

BIP Foley Catheter Publication Summary

Aljohi AA, Hassan HE, Gupta RK. The efficacy of noble metal alloy urinary catheters in reducing catheter-associated urinary tract infection. *Urol Ann* 2016;8:423-9.

Background

Indwelling catheters are used routinely in the Intensive Care Units (ICUs), usually for frequent and accurate monitoring of urinary output. Approximately 15–25% of hospitalized patients use a urinary catheter during their stay,¹⁻² and the majority of these patients are catheterized for 2–4 days³⁻⁴. In addition to pain and discomfort, CAUTIs cause prolongation of hospital stay by 1–4 extra days and increased use of antibiotics, with consequent development of resistant microbial strains.⁵⁻⁹

Patients

Data were collected from 60 patients at the medical and surgical critical ICU at the King Fahad Hospital of University of Dammam in Saudi Arabia. The defined inclusion criteria were (1) adult patients (≥ 18 years), (2) no UTI, (3) requiring a urinary catheter for at least 3 days, (4) using a closed drainage system.

Method

This was a single-blinded, randomized, single-center, prospective study of the safety and performance of noble metal alloy catheters in ICU patients requiring urinary catheters for at least 3 days. Patients were randomized to the BIP Foley Catheter or conventional siliconized latex Foley catheters, referred to as a standard group, in a 1:1 ratio. The demographic data did not differ significantly between the two groups except for age (44 vs 58 years). To reduce the risk of CAUTI, the catheters were inserted using aseptic technique and sterile equipment. The nurses performed hand hygiene before and after insertion and maintained a closed drainage system and properly secure catheters.

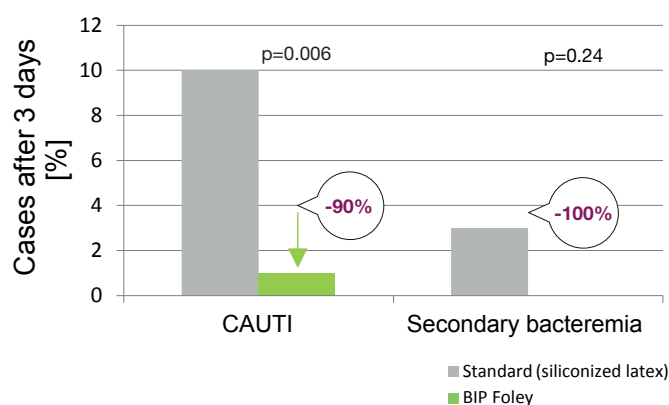
CAUTI was defined based on guidelines from the Center for Disease Control and Prevention (CDC) – including only symptomatic CAUTI. Secondary bacteremia includes both ABUTI (asymptomatic bacteremic UTI) and SBUTI (symptomatic bacteremic UTI).

Results

After the catheterization period of 3 days, ten cases of CAUTI were recorded in the standard catheter group while only one case of CAUTI occurred in the noble metal alloy catheter group. Thus, the relative risk was 0.1 (95% confidence interval [CI]; 0.014–0.733, $P = 0.006$) and the risk reduction was 90% (33% vs. 3.3% per catheter days). Three bacteremia cases were considered to be secondary bacteremic UTI since they were positive for the same strains of microorganism in both blood and urine, suggesting that this microbe(s) originated from the urinary tract.

Conclusions

CAUTI rates and secondary outcomes such as polyuria and secondary bacteremia were found to be in lower frequency rate in the noble metal alloy group compared to the standard group.



References

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