EVALUATION OF HAEMATOPOIETIC STEM CELL TRANSPLANTATION IN PATIENTS DIAGNOSED WITH CUTANEOUS T CELL LYMPHOMA AT A TERTIARY CARE CENTRE

R Applewaite, S Ritchie, I Qureshi, K Molloy, J Yoo, F Shah, A Stevens, C Irwin, S Chaganti, J Scarisbrick. University Hospitals Birmingham (UHB), Birmingham, UK

BACKGROUND

Patients with advanced cutaneous lymphoma have a poor prognosis with a median survival of 1-5 years (1). Allogeneic haematopoietic stem cell transplant (HSCT) may be used to treat eligible patients with late stage disease, aggressive disease or those with poor prognostic factors who achieve a durable remission.

RESULTS

A pre-transplant conditioning regimen consisting of Total Skin Electron Beam Therapy/Total Nodal Irradiation and anti-thymocyte globulin (TSE/TNI/ATG), with Sezary Syndrome (SS) patients receiving additional extracorporeal photopheresis (ECP), was adopted in 2013 (2). 19 patients including 9 males and 10 females, with a median age of 47 at the time of HSCT (range 35 to 67 years old) have since been transplanted. These included 17 patients with Mycosis Fungoides (MF) (n=14) and SS (n=3). There were a further 2 patients with stage IV large cell anaplastic lymphoma. The average time from diagnosis to HSCT was 61 months (range 9 months to 21 years). All 19 patients had received prior systemic therapies with the median number of 4 (range 1 to 9).

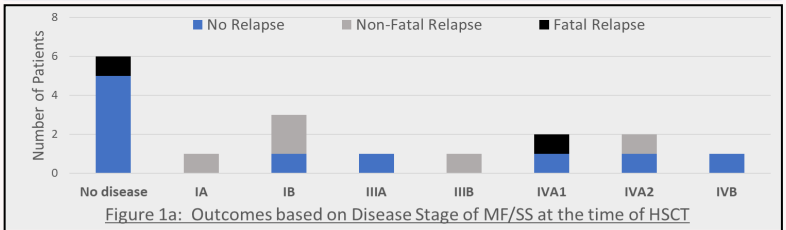

Figure 1a: Outcomes based on Disease Stage of MF/SS at the time of HSCT

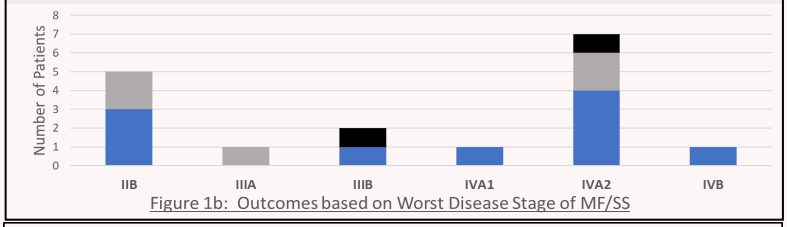

Figure 1b: Outcomes based on Worst Disease Stage of MF/SS

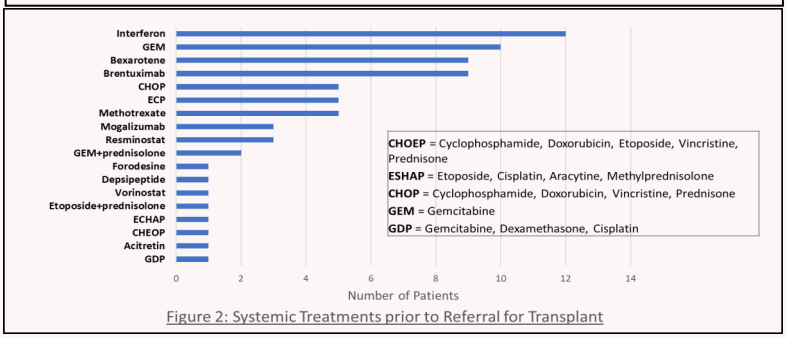

Figure 2: Systemic Treatments prior to Referral for Transplant

DISCUSSION

Previous studies have found that those who have complete remission at the time of HSCT tend to have better outcomes (3) which was similar to our findings. The treatments bridging to transplant included intravenous chemotherapy (n=10), brentuximab (n=5), ECP (n=2) and others. **All 19 patients had a favourable response following transplantation**. However, 8 (42%) subsequently had disease relapse. Relapse was terminal in 3 patients; one of whom relapsed shortly after HSCT and therefore possibly had disease at the time of the transplant (Figure 6). At present, 10 (53%) are currently in complete remission (CR), 3(16%) are in partial remission (PR) and 6 (32%) have died from relapsed disease (n=3), GVHD (n=1) and unrelated causes (n=2).

