Syringe and intravenous infusion pumps are not commonly used to deliver hematopoietic stem cell products (HPCs) due to a paradigm of thought that suggests that the pressure from the pump might damage the HPCs” Kissoon et al (2019).

Abstract:

Hematopoietic stem cell transplantation using progenitor cells is a potentially curative treatment option for patients with high-risk malignancies and nonmalignant hematologic, immunologic, and genetic conditions. There is a need for evidence regarding safe practices and controlled infusion processes. Syringe and intravenous infusion pumps are not commonly used to deliver hematopoietic stem cell products (HPCs) due to a paradigm of thought that suggests that the pressure from the pump might damage the HPCs. Here, we describe a retrospective analysis of 114 patients who received HPC infusions using either a syringe or intravenous pump, providing support for this method along with successful engraftment data. This method may be a viable option to obtain reliable and consistent infusion rates, especially in pediatrics. To the best of our knowledge, this is the only study to date demonstrating safely using syringe and intravenous pump mechanisms in the setting of autologous and allogeneic pediatric stem cell transplantation.

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