



This study examines the complication rates and factors predicting catheter-related bloodstream infections and mortality rates in patients who were initiated on hemodialysis at our institution” Yap et al (2018).

Abstract:

**INTRODUCTION:** Hemodialysis is the main modality of renal replacement therapy in Singapore. However, a majority of the patients in Singapore are initiated on hemodialysis via a catheter. This study examines the complication rates and factors predicting catheter-related bloodstream infections and mortality rates in patients who were initiated on hemodialysis at our institution.

**METHODS:** This is a single-center retrospective analysis of incident hemodialysis patients who were initiated on renal replacement therapy between 1 January 2010 and 31 December 2012. Catheter-related bloodstream infection risk factors, organisms, and associated mortality were analyzed.

**RESULTS:** The catheter-related bloodstream infection and exit site infection incidence rates were 0.75 and 0.50 per 1000 catheter days, respectively. The mean duration to first catheter-related bloodstream infection episode was  $182.47 \pm 144.04$  catheter days. Prolonged catheter duration was found to be a risk factor for catheter-related bloodstream infection. Compared to patients initiated on dialysis via arteriovenous fistula, initiation of dialysis via

catheter is strongly associated with increased mortality (6.0% vs 14.5%;  $p = 0.02$ ). In particular, the presence of diabetes mellitus and development of catheter-related bloodstream infection was associated with increased mortality ( $p = 0.04$  and  $0.05$ , respectively). In addition, patients who began hemodialysis before being seen by a nephrologist were associated with decreased mortality (3.4% vs 13.0%;  $p = 0.03$ ).

**CONCLUSION:** In conclusion, prolonged duration of catheter insertion is found to be a risk factor for catheter-related bloodstream infection in hemodialysis patients, and its development is associated with increased mortality. Early referral to a nephrologist and creation of arteriovenous fistula in pre-end-stage renal disease patients are pivotal in improving the outcomes of patients.

#### Reference:

Yap, H.Y., Pang' S.C., Tan, C.S., Tan, Y.L., Goh, N., Achudan, S., Lee, K.G., Tan, R.Y., Choong, L.H. and Chong, T.T. (2018) Catheter-related complications and survival among incident hemodialysis patients in Singapore. *The Journal of Vascular Access*. March 1st. .

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