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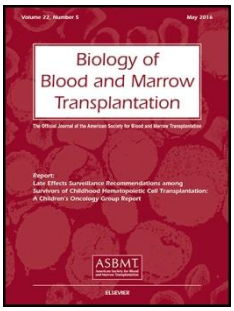

Title: Busulfan-Dependent Hepatotoxicity of Antithymocyte Globulin Formulations during Conditioning for Hematopoietic Stem Cell Transplantation

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Busulfan-dependent hepatotoxicity of antithymocyte globulin formulations during conditioning for hematopoietic stem cell transplantation

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Keywords: Busulfan

Hepatotoxicity

Antithymocyte globulin

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Bullet points manuscript YBBMT-D-17-00454

- Post ATG there is a high incidence of severe acute hepatotoxicity (SAH).
- The incidence of SAH is particularly high in regimen containing both ATG and busulfan.
- The impact of SAH post ATG seems limited and normally resolves without sequel.
- SAH should not lead to interruptions in the planned conditioning therapy.

Antithymocyte globulins (ATG) have a well established role in acute and chronic graft-versus-host disease (GVHD) prevention during allogeneic hematopoietic stem cell transplantation (HSCT) by inducing *ex vivo* T-cell depletion. Although the immunomodulation provided by ATG is multifaceted the main mechanism of action relies on T-cell depletion through complement-dependent lysis and induction of T-cell apoptosis [1]. Related to this mode of action is the cytokine-release syndrome (CRS) which occurs mostly 1-2 days after administration of ATG and results in a plethora of physical signs and complaints including fever, chills and even organ dysfunction [2]. Recently, a significant