Abstract:

Purpose: To update a combined analysis of all published clinical data. Methods and Materials: We collected data from 38 additional patients treated in our department or published in four different reports and calculated the biologically effective dose (BED) according to the linear-quadratic model using an alpha/beta value of 2 Gy for cervical and thoracic cord and 4 Gy for lumbar cord. In this model, a dose of 50 Gy given in single daily fractions of 2 Gy is equivalent to a BED of 100 Gy(2) or 75 Gy(4). Results: The 2005 risk score based on three variables (cumulative BED, highest BED of all treatment series in a particular individual, and interval), which discriminate three different risk groups, does not require modification. The low-risk group now contains 1 case of radiation myelopathy (RM) after hypofractionated stereotactic reirradiation. Therefore, the rate increased from 0% to 3%. Intermediate-risk patients developed RM in 25%, and high-risk patients in 90%. When the interval between the two treatment courses is not shorter than 6 months and the dose of each course is