

The peripheral blood of 20 patients suffering from aplastic anemia and undergoing treatment with immunosuppressives and elevated G-CSF (granulocyte colony stimulating factor) was investigated. The study was aimed to determine whether this therapeutic approach would lead to stem cell mobilization sufficient for leucapheresis and autologous stem cell reinfusion. Numbers of leucocytes, granulocytes and progenitor cells of hematopoiesis (CD34 + cells, BFU-E (burst forming unit-erythroid) und CFU-GM (colony forming unit - granulocyte/macrophage) were obtained at 5 time points up to day 112 after start of therapy. Additionally, long term culture data for presence of CAFCs (cobblestone area forming cells) in peripheral blood were obtained for eleven of the patients. A significant increase of leucocyte and granulocyte numbers exceeding norm values was observed around day 42 of therapy. The number of CD34+ and progenitor cells (CFU-GM and BFU-E) was not altered significantly in the whole patient sampling. Significant increases in the mobilization of stem cells between days 28 and 112 after therapy start were restricted to single cases. The therapeutical approach investigated here thus does not yet offer predictability for stem cell retrieval appropriate e.g. for leucapheresis. The investigation of other cytokinines for stem cell mobilization may be valuable.