

## Abstract # 11491

### Level of Evidence II

**Background:** Updated results to the prospective study using a dose-intensified neoadjuvant intra-arterial chemotherapy regimen designed to improve survival rates of patients with primary, nonmetastatic osteosarcoma of the extremity.

**Questions/Purposes:** The purpose of this update is to confirm the validity of the previously reported five and ten year survival statistics.

**Patients and Methods:** Adult and Pediatric patients were analyzed separately (N=72 and 85, respectively) for disease free survival based on the Kaplan-Meier method and compared using the log rank test. Patients were stratified into subgroups based on tumor size, age, response to chemotherapy, and cycles of chemotherapy.

**Results:** For adults, the 5 year and 10 year mortality survival was 78.2% and the disease free survival was 67.9%. For adults aged 18-30 versus 31-80, mortality survival was significantly better ( $p=0.021$ ) for the 18-30 group (5-year: 91.6% vs. 63.6%, respectively); disease-free survival was also significantly better ( $p=0.0083$ ) for the 18-30 group (5-year: 81.0% vs. 54.0%, respectively). For response to chemotherapy, mortality survival was significantly better ( $p=0.039$ ) for good responders versus poor responders (84.2% vs. 63.7%, respectively); disease-free survival was also significantly better ( $p=0.0073$ ) for good responders versus poor responders (77.3% vs. 44.0%, respectively). For Response by # Cycles, both mortality survival and disease-free survival were significantly better ( $p=0.0072$  and  $p=0.0004$ , respectively) given >3 cycles for good responders versus poor responders (5-year mortality survival: 90.9% vs. 53.9% respectively; 5-year disease-free survival: 86.4% vs. 30.8% respectively). For the pediatric patients, 5 and 10 year mortalities were 89.3% and 82.7%; 5 and 10 year disease free survival was 79.4%. Neither of the two subgroup comparisons (tumor size and response) was statistically significant, for mortality or disease-free survival.

**Conclusions:** These findings show an improved survival rate in primary nonmetastatic osteosarcoma. Conventional treatments report only a 60-70% 5 year event free survival rate.