

Doxorubicin versus Idarubicin with overall survival in adult acute myeloid leukemia patients

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Objective: The main aim of this retrospective case control study is to compare the response to doxorubicin or idarubicin in adult AML patients during the induction treatment related to patients of the Egyptian National Cancer Institute (NCI).

Patients and methods: 143 patients from 18 to 60 years of age with de novo AML were studied. We study the patients who were admitted in the NCI from January 2013 to January 2016. Standard induction therapy with 3+7. Cytarabine had to be given in a dose of 100 mg /m²/day continuous for 7 days; anthracyclines are given for 3 days being either doxorubicin (DXR) 45 mg /m² or idarubicin (IDR) 12 mg /m². Patients were not eligible if they had Promyelocytic leukemia.

Results: Of the 143 patients, 97(67.8%) achieved CR. Of the 67 patients in the IDR group, 46 (68.7%) achieved

CR, and of 76 in the DXR group, 51 (67.1%) obtained CR (P=0.8386). In the IDR group, 41 patients (61.2%) achieved CR after the first course, and in the DXR group, 46 (60.5%) did so (P =0.9320). Early death occurred in 15 (22.3%) in the IDA arm and 24 (31.5%) in the DOXO arm which was not statistically significant (P=0.2189). 91 patients reached CR, 31 patients experienced relapse, 15 patients in the IDA arm and 16 patients in the DOXO arm. The median OS was 8 months in IDA arm vs. 6 months in DOXO (P=0.292). Of 67 patients in the IDR group, 41(61.2%) achieved CR by one induction cycle which cost 4296 EGP/patient (for IDR only) while in the DXR arm, 46(60.5%) obtained CR by one induction cycle which cost 946 EGP/patient (for DXR only).

Conclusion: Patients who received IDR/Ara-C had no significant difference compared with those who received DXR/Ara-C as regards to CR rate, adverse events, and incidence of relapse. DXR/Ara-C was effective in adult patients less than age of 60 with newly diagnosed AML. The low cost of DXR compared to IDR added value in the treatment's total cost is important specially for developing countries like Egypt.

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