REFERENCES

(1) Scarisbrick J, Prince H, Vermeer M *et al.* **Cutaneous Lymphoma International Consortium Study of Outcome in Advanced Stages of Mycosis Fungoides and Sézary Syndrome: Effect of Specific Prognostic Markers on Survival and Development of a Prognostic Model.** *Journal of Clinical Oncology* 2015; 33:3766-3773.
(2)Ritchie S, Qureshi I, Molloy K *et al.* **Evaluation of haematopoietic stem cell transplantation in patients diagnosed with cutaneous T-cell lymphoma at a tertiary care centre: should we avoid chemotherapy in conditioning regimes?** *British Journal of Dermatology* 2020; 182(3):807-809.
(3)Gilson D, Whittaker S *et al.* **British Association of Dermatologists and U.K. Cutaneous Lymphoma Group guidelines for the management of primary cutaneous lymphomas 2018**. *British Journal of Dermatology* 2018; 180:496-526.

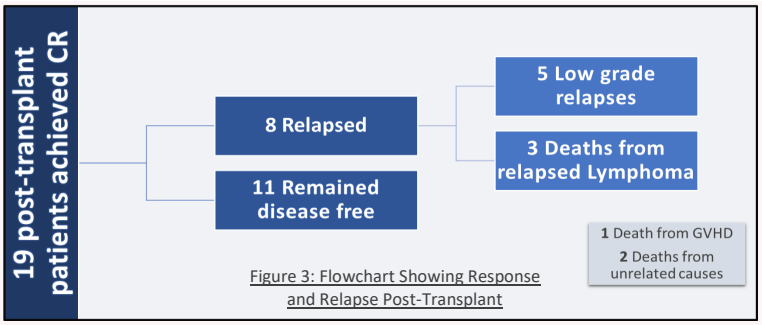

Figure 3: Flowchart Showing Response and Relapse Post-Transplant

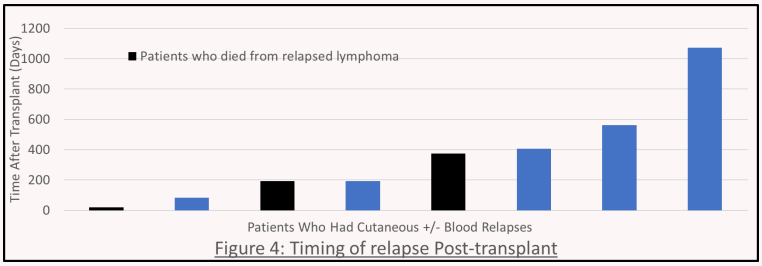

Figure 4: Timing of relapse Post-transplant

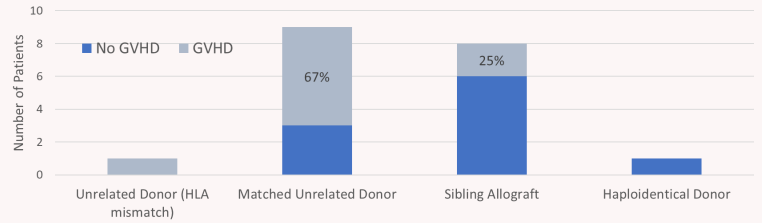

Figure 5: Development of GVHD by Allograft Type

According to Kaplan-Meier survival analysis, the overall post-transplant survival probabilities were 89% at 1 year (16 out of 18 patients alive), 77% at 2 years (12 out of 16), 63% at 3 years (8 out of 14) and 63% at 5 years (5 out of 11) with a median follow up of 2.68 years (range 0.26 – 7.97 years). One patient with graft failure received a second allogenic transplant after 1 year.

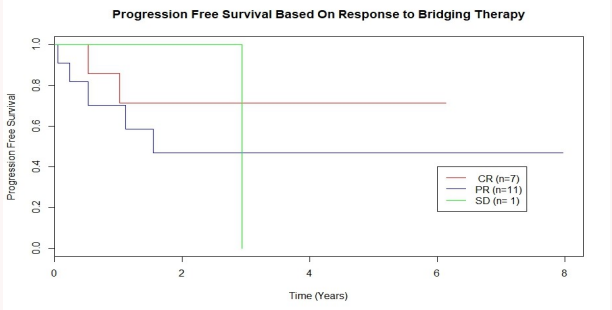

Figure 6: Kaplan-Meier Curve of Progression Free Survival based on response to bridging Therapy

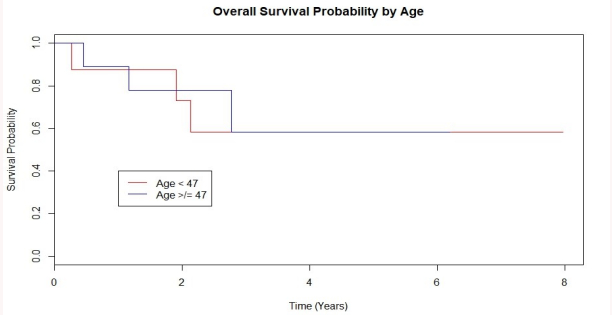

Figure 7: Kaplan-Meier Curve of Overall Survival based on Median age

CONCLUSION

Making definitive conclusions is limited by the small numbers. Though relapse following HSCT is common, this is mostly early stage and may be successfully managed with skin directed therapy, donor lymphocyte infusions, tailoring of immunosuppression, local radiotherapy or ECP . Our updated data demonstrates that TSE/TNI/ATG HSCT is a safe treatment option for selected patients with low transplant related mortality in advanced MF/SS.