



Red blood cell exchange (RCE) procedures are commonly used for stroke prevention in sickle cell disease (SCD) patients. We compared two different dual lumen ports used for RCE because differences between the port and catheter design may lead to functional variance” Lawicki et al (2018).

Abstract:

INTRODUCTION: Red blood cell exchange (RCE) procedures are commonly used for stroke prevention in sickle cell disease (SCD) patients. We compared two different dual lumen ports used for RCE because differences between the port and catheter design may lead to functional variance.

METHODS: We reviewed the RCE parameters of SCD patients following implantable port placement encountered at a single institution. Five Vortex and four Bard ports were used and compared. Patients were followed for 1-24 exchange procedures over 3-26 months performed between 2013 and 2015.

RESULTS: Nine patients underwent 124 RCE procedures with no failures. A total of 74 exchanges used Vortex ports with a mean flow rate of 45.2 mL/min while 50 exchanges used Bard ports with a mean flow rate of 42.1 mL/min which was a significant difference ($P = .002$). A total of 85 exchanges with tPA administration preprocedure had a mean flow rate of 43.8

mL/min while 39 exchanges without had a mean flow rate of 45.4 mL/min which was not a significant difference ($P = .19$).

CONCLUSION: Both the Bard and Vortex ports functioned well during our study period with no treatment failures, no significant complications requiring removal or replacement, and adequate mean flow rates. While the difference in mean flow rates was statistically significant between Vortex and Bard ports, there may not be a practical difference in performance. There also does not appear to be a significant benefit in flow rates with preprocedure tPA. We conclude that both ports may be a satisfactory choice for vascular access in SCD patients expected to undergo regularly scheduled RCE.

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Reference:

Lawicki, S., Craig-Owens, L., Bream, P.R. Jr. and Eichbaum, Q. (2018) Indwelling ports for prophylactic RBC exchanges in sickle cell patients: Comparison of bard and vortex ports. Journal of Clinical Apheresis. November 2nd. .

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