

Hemopoietic stem cells (HSCs) are primitive cells capable of replacing terminally differentiated cells throughout life. HSCs are defined as pluripotent cells able to give rise to a number of different functional cell types and they possess a huge self-renewal capability. The process during which stem cells give rise to terminally differentiated cells occurs through a number of committed progenitor cells in the bone marrow (BM) microenvironment. The place where HSCs reside in situ is called a niche. Successful bone marrow transplantation (BMT) involves homing, seeding and engraftment of HSCs in the niche. More factors, for instance chemotherapeutics and irradiation, can influence the effect of BMT. There are indices that HSCs differ between fetal and adult life.

(...)

The B-lymphopoiesis derived from fetal liver remained significantly less sensitive to suppression by estrogen compared to that of adult and neonatal origin. It remained its permanent feature. Exposure of HSCs to the late-stage FL microenvironment seems to be critical and mandatory for gaining later sensitivity to estrogen.

Bisphosphonates do not affect hematopoiesis in the mouse. They seem to be safe in regard to the effect on hematopoietic tissue in mice.