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Factors affecting the response to cisplatin based chemotherapy in Jordanian osteosarcoma patients

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Cisplatin is one of the integral chemotherapies that are used in the treatment of osteosarcoma. This study aimed to evaluate and assess the effect of many factors on the response to cisplatin based chemotherapy in Jordanian osteosarcoma patients. Specifically, in 44 patients with osteosarcoma, who were treated with cisplatin based neoadjuvant chemotherapy, ERCC1 (C118T, C8092A) and ERCC2 (A751C, G312A) polymorphisms were analyzed and the distribution of the patients' genotype and the alleles' frequencies were reported. The association between each of these genotypes and many clinical and patho-histological parameters was examined. The associations between gender, tumor location, presence of metastasis at diagnosis, histological subtypes and type of neoadjuvant chemotherapy and between the histological response, EFS and OS rates were also examined. This study demonstrated a positive and significant association between specific genotype (ERCC1 C8092) and median EFS rate. Moreover, the histological subtype and the presence of metastasis at the diagnosis time were able to affect the EFS rate but not the OS. However, there was a positive correlation between OS rate and the patients' primary response to treatment. Overall, our results suggested that ERCC1 8092 C allele may be adequate as prognostic marker in patients with osteosarcoma.

Biography

Nasr Nofal Salieba Alrabadi has completed his Bachelor's degree in Medicine (2009), Jordanian Board for Practicing Medicine (2010), Master's degree in Molecular Pharmacology (2012) and awarded his PhD degree in Medicine and Nanotechnology (2016) from Sydney University, Australia. Currently, he is an Assistant Professor at the Department of Pharmacology/Faculty of Medicine, Jordan University of Science and Technology and a Team Leader for the Molecular Biology and Analytical Facility at the Nanotechnology Institute at the same university.

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