

# Clinical Outcome of Pediatric Ewing Sarcoma and Significance of Pathological Necrosis after Neoadjuvant Chemotherapy, single institutional study

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May 11, 2020

## Abstract

CLINICAL OUTCOME OF PEDIATRIC EWING SARCOMA AND SIGNIFICANCE OF PATHOLOGICAL NECROSIS AFTER NEOADHUVANT CHEMOTHERAPY: SINGLE INSTITUTIONAL STUDY Authors: Sindhu II, Mehreen A, Wali RM, Abubakar M Affiliation: Shaukat Khanum Memorial Cancer Hospital & Research Center, Lahore. Pakistan Abstract Purpose: Tumor necrosis and histopathological changes in Ewing sarcoma following neoadjuvant chemotherapy are important predictors of disease outcome. The aim of our study is to determine the clinical outcome and significance of pathological necrosis after neoadjuvant chemotherapy as it has not been reported in our country so far. Methods: Data was reviewed after IRB approval from January 2010 to December 2015 were retrospectively reviewed for patients with newly diagnosed Ewing sarcoma on histopathology and less than 20 years of age at the time of diagnosis. Results: A Total of 124 patients were included, in which 89 patients (72%) were non metastatic and 35 patients were metastatic (28%). Histopathology report after doing surgery showed Little or no (Grade 1 ) necrosis seen in 14 patients (11%) and 50-90% (Grade II) necrosis seen in 9 patients (7%), 90-99% (Grade III) necrosis seen in 8 patients (5.5%), and 100% (Grade IV) necrosis in 14 patients (11%). EFS of grade 4 necrosis was 93%, grade-3 71%, grade- 2 22% and grade-1 35%. OS of grade 4 necrosis was 93%, grade -3 75%, grade-2 25 % and grade-1 50%. EFS of Ewing sarcoma patients were 38% and OS was 38%. Conclusion: Tumor necrosis and histopathological changes after surgery has great impact on survival outcome in Ewing Sarcoma.

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