Interstitial Brachytherapy using Stereotactic Implanted (125)Iodine Seeds for Recurrent Medulloblastoma.

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Abstract
AIMS: To evaluate the efficacy of interstitial brachytherapy using (125)iodine ((125)I) seeds for the treatment of recurrent multimodal treated medulloblastoma.

MATERIALS AND METHODS: Between September 1989 and August 2009, 12 patients (female: male = 3:9, median age 19 years, range 7-55 years) with 23 recurrent medulloblastomas underwent interstitial brachytherapy using (125)I seeds. Before brachytherapy, all patients underwent microsurgical resection; six patients underwent a combined adjuvant treatment consisting of craniospinal irradiation and chemotherapy; three received craniospinal irradiation alone and two received chemotherapy alone. One patient was treated by surgery alone. The median tumour volume was 4.9 ml (range 0.4-44.2 ml), the median tumour surface dose 50 Gy (range 32-50 Gy) and the median implantation time 42 days (range 42-90 days). A median follow-up of 26 months was available (range 5-116 months).

RESULTS: After brachytherapy, nine of 23 tumours (39%) presented a complete remission, nine (39%) a partial remission and five (22%) stable disease on magnetic resonance images. The neurological status improved in six patients and remained unchanged in four. Two patients deteriorated: one developed spinal metastasis and another a treatment-related adverse radiation effect. Ten patients died due to disseminated disease despite local tumour control. The median survival after treatment was 15 months (range 5-68 months).

CONCLUSIONS: Our results show a good response of recurrent medulloblastoma after interstitial brachytherapy. High rates of tumour remission were yielded with low rates of treatment-related morbidity. Thus, (125)I seed brachytherapy should be considered as a treatment option for recurrent medulloblastoma.

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