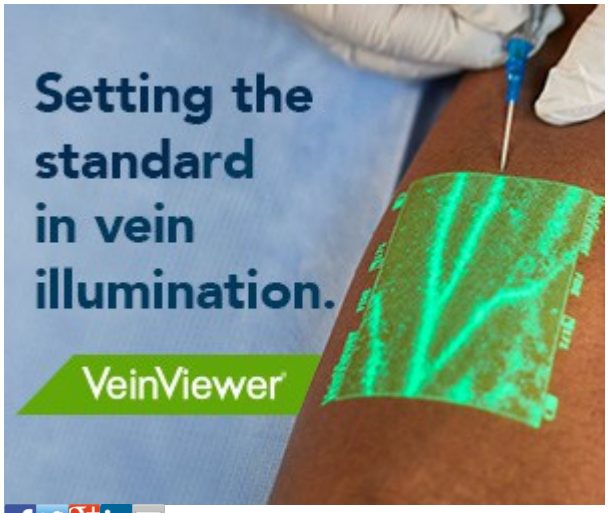

Syringe infusion pumps (SIPs) led to major advances in infusion therapy and were gradually applied to the transfusion of packed red blood cells (RBCs), raising questions about possible cell damage" Gannam et al (2018).

Abstract:

Syringe infusion pumps (SIPs) led to major advances in infusion therapy and were gradually applied to the transfusion of packed red blood cells (RBCs), raising questions about possible cell damage. The objectives of this study were to determine levels of hematocrit (%), total hemoglobin (g/dL), free hemoglobin (g/dL), lactate dehydrogenase (units/L), potassium (mmol/L), the degree of hemolysis (%) of RBCs infused by an SIP, and to investigate the influence of the infusion rate. The experimental study comprised 14 RBCs, 3 SIPs, and infusion rates of 5, 10, and 20 mL/h. The results showed total hemoglobin reduction (P = .003), and increased free hemoglobin and hemolysis (P <.001) were identified. The conclusion reached was that RBCs presented changes in free hemoglobin and degree of hemolysis.

Reference:

Gannam, F.F., Belela-Anacleto, A.S.C., Kusahara, D.M. and Gonçalves, P.M. (2018) Levels of Hemolysis Markers in Erythrocyte Concentrates Administered Using a Syringe Infusion Pump. Journal of Infusion Nursing. 41(3), p. 180–188.

doi: 10.1097/NAN.0000000000000280.