



**ISBMT**

Indian Society for Blood & Marrow Transplantation

# **BMT MASTER CLASS**

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# **Therapy Turned Trigger**

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- 18-year-old male - B- ALL, CALLA POSITIVE CNS I, PPR, ALL panel: p190 +
- Initiated on BFM 2002 phase 1 induction from 22.9.23 + Dasatinib
- End of induction– hypocellular BM with MRD + 1.5%; BCR ABL negative.
- MRD +ve (0.48) after phase 2 induction
- Donor – mother (No MUD)
  
- Pre transplant MRD- Flow cytometry +ve 0.18 %; BCR ABL neg
- Underwent Flu TBI (12Gy) Haplo HSCT PT Cy Tac MMF
- Stem cell infusion (5.4 million CD 34 cells/kg) on 26.4.24
- Neutrophil recovery D +14, Platelet recovery D +15, Discharged D+17 (BMT stay for 27 days)
  - CYTOKINE RELEASE SYNDROME -GRADE 1
  - FEBRILE NEUTROPENIA - CULTURE STERILE
  - GRADE 3 MUCOSITIS

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- D56 : BCR ABL — negative
- Day 100
  - BM – hypocellular, MRD –ve, BCR ABL – faint band p 190
- On D 147 – Relapsed; Chimerism at relapse 35.6 %, IRMA - T315I mutation +
- Received MINI HYPERCVD + INOTUZUMAB (0.6mg/m<sup>2</sup> on D1 and 0.3mg/m<sup>2</sup> on D2) from 14.10.24 – 21.10.24- attained CRi, MRD negative
  
- Admitted for CAR T on 18.12.25.
- Lymphodepletion chemotherapy: FLUDARABINE<sup>3</sup> PLUS CYCLOPHOSPHAMIDE
- CAR HEMATOTOX SCORE = 2
- 10x 10<sup>6</sup> anti CD19 CART cells/ kg infused on 24.12.24

- No CRS/ICANS/Infections during hospital stay (17 days).
- CBC on D 14 – 11/ 9380 N 12 / 82000
- Tab. Ponatinib 15mg OD started from D+14.
- DAY 28 bone marrow
  - Hypocellular marrow, MRD negative, BCR ABL – undetected
- Noted jaundice, elevated SGOT, SGPT on 12.3.25 (D + 78 CAR T)
  - S.Br 6.46/5.48 (direct)/ SGOT 1429/SGPT 1278
  - Viral markers negative (including CMV, EBV)
- Chimerism (19.3.25) D + 85 CAR T / ( D 326 of Allo HSCT)– 99.75 %
- Ponatinib was withheld.
- He also developed features s/o Skin GVHD

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- In this setting (increased chimerism, deranged LFT) diagnosis of Acute GVHD was considered.
- Image guided Liver biopsy was done on 26.3.25
  - – consistent with Acute GVHD Liver .
- Final diagnosis – A/C GVHD Liver (Stage III) Skin (Stage I) – Overall grade 3
- Started on inj. Methyl prednisolone 85mg (1mg/kg/dose OD) from 29.3.25 ----> LFT improved.
  
- Ponatinib restarted at review (30.4.25) – 15mg twice a week.
- Prednisolone tapered slowly, Ponatinib dose gradually increased, monitoring LFT.
- Last review – 24.11.25
  - GVHD resolved
  - Greying of hairs +
  - On Prednisolone 15mg OD, Ponatinib 15mg A/D (logistic issues)
  - CBC – Hb 13.8, TC 7100 N 36, PLC 2.44L

|                                            | DAY 28<br>(22.1.25) | 19.2.25       | 19.3.25       | 3.4.25      | 17.4.25 | 23.4.25      |
|--------------------------------------------|---------------------|---------------|---------------|-------------|---------|--------------|
| B Cell enumeration<br>(cells/ micro litre) | 87                  |               |               | 294         |         |              |
| Chimerism                                  |                     |               | 99.75         |             | 100     |              |
| Ig A/ Ig G/ Ig M                           |                     | 47.8/3043/130 | 50.8/3536/122 | 40/3333/145 |         | <40/1918/177 |

## • Questions to Experts

- Any other possible explanation for the acute hepatic dysfunction?
- Any difference regarding the management done for this patient?