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## 903.HEALTH SERVICES AND QUALITY IMPROVEMENT -MYELOID MALIGNANCIES

**Microcosting Analysis of Hematopoietic Stem Cell Transplantation and Chemotherapy with Intermediate Doses of Cytarabine in the Treatment of Acute Myeloid Leukemia**

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Adult patients with Acute Myeloid Leukemia (AML) are stratified according to clinical and laboratory features at diagnosis into favorable-, intermediate-, or unfavorable-risk groups and may be treated differently according to risk. The European LeukemiaNet panel of experts' recommendation for the post-induction treatment of the favorable subgroup is either chemotherapy with intermediate doses of cytarabine (IDAC, e.g. 1.5 g/m<sup>2</sup> q12h for 3 days) or autologous hematopoietic stem-cell transplantation (auto-HSCT). Both alternatives are costly and few studies have compared health economics aspects, which are particularly relevant in source-restrained regions. Moreover, AML treatment in low- and middle-income countries was associated with a higher frequency of invasive fungal diseases (IFD) and infections by multi-resistant bacteria compared to high-income countries and this may directly affect the treatment cost. Studies comparing IFD incidence in patients with hematological malignancies showed lower rates in patients treated with auto-HSCT compared to intensive chemotherapy.

**Material & Methods:** we performed the micro-costing analysis patients with intermediate-risk AML who received auto-HSCT (n=5) or IDAC (n=4) as post-induction treatment at University of Sao Paulo Hospital, Ribeirao Preto, Brazil. For cost analysis, we collected information about all resources and services consumed by patients such as medicines, materials, laboratory analysis, units of blood transfusion components, apheresis, hospital admissions, and outpatient care, in the period that began on the date of diagnosis until the end of treatment. The two groups had similar clinical and laboratorial characteristics at diagnosis and were treated according to the ICAML2015 protocol, in which induction (ID-1) is based on daunorubicin + standard-dose cytarabine ('3+7'), followed by a second cycle (ID-2) with daunorubicin + IDAC and, for those patients that achieved CR, consolidation was done with two cycles of IDAC (CONS-1 and CONS-2) or one cycle of IDAC followed by auto-HSCT (CONS-1 and auto-HSCT). The choice between the two alternatives of post-induction regimens was pre-defined by the participating center of the ICAML2015 study. **Results:** the mean cost of auto-HSCT and IDAC was US\$ 4,188.12 and 2,368.22, respectively. Patients who received auto-HSCT stayed longer in-hospital compared to those in the IDAC group (21.8 versus 12.5 days). When the whole treatment is analyzed, the mean cost of the treatment with four cycles of chemotherapy was US\$ 121,980.93 and that with three cycles followed by auto-HSCT was US\$ 84,619.16. The most costly phase of treatment was the ID-1 (US\$ 9,690.10). Regardless of the type of treatment, we observed that the inputs with the greatest economic impact were hospital admissions, which represented 51.2% of the total costs. . The second input with the greatest economic impact was drugs, and in that regard, treatment of infections played an important role in increasing the use of supplies in general. All patients in the study had febrile neutropenia that required hospital admission. Three patients were treated for IFD episodes, all of them were considered to be probable according to the European Organization for Research and Treatment of Cancer/Invasive Fungal Infections Cooperative Group and the National Institute of Allergy and Infectious Diseases Mycoses Study Group (EORTC/MSG) Consensus Group, and the most frequently used antifungals were amphotericin B (deoxycholate) and voriconazole. All patients received prophylaxis with fluconazole. The frequency of IFD considering the whole treatment was 19.4 % (7/36 episodes of febrile neutropenia) and, there was no significant difference between patients who

received auto-HSCT or IDAC. In conclusion, our results show that the cost of the post-induction treatment using auto-HSCT was higher than with IDAC and that cost with hospital stay.

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