

## **ANZSBT research grant: synopsis of research outcomes**

**Project title: *A longitudinal population study of current transfusion needs and changes over time in elderly patients with myelodysplastic syndromes***

### **Background**

Red blood cell (RBC) and platelet transfusions are cornerstones of supportive care management for patients with myelodysplastic syndromes (MDS) and related conditions such as chronic myelomonocytic leukaemia (CMML). However, there is minimal evidence to guide transfusion therapy in this chronically transfused, and frequently elderly, population, whom often also have cardiac comorbidities. In Australia, little is known about real-world MDS transfusion practices, or related outcomes including cardiac or bleeding events, particularly since newer MDS disease-modifying agents have become available (eg azacitidine in 2011), which have likely impacted on transfusion requirements.

### **Aims of project**

We conducted a longitudinal population study of Victorian MDS/CMML patients from 2002-2017, by linking the Victorian Admitted Episodes Dataset (VAED) and the Victorian Cancer Registry (VCR) aiming to:

- I. Characterise RBC and platelet transfusion needs including: frequency and number of transfusions, transfusion dependency rates
- II. Identify changing transfusion trends over time
- III. Explore cardiac and bleeding outcomes

Ethics approval for this project was obtained from Monash University.

### **Summary of research outcomes**

From 2002-2017, over 6000 patients MDS/CMML were admitted to Victorian hospitals, with over 140,000 hospital admissions.

The main study findings were:

- There was an increase in MDS diagnoses and related admissions over time.
- Many hospital admissions involved RBC and/or platelet transfusion.
- We found changes in the number of RBC transfusion admissions and platelet transfusion admissions over time. The cause is unclear, but may be related to changes in clinician practice or changes in other MDS therapies.
- Cardiac events and bleeding events were overall common; this has also been found in other studies.
- Very few transfusion reactions recorded. This may reflect under-diagnosis, under-reporting and limitations of ICD-10-AM coding used in the VAED dataset.

The findings of this research project are currently being prepared for submission in a peer-reviewed publication, and will also form part of Dr Mo's PhD research thesis.

Overall, these findings provide important information to aid clinicians and healthcare providers plan for current and future transfusion needs of MDS patients. Our findings also highlight the need for further research to optimise RBC and platelet transfusion practices, and other supportive care measures, in patients with MDS.

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