Radiotherapy for symptomatic vertebral hemangiomas: results of a multicenter study and literature review.

The current study analyzes the potential role of radiotherapy (RT) in symptomatic vertebral hemangioma (SVH). Seven cooperating German institutions collected clinical information, treatment plans, and outcome data for all patients with SVH referred for local RT. From 1969 to 2008, a total of 84 patients with 96 symptomatic lesions were irradiated for SVH. The primary indication for radiotherapy was pain (97.6%), and 28.6% of patients had additional neurological symptoms. RT was performed at a median total dose of 34 Gy, with a median single dose of 2.0 Gy. After receiving a median follow-up of 68 months, the overall patient response rate was 90.5%. Complete symptom remission occurred in 61.9% of patients, 28.6% of patients had partial pain relief, and 9.5% of patients had no pain relief. In 26.2% of patients, radiological signs of reossification were observed in long-term follow-up but not significantly correlated with pain relief. Most importantly, total doses of $\geq 34$ Gy resulted in significantly greater symptomatic relief and control rate than total doses of $<34$ Gy. This study consists of the largest database of cases reported so far using RT for SVH. RT is easy, safe, and effective for pain relief treatment for SVH. Total doses of at least 34 Gy give the best symptomatic response.