

Higher radiation dose with a shorter treatment duration improves outcome for locally advanced carcinoma of anal canal

Abstract

Aim: To assess whether radiation dose and duration of treatment influence local control and survival of patients with locally advanced anal cancer treated with definitive chemoradiation.

Methods: Twenty-eight consecutive patients who were treated with definitive radiation therapy for bulky anal cancers (> 5 cm in size) were reviewed. Nineteen patients had T3 lesions, 8 patients had T4 lesions, and 15 patients had lymph node involvement. The median tumor size was 7.5 cm. All but one patient received concurrent chemoradiation. The median radiation dose was 54 Gy. The median duration of treatment was 58 d.

Results: With a median follow-up of 2.5 years in all patients and 7.8 years in living patients, the 2-year local recurrence-free probability was 57% and overall survival rate was 67%. Neither radiation dose nor duration of treatment alone was predictive of either time to local failure or overall survival. However, longer treatment breaks can potentially mask an advantage over higher radiation doses. Therefore, we examined those patients who received ≥ 54 Gy within 60 d, comparing them to the rest of the patients. Of patients who received ≥ 54 Gy within 60 d, local progression-free probability was 89% versus 42% for the rest of the group ($P=0.01$).

Conclusion: Local failure is a significant problem in locally advanced carcinomas of the anal canal. Higher radiation doses with limited treatment breaks may offer an increase in local control and survival.