



ISBMT

Indian Society for Blood & Marrow Transplantation

BMT MASTER CLASS

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**Dengue Infection in Hematopoietic Stem Cell Transplant
Donor: Clinical Challenges and Management Perspectives**

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Introduction

- 6 year old girl child (O+ve) ,developed fever since 3-4 days in 2021, detected to have leukocytosis and hence further evaluated and Peripheral Blood flow cytometry confirmed B cell acute lymphoblastic leukemia on 2/4/2021.
- She underwent bone marrow study,
- BMA-74% blast s/o acute Leukemia and biopsy suggest round cell infiltrate.
- FISH analysed indicating hyperdiploidy.
- Modal Karyotype: 47~53,XX,+X,+8,+9,+10,+21,+21,+22[8]/46,XX[12]
- Started on Chemotherapy with BFM 2009 Protocol 5.4.2021

Chemotherapy and relapsed

- Reassessment Bone marrow studies done, dilute smears showing predominantly mature neutrophils with 3% blasts.
- She completed induction phase II, consolidation phase, Reinduction Phase I and II.
- Post ALL treatment completion in 12/2023.
- She was DFS around 6 months.
- In July 2024 developed fever since 1 week with ecchymosis with thrombocytopenia (38k).
- Peripheral smear- Leukoerythroblastic blood picture with 18% blasts.

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Post relapsed treatment

- Bone marrow aspiration(80% blasts) and flow cytometry suggestive of relapse.
- Initiated on Chemotherapy with Mini Hyper CVAD +Inotuzumab on 01/08/24.
- Flow cytometry MRD post salvage Negative and was planned for allogenic SCT in view of relapse B-ALL.
- Both parents haplo match with DSA negative. No full match DATRI/DKMS donor.
- Father was decided for donor (Haplo match with same blood group).
- Conditioning was started to patient from 9.9.25
- Father was initiated G –CSF from 10.9.25 and father developed fever with chills and rigor 2nd day.

Complications

- **Dengue PCR sent of father showed positive, Hence donor was changed. HLA of mother was done , haplo match 6/12 with DSA negative and major blood group mismatch (B+ve) .**
- She underwent Haplo-identical (Mother was donor) allogenic stem cell transplant on 13/09/2024 with no immediate complication .
- **VOD (Day +13):**Abdomen distension, hepatomegaly, rising bilirubin, deranged LFTs and managed with diuretic and supportive care.
- HHV 6 positive and started on ganciclovir.

- On Day +18 developed poor sensorium, respiratory distress and intubated .
- Her LFTs also worsening (T. Bili 8.5 → 31) with AKI → started on **SLED**
- She also developed loost stool suspected **Gut GVHD** and Ruxolitinib started.
- In view of worsening plasma Exchange started
- Post-2nd session developed ARDS and family opted for DNR.
- **Expired on Day +40 (26/10/24) at 2:22 AM**

Question to expert

- 1.If a haplo donor develops dengue during G-CSF mobilization, what is the recommended deferral period, and can stem cells already collected be safely used?
- 2.In dengue-endemic regions, should routine dengue PCR/NS1 screening be done for related donors before starting G-CSF?