



In this study, we assessed patients displaying anaphylaxis or anaphylactoid reactions to the PowerPICC SOLO and Groshong PICC (Bard Access Systems) using the Sherlock tip locating system (TLS)” Thornton et al (2019).

Abstract:

OBJECTIVE: Peripherally inserted central catheters (PICCs) are a mainstay of nonpermanent vascular access devices. In this study, we assessed patients displaying anaphylaxis or anaphylactoid reactions to the PowerPICC SOLO and Groshong PICC (Bard Access Systems) using the Sherlock tip locating system (TLS).

METHODS: Patients from 2 tertiary-care hospitals were systematically monitored over 4 years for adverse events following the insertion of a PICC using the Sherlock TLS. Insertion data were also collected using the BioFlo PICC (Angiodynamics) from a third hospital site and from The Ottawa Hospital over 4 years as an additional comparator. Three definitions of anaphylaxis and anaphylactoid reactions were utilized, and the Cohen κ was used to assess interrater agreement. Analysis of reactions among the patient cohorts was performed using the χ^2 test with Yates correction or the Fisher exact test as appropriate.

RESULTS: Among 8,257 insertions using the TLS PICCs, 37 potential reactions (0.45%) were recorded. Using specific definitions for anaphylaxis or anaphylactoid reactions, 54.1%-91.9% met criteria. Comparator populations using data from Calgary (n = 491) and Ottawa (n =

7,889) using the BioFlo PICC insertion found no reactions. Anaphylactic or anaphylactoid reactions were significantly associated with the PowerPICC SOLO and Groshong PICC with the TLS compared to the BioFlo PICC ($P < .0001$) across all definitions. The largest subset of patients experiencing adverse reactions had cystic fibrosis (CF) ($n = 4, 10.8\%$). **CONCLUSION:** Our study results demonstrate significant adverse events associated with the PowerPICC SOLO and Groshong PICC using the Sherlock TLS inserted across a range of patient populations. The incidence rate of anaphylaxis or anaphylactoid reactions in the CF population at our center is significantly higher than in non-CF patients ($P < .001$).

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[PICC insertion with intracavitary ECG](#)

[Anaphylaxis and other serious hypersensitivity reactions to rolapitant injectable emulsion](#)

Reference:

Thornton, C.S., Dumanski, J., Margherit, C., Vaz-Gonsalves, S., McDiarmid, S., Parkins, M.D. and Conly, J.M. (2019) Anaphylaxis and anaphylactoid reactions associated with the insertion of peripherally inserted central catheters: A multiyear comparative retrospective cohort study. *Infection Control and Hospital Epidemiology*. October 8th. doi: 10.1017/ice.2019.237. .

