To examine clinical and bacteriological profiles of haemodialysis patients developing CRBSI, the antibiotic susceptibility of the bacteria isolated from these patients and determine nasal carriage of S. aureus in the study subjects” Gupta et al (2016).

Abstract:
INTRODUCTION: Aerobic bacterial infections often complicate vascular access in patients receiving haemodialysis, leading to Catheter-Related Blood Stream Infections (CRBSI). Various studies report Gram – positive bacteria, Staphylococcus aureus (S. aureus) in particular, as the most common aetiologic agent. Studies on microbiological analysis in this subset of population from India are very few.

AIM: To examine clinical and bacteriological profiles of haemodialysis patients developing CRBSI, the antibiotic susceptibility of the bacteria isolated from these patients and determine nasal carriage of S. aureus in the study subjects.

MATERIALS AND METHODS: Using a prospective observational design 127 patients receiving haemodialysis (84 males; 43 females) from October 2011 to March 2013 were enrolled in this study. At each dialysis session, catheters were examined for any evidence of infection. In case of suspicion for infection, pus swab, blood culture and the catheter tips were sent to microbiology laboratory for site specific investigations. Vancomycin injection was empirically administered to these patients pending culture results. Data obtained was examined for relationship of CRBSI with clinical and socio-demographic risk factors.

RESULTS: Out of 127 patients, 19 developed CRBSI, 10 developed exit-site infections and 33 patients were noted to have colonization of their catheters. The most common organisms included S. aureus in 24 (45.2%) catheter tips, followed by Pseudomonas aeruginosa in 9 (17%), Acinetobacter spp. in 5 (9%), Enterobacter spp. in 4 (7.5%) and Klebsiella pneumonieae in 3 (5.6%) catheter tips. Bacteraemia was found in 19 (20.7%) patients and P. aeruginosa was the most commonly isolated organism amongst them (38.8%). Staphylococcal nasal carriage was seen in 60 (69%) patients and 36 (41.4%) of these isolates were methicillin-resistant. Significant factors associated with CRBSI included history of bacteraemia, presence of diabetes mellitus, long duration (>15 days) of catheterization and antibiotic use within three months (p

CONCLUSION: Although S. aureus was the most common colonizer of non-tunnelled central access catheters among haemodialysis patients, CRBSI was most frequently caused by P.
aeruginosa, which may have a bearing on our current antibiotic policy.

Reference:

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