Profile of relapsed leukemias in Dubai, United Arab Emirates

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Introduction

Dubai hospital is one of only 3 centres treating children with cancers in the United Arab Emirates (1). From 2012 to 2016 we saw 73 children with leukaemia, 12 of whom relapsed. Herewith we look at the profile of those children who relapsed.

Materials and Methods

A Pediatric oncology database was setup in October 2012 to record the details of all children presenting to Dubai hospital with cancers. Those children diagnosed with leukaemia and the ones later relapsing were analysed for the purpose of this study.

Results

During the study period 65 children presented with Acute Lymphoblastic Leukemia (ALL), 7 with Acute Myeloid Leukemia (AML) and 1 with Biphenotypic leukemia: T/Myeloid.

8 (12.3%) of the ALL, 3 (42.8%) of the AML and the only Biphenotypic leukemia relapsed.

Risk stratification:

2 (22.2%) of the ALL and Biphenotypic were initially classified as high risk leukemia's according to the ALL-BFM 95 protocol. All the AML's were classified as high risk according to the AML-BFM 2004 protocol.

High white blood count (WBC) count:

All the ALL's who had a WBC count above 100 x 10^3/µL were noted to have a CNS component to their relapse: 1 isolated CNS and 2 combined CNS and bone marrow. 2 (33.3%) of the ALL's with WBC less than 100 x 10^3/µL had a CNS component to the relapse.

Cytogenetics:

Only 1 (8.3%) of all our relapsed children had a hypodiploidy, all the rest demonstrating good risk cytogenetics.

Results

Timing and frequency of relapse:

50% of the ALL relapses were late as defined in the ALL-REZ BFM 2002 protocol. Both of the very early relapsed had a T component (Pro-T and T/Myeloid). All of our 1st relapse in AML died while all our 2nd relapses of ALL died. Only 1 ALL died after 1st relapse because the parents opted for homeopathic treatment rather than a bone marrow transplant (BMT).

Inadequate treatment:

2 of the 65 ALL's had inadequate maintenance chemotherapy (both parents stopped soon after the intensive phase of chemotherapy was over) and both relapsed, albeit late.

Complications following BMT:

3 (60%) of the ALL and Biphenotypic who received a BMT were complicated with GvHD of skin, gut and delayed engraftment.

Conclusions

We have a high rate of relapse (42.8%) in our AML population with 100% mortality.

The T-cell clone has a predilection for CNS relapse in our ethically diverse population and relapse very early as noted elsewhere in the literature (2).

2nd relapse of ALL also carry a dismal outcome in our cohort of ALL children.

BMT in selected relapsed ALL children has given a 100% OS so far.

References

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