

TUNNELLED TESIO LINES: A RETROSPECTIVE PREVALENCE STUDY OF SEPSIS AND LINE SURVIVAL

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PROBLEM: In the absence of a satisfactorily functioning arterio-venous (AV) fistula or graft, tunnelled haemodialysis catheters (THCs) are essential for the provision of adequate, long-term haemodialysis (HD). The most important factors limiting their survival are malfunction and infection, particularly as one may predispose to the other.

PURPOSE: We undertook the present study to assess the survival rate and the incidence of catheter related sepsis rate of THCs in a tertiary centre which, for a variety of reasons, has a large number of patients who have been heavily dependent on this method of vascular access as the sole means of dialysis.

DESIGN: All the patients undergoing HD via a Tesio line as of 30/11/2003 were included in the study. The duration of use of the Tesio line was calculated from the date of insertion to the date of the assessment or removal. The occurrence of bacterial exit-site infections and/or evidence of a positive blood culture results throughout the previous 12 month period (1/12/2002-30/11/2003) was determined from the microbiology database.

FINDINGS: Forty two patients were undergoing maintenance haemodialysis via a THC at the time of assessment – this amounted to nearly 50% of the total number of our maintenance patients treated with HD. The demographic profile of this cohort was: mean age 59 years, median 61 years; there were 23 (55%) male patients; 14 (33%) of the patients had diabetes. Twenty four patients were still using the first line (T1), 18 had needed a second line (T2) and of these, 8 had required a third line (T3) inserted.

Tesio Line	N	Mean (days)	Median (days)	Standard deviation
T1-in current use	24	406	362	±253
T1-failed	18	356	311	±273
T2-in current use	10	269	279	±136
T2-failed	8	220	234	±187
T3-in current use	8	142	78	±122

Twenty five patients (60%) had no documented evidence of exit-site infection, the remaining 40% had from 1 to 6 episodes through the year. Thirteen patients (31%) had at least one blood culture-positive episode of sepsis in the 12 month period. The commonest organism for both exit-site and systemic infection was *Staphylococcus aureus*; the second most common organism was MRSA.

CONCLUSION: The incidence of catheter related sepsis (CRS) in our institution was 3.82/1000 catheter days. There was no statistically significant difference in survival of the Tesio lines between any of the groups (ANOVA $p < 0.195$), failed catheters (T test $p < 0.158$) and between diabetic and non-diabetic patients (Z test $p < 0.84$).

RELEVANCE: This audit of our practice has prompted us to undertake a further, prospective study with the use of 'antibiotic-plus-heparin' as a combined locking agent. Previous reports have suggested that this strategy is a highly effective method for the reduction of morbidity, potential mortality and the cost associated with catheter related infection.