

Allogeneic Bone Marrow Transplantation (BMT) is the preferred upfront treatment for severe aplastic anemia (SAA) patients younger than 40 years, with a HLA-matched sibling donor; when a sibling donor is not available, BMT from a matched unrelated donor (MUD) is appropriate as second line treatment. Even if long-term results of MUD BMT are improving, MUD upfront is not justified because non-transplant treatment has improved as well (i.e. eltrombopag added to immunosuppression), and the outcome of second-line MUD is excellent (if performed timely). With the exception of children (who may have an excellent outcome with MUD BMT upfront), MUD BMT remains the best second-line treatment of SAA, and it has to be performed early as soon as failure of immunosuppression is demonstrated.