)], and median planning target volume was 456 ml (range 75-1,597 ml). Some patients were treated in the recruiting phase I/II of the PANDORA study (NCT01528683). Median follow-up was 7.8 months. Four patients were diagnosed with local relapse after carbon ion radiotherapy, and three patients developed distant metastases. Estimated mean local progression-free survival was 20.6 months by the Kaplan-Meier estimator. Two patients had preexisting rectovaginal fistula, and another patient had a preexisting presacral localized abscess formation.
in which the local relapse took place. No grade III or higher toxicities were observed. Our first experiences in a pretreated patient group with a dismal prognosis are encouraging, and therapy-related side effects are mild. Longer follow-up is required to determine possible late effects and long-term disease control.