STUDY SUMMARY

The connector or not the connector: reduction of blood culture contamination

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PURPOSE

University Medical Center in Tucson, Arizona, experienced a rate of blood culture contamination (BCC) that was higher than the nationally accepted rate of 3%. Blood draws had to be repeated and patients were subjected to added risks because of antimicrobial therapy. Each case cost the facility $13,600. In the absence of research results supporting hub-to-hub blood draws, the facility decided to study leaving the MicroClave® connector in place for central line blood draws.

MATERIALS AND METHODS

The study was launched in the pediatric outpatient bone marrow transplant unit (Ped OPBMT) in January 2009. Staff was taught to cleanse the MicroClave with 2% chlorhexidine gluconate and 70% isopropyl alcohol solution and draw blood cultures with the connector in place. Blood draws were followed by a saline flush. The MicroClave was changed at intervals according to hospital protocol. In June 2009, additional staff was educated in the protocol and the study was expanded to two in-patient ICUs in July.

RESULTS

From January to June 2009, there were no cases of BCC in the Ped OPBMT. In the second half of 2009, they experienced intermittent cases of BCC that were traced to new hires and changes in patient acuity. A remediation program was conducted. Data from the Ped OPBMT unit showed a reduction in BCC from line draws of 62%. Overall reduction in BCC rate was 48%. Estimated savings to the hospital for the study period: $503,000. There was no increase in central line associated bloodstream infections (CLABSIs).

CONCLUSION

Blood cultures are a standard of care. Drawing cultures through the MicroClave connector rather than using a hub-to-hub connector was found to greatly decrease the incidence of BCCs, saving the hospital a great deal of money, and protecting patients from additional risk. There was no increase in CLABSIs. Ongoing and consistent education of staff was vital in maintaining the reduced rates.