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Protective effect of the dexrazoxane against cardiotoxicity of the anthracycline in the treatment of the childhood cancers.

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Background: Cardiovascular diseases have become the most important cause of morbidity and mortality in the long-term follow-up of childhood cancer survivors. Dexrazoxane (DEX) is the only FDA-approved drug to prevent Anthracycline-induced cardiotoxicity. In this study, we aimed to evaluate the cardioprotective efficacy of DEX in patients using Anthracycline in the treatment of childhood cancer. **Methods:** 142 patients aged 0-18 years, who were treated with cancer diagnosis in Ankara University Faculty of Medicine, Department of Pediatrics, Department of Pediatric Oncology, and who had been treated with Anthracycline group agents, were evaluated retrospectively. The cardiac functions of 87 patients who received only Anthracycline between November 2009 and March 2019 and 55 patients who received DEX + Anthracycline between March 2019 and June 2021 were compared. An ejection fraction (EF) of less than 50% in cardiac evaluation was defined as 'cardiac dysfunction'. **Results:** The group that received anthracycline with DEX; While 50.9% were girls, 49.1% were boys, and the mean age was 98.42 months, 48.3% of the group that took only Anthracycline was girls and 51.7% were boys, with a mean age of 105.75 months. There was no difference between the two groups in terms of diagnosis distribution. EF values of both groups before anthracycline were normal. While none of the patients in the DEX + Anthracycline group developed cardiac dysfunction during the follow-up, 11 (12.6%) patients in the Anthracycline group with no DEX had cardiac problems. Six Of the 11 patients (54.5%) who developed cardiac dysfunction died(p=0.012). There was a significant difference between the two groups with or without DEX patients in the manner of cardiac dysfunction(p=0.006) and death(p=0.009). Cardiac dysfunction development and mortality rates were higher in patients using only Anthracycline. **Conclusions:** In this study, it has been shown that DEX is very effective for preventing Anthracycline-related cardiac dysfunction, which is one of the most important causes of mortality and morbidity in childhood cancer survivors. Research Sponsor: None.

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