

Chapter

4



CLINICAL OUTCOMES AFTER PERIPHERAL BLOOD
STEM CELL DONATION BY RELATED DONORS:
A DUTCH SINGLE CENTER COHORT STUDY

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Background

Relatives donating peripheral blood stem cells (PBSCs) may be accepted for donation on less strict criteria than unrelated donors. We evaluated the occurrence of adverse events during procedure and follow-up, with a special focus on donors who would have been deferred as unrelated donors.

Study design and methods

All 268 related PBSC donors at our center (1996-2006) were included. Data were retrospectively collected from medical reports and standard follow-up. Health questionnaires were sent from 2007. Medical outcomes of donors, deferrable or eligible according to international criteria for unrelated donation, were compared.

Results

Forty donors (15%) would have been deferred for unrelated donation. Short-term adverse events occurred in 2% of procedures. Questionnaires were returned by 162 (60%) donors on average 7.5 years after donation, bringing total person-years of follow-up to 1278 (177 in deferrable donors). Nine malignancies and 14 cardiovascular events were reported. The incidence rate of cardiovascular events in eligible donors was 6.5 (95% confidence interval [CI], 2.5-12.3) per 1000 person-years compared to 44.9 (95% CI, 17.4-85.2) in deferrable donors; incidence rates of malignancies were 4.6 (1.4-9.6) and 24.0 (6.0-53.9) per 1000 person-years, respectively, in eligible and deferrable donors. All incidence rates were within the range of age- and sex-matched general population. No autoimmune disorders were reported.

Conclusion

In both the eligible and the deferrable related donors treated with granulocyte-colony-stimulating factor there are few short-term and long-term problems. The occurrence of post-PBSC cardiovascular events and malignant disease in related donors appears to be within the range of the general population.

Clinical outcomes after Peripheral Blood Stem Cell Donation by related donors: a Dutch single center cohort study

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