

The Vascular Access Related Infections: Have We Anticipated Them Adequately?

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The number of patients in need of haemodialysis (HD) is increasing from time to time. In 2018, the Indonesian Renal Registry documented more than 130,000 active patients from 651 registered HD centres. Twenty percent are diabetic patients with end-stage renal disease (ESDR) equal to 8,633 patients.¹ Diabetes Mellitus accounts for 2% of all diabetes cases in the age of 15 year-old and above.² Hence, the increasing need for HD is inevitable and is parallel with the need for vascular access procedures.

One of the major problems that occurs with vascular access is the risk of infection. Among HD patients, mortality and morbidity are predominantly associated with infection; about one-fifth as a cause of hospital admissions, one-fourth of the infection-related admissions are due to infection of vascular access. In addition, patients on HD are hospitalized more frequently compared to other illnesses. Therefore, information on the magnitude of the problems needs to be well understood.³ Susilo et al.⁴ reported around 40% of patients with temporary vascular access had an infection. Data is limited and might be also underestimated.

The definition of vascular access-related infection needs to be carefully classified. The infection site can be classified as: (1) exit site infection, inflammation confined around the skin area at the catheter exit site and not involving the cuff if the catheter is tunneled; (2) the infection of the tunnel, inflammation along the subcutaneous

tunnel whereby exudate can be drained to the exit site; and (3) bloodstream infection, with positive blood culture.⁵ An agreed upon and unified definition is mandatory for clinical use and research. Challenges for clinicians even start from determining the incidence due to different views on the reporting of such instances, whether the occurrence of infection should be reported as per dialysis session or rate per-patient-day or per-catheter-day. This heterogeneity makes the general picture of the problem needs to be carefully analyzed.^{6,7}

Unfortunately, the available studies examining risk factors for vascular access-associated infection are scarce and mostly collected with substandard methodology.³ Susilo et al.⁴ found that female gender, anemia, duration of catheter use, and diabetes mellitus are risk factors for temporary vascular access related infection. However, the vascular access type is also an important factor contributing to bloodstream infection.^{4,6}

It is to be highlighted that the study of Susilo et al.⁴ may represent the population of a referral hospital for HD, yet as a reader it is worth noting that heterogeneity among centres and populations should be acknowledged. Information is needed on the clinical impact of transient vascular access-related infections such as mortality, which has not been described in this report. A comprehensive in-depth review and further research of these studies are crucial

for a greater level of understanding for the cause of infection and therefore inform effective early detection and prevention strategies to reduce morbidity and mortality among haemodialysis patients, especially at-risk patients.

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