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ASH 2018 | Validation study of the Minnesota Acute GvHD Risk Score

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The 60th American Society of Hematology (ASH) Annual Meeting was held in San Diego, California, from 1–4 December 2018. On Saturday 1 December 2018, an oral abstract session was held entitled: *722. Clinical Allogeneic Transplantation: Acute and Chronic GvHD, Immune Reconstitution: GvHD Grading and Outcomes and Management*. During this session, Abstract #67 was presented entitled: *Validation of Minnesota Acute GvHD Risk Score and Identification of New Factors Associated with Initial Response to Steroids: Not All GvHD Is Created Equal* and was presented by Margaret L. MacMillan from the University of Minnesota, Minneapolis, MN, USA.

Professor MacMillan began by outlining the recently reported Minnesota Acute GvHD Risk Score which is categorising patients based on involved organs and severity of acute graft-versus-host disease (GvHD) at diagnosis. MacMillan and colleagues established a new clinical Minnesota refined risk score that was better than the IBMTR scale to predict overall response rate (ORR) to treatment and 6-month OS. In order to validate the risk score, MacMillan *et al*. studied a new group of patients with acute GvHD at the University of Minnesota between 2007 and 2016.

Patients and methods

- N = 355
- Median age = 49 years (range, < 1–75)
- Initial treatment: prednisone 60 mg/m2/d PO for 14 days
- Initial therapy was followed by an eight-week taper
- High risk GvHD: n = 79 (22%) patients
- Standard risk GvHD: n = 276 (78%) patients

Key findings

- Median time from transplant to initiation of corticosteroids: 37 day
- Grades of GvHD
  - 11% grade I GvHD
  - 53% grade II GvHD
  - 30% grade III GvHD
  - 6% grade IV GvHD
- Median follow-up: 3.2 years (range, 0.5–9)

- Overall response rates:
  - SR GvHD cohort *vs* HR GvHD cohort at day 14: 71% *vs* 56%, $P < 0.01$
  - SR GvHD cohort *vs* HR GvHD cohort at day 28: 74% *vs* 59%, $P = 0.02$
  - SR GvHD cohort *vs* HR GvHD cohort at day 56: 68% *vs* 49%, $P < 0.01$
- Day 28 complete or partial response (CR/PR) rates were not different by initial GvHD grade at onset, P = NS
  - Grade I: 64%
  - Grade II: 77%
  - Grade III: 65%
  - Grade IV: 50%
- Day 28 CR/PR rates were lower in patients with HR GvHD, $P = 0.02$
- Higher transplant related mortality rates were observed in patients with HR GvHD, $P < 0.01$
- Higher transplant related mortality rates were found in patients with no response to corticosteroids by day 28, $P < 0.01$
- Sibling and single UCB recipients had less skin and more gastrointestinal involvement than URD or double UCD recipients
- Day 28 CR/PR were higher in UCB recipients, $P < 0.01$
- Day 28 CR/PR were higher in UCB recipients in GvHD risk subsets, $P < 0.01$
- UCB recipients with acute GvHD had lower risk of developing chronic GvHD, $P < 0.01$

Professor MacMillan concluded by stating that this analysis confirms that the Minnesota Acute GvHD Risk Score is a "valuable and immediately available bedside tool to define risk in patients with acute GvHD." She further added that these findings also confirm the importance of graft source and HCT-CI outcomes after treatment of GvHD. Further studies are required to assess why UCB recipients with acute GvHD have better response rates to steroid therapy and have lower risk of chronic GvHD than other patients with the same risk score undergoing transplantation.

Reference

1. MacMillan M. et al. 67 Validation of Minnesota Acute Gvhd Risk Score and Identification of New Factors Associated with Initial Response to Steroids: Not All Gvhd Is Created Equal. Abstract #67. *ASH 60th Annual Meeting and Exposition*, December 2018, San Diego, CA.