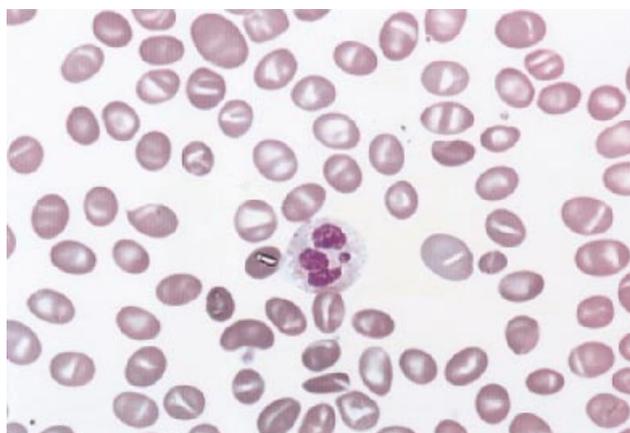
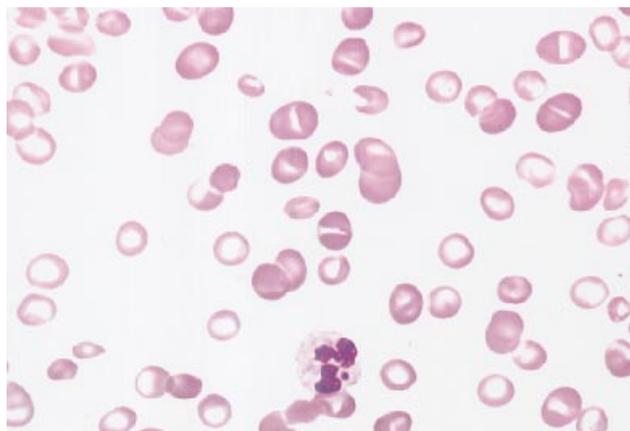


IMAGES IN HAEMATOLOGY

## Stomatocytic elliptocytosis and 'neutrophil drumsticks' as a marker of stem cell engraftment



A 17-year-old Malay male patient underwent non-myeloablative allogeneic peripheral blood stem cell transplant (PBSCT) for chronic myeloid leukaemia from his human leucocyte antigen (HLA) and ABO identical 21-year-old-sister. He received a repeat peripheral blood stem cell infusion for graft failure 6 months later. Neutrophil and platelet engraftment were documented at d 20 and 35, respectively, following the second PBSCT. Cytogenetic and molecular remission were both documented at d +70. The blood films at d +60 (top) showed about 30% stomatocytic elliptocytes and almost 100% stomatocytic elliptocytes at d +180 (bottom). Neutrophils with a 'drumstick' that are normally found in female subjects were evident in the recipient's blood smears (top and bottom). Chimaerism analysis of the bone marrow samples using the short tandem repeat method showed mixed chimaerism at d +60 and complete donor chimaerism at d +180. The morphology of the recipient's red cells prior to PBSCT was normal. The donor had hereditary stomatocytic elliptocytosis. The appearance of 100% stomatocytic elliptocytes and neutrophils with a 'drumstick' at d +180 in the recipient peripheral blood, which appeared identical to the donor's peripheral blood, indicated complete engraftment of the stem cells. These findings demonstrate that the morphology of the red and white cells in the peripheral blood may be used as a simple means of monitoring stem cell engraftment after allogeneic PBSCT.

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