



## Percent Necrosis in Extremity Soft Tissue Sarcoma After Preoperative Radiation Alone Versus Preoperative Radiation and Chemotherapy

Scientific Session: [Percent Necrosis in Extremity Soft Tissue Sarcoma After Preoperative Radiation Alone Versus Preoperative Radiation and Chemotherapy](#)

Studies of soft tissue sarcomas from UCLA suggested that in soft tissue sarcomas of the extremities, necrosis (tissue death) is associated with better outcome. This study investigates whether there was a difference in the amount of necrosis between patients treated with preoperative radiation alone versus those treated with radiation and chemotherapy. They also looked at whether differences in necrosis could be correlated with patient outcomes.

Medical records of 357 patients, over age 18 years, were reviewed, and 196 were found to have information on necrosis available for analysis. Five-year overall survival \*\* was 76% in the radiation alone group (RT) versus 70.4% in the chemoradiotherapy group (CRT). Five-year disease-free survival \*\* was 59.8% (RT) versus 58% (CRT). Five-year local control (meaning no recurrence in the area of the original tumor) rates were 86.2% (RT) versus 92.2% (CRT). None of these differences were statistically significant, meaning they could have just happened by chance. The average percentage of necrosis, however, was significantly different: 51.5% (RT) versus 77.6% (CRT).

So, was this necrosis rate predictive of anything? The only correlation was seen in the CRT group, for whom necrosis rates of less than 30% were associated with higher rates of local recurrence. Otherwise, necrosis was not predictive of disease-free or overall survival in either group or local control in the RT group.

Given these results, it may be appropriate to treat patients with less than 30% necrosis after CRT with further therapy. This study was a "look back" (retrospective) at previous patients, and not a "gold-standard" randomized study, making it difficult to know if newer pathology or radiation techniques may change the results. The study shows that, for now, it is difficult to use necrosis as any sort of predictor of outcome.

\*\* Overall survival is the number of patients alive, regardless of whether they have active disease or disease progression. Disease-free survival is the number of patients alive who have not had any disease recurrence.

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