Long term results after fractionated stereotactic radiotherapy (FSRT) in patients with craniopharyngioma: maximal tumor control with minimal side effects.

There are already numerous reports about high local control rates in patients with craniopharyngioma but there are only few studies with follow up times of more than 10 years. This study is an analysis of long term control, tumor response and side effects after fractionated stereotactic radiotherapy (FSRT) for patients with craniopharyngioma. 55 patients who were treated with FSRT for craniopharyngioma were analyzed. Median age was 37 years (range 6-70 years), among them eight children< 18 years. Radiotherapy (RT) was indicated for progressive disease after neurosurgical resection or postoperatively after repeated resection or partial resection. A median dose of 52.2 Gy (50 - 57.6 Gy) was applied with typical dose per fraction of 1.8 Gy five times per week. The regular follow up examinations comprised in addition to contrast enhanced MRI scans thorough physical examinations and clinical evaluation. During median follow up of 128 months (2 - 276 months) local control rate was 95.3% after 5 years, 92.1% after 10 years and 88.1% after 20 years. Overall survival after 10 years was 83.3% and after 20 years 67.8% whereby none of the deaths were directly attributed to craniopharyngioma. Overall treatment was tolerated well with almost no severe acute or chronic side effects.
One patient developed complete anosmia, another one's initially impaired vision deteriorated further. In 83.6% of the cases with radiological follow up a regression of irradiated tumor residues was monitored, in 7 cases complete response was achieved. 44 patients presented themselves initially with endocrinologic dysfunction none of them showed signs of further deterioration during follow up. No secondary malignancies were observed. Long term results for patients with craniopharyngioma after stereotactic radiotherapy are with respect to low treatment related side effects as well as to local control and overall survival excellent.