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Taurolock (taulolidine citrate) versus vancomycin (vancomycin-heparin) in prevention of hemodialysis catheter related blood stream infection**Ayman Aly Seddik, Abdelrahman Khedr and Tamer Elsaid**
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Introduction: Central line associated blood stream infection (CLABSI), defined as a single blood culture for organisms not commonly present on the skin, and two or more blood cultures for organisms commonly present on the skin, in a patient who has a central line at the time of infection or within the 48-hour period before development of infection. Catheter-related bloodstream infection (CRBSI) constitutes a major clinical and economic problem; and antimicrobial lock therapy is commonly used for CVC management in a prophylactic modality in patients with protracted central venous access for hemodialysis (HD), chemotherapy, or total parenteral nutrition.

Patients & Methods: A prospective, open-label randomized trial conducted at a single medical center at Hemodialysis Unit, Ain Shams University Hospital. 41 Patients were randomly assigned to receive interdialytic catheter locking with either vancomycin/heparin or taulolidine/citrate; Taurolock at the end of each dialysis session and continuously since catheter insertion.

Results: No significant difference in study groups regarding age distribution with age 59.39 ± 15.69 and 57.83 ± 16.12 for vancomycin and Taurolock groups respectively was found. Majority of patients had permanent hemodialysis catheters and only 5 patients had temporary internal jugular catheter (1 in vancomycin group and 4 in Taurolock group). Total dialysis days in vancomycin group (202.83 ± 97.88 days) was higher than in Taurolock group (189.17 ± 99.42 days), but without significant difference in p value (0.663). The infection positive dialysis days was higher in Taurolock group (22.09 ± 28.47 days) than the vancomycin group (18.47 ± 22.75 days) without statistical significant p value (0.622). Episodes of infection per 1000 catheter dialysis days was slightly higher in vancomycin group (0.558 ± 0.466 infection episode/1000 catheter dialysis days) than Taurolock group (0.528 ± 0.380 infection episode/1000 catheter dialysis days); however, statistically insignificant.

Discussion: Our results regarding the reduction of catheter related blood stream infection by using vancomycin based catheter lock solution came in accordance with the results of recent meta-analysis in January 2015 conducted by Macarena *et al* (1). The key messages of his analysis were consistent with the findings of the individual systematic reviews identified; which recommends its use only in patients with multiple central venous catheter related blood stream infections.

Conclusion: Up to our knowledge, this is the 1st trial comparing the effectiveness of Taurolock versus vancomycin in prevention of catheter related blood stream infection; and interpretation of the results showed that Taurolock have comparable efficacy on reducing the rate of infection and maintain catheter survival.

Biography

Ayman Aly Seddik has completed his graduation from Shams University School of Medicine 1996 with Honors, internship and residency program in Internal Medicine and Nephrology 1997-2001. He is working as Assistant Lecturer and Nephrology Specialist in Ain Shams University Hospital and at Nasser Institute for Research (2001-2006). After obtaining MD degree in Internal Medicine & Nephrology in 2006 from Ain Shams University, he started working as Consultant Nephrologist and Lecturer at Ain Shams University Hospitals. He served as Senior Specialist Nephrologist at King Fahd Armed Force Hospital, Jeddah, Saudi Arabia 2006-2008, Consultant Nephrologist at Northern Area Armed Force Hospital 2009-2011, Program Director of Internal Medicine Residency Program in Northern Area Armed Force Hospital, Degree of Assistant Professor of Internal Medicine and Nephrology at Ain Shams University, Cairo, Egypt 2012. Currently, he is working as Nephrologist at Dubai Hospital- Dubai Health Authority (2011).

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