TITLE A NEW MODEL OF HAEMODIALYSIS LONG-TERM CATHETER WITH DOUBLE CUFF.

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Objectives:

Text

The vascular access is the lifeline of chronic haemodialysis patients; one of the most widely used vascular access for maintenance haemodialysis is the CVC. Haemodialysis via a CVC is associated with a significantly lower catheter survival due to bacteraemia and/or tunnel/exit site infection, increased patient hospitalisation and increased incidence of death. Tunnelled cuffed catheters are associated with a much lower risk of bacterial colonization, exit site infection and bacteraemia compared with non-tunnelled and non-cuffed devices. The protective effect of tunnelling and cuffing is postulated to be due to a combination of prevention of bacterial migration along the sinus tract and provision of more effective catheter anchorage and immobilization.
All long-term CVC currently used have a single cuff in the subcutaneous tract.
We hypothesized that infection complications could be reduced by the use of a double cuffed catheter (DCC), with one cuff adjacent at the exit site aiming to provide a more effective antimicrobial barrier, and the other adjacent to the blood vessel aiming to provide a more effective catheter anchorage.

Methods:

A pilot study was performed at the Haemodialysis Unit of the Santa Chiara Hospital in Trento between July 2009 and October 2012. A DCC was inserted in 11 patients (treatment), while a SCC (single cuff catheter) was placed in 38 (control) patients. Patients in the two groups were similar in age and average comorbidity.

CVC double-cufCVC single-cuffAge (years)72.4 ±18.470.8±11.9N° patient1138Female sex 8 (72.7%)16 (42.1%)CVC days506417905Charlson Comorbidity Index6.06.15Catheter related infection 2 (0.41/1000days)17 (0.9/1000days)Exit-site and Tunnel infection2 (041/1000days)11 (0.61/1000days)Bacteraemia06 (0.33/1000days)Table.1

Results:

The catheter-related infection rate was 0.41 episode/1000 CVC-days in treatment, and 0.9 episode/1000 CVC-days in control (p=ns), suggesting that the DCC may reduce the risk of infection, though our pilot study was underpowered to detect significant differences (table1).

Conclusions:

The use of the CVC with the variant double cuff, although the short observation period and the small size of the sample, showed a lower incidence of infections. In our opinion this preliminary results are satisfactory and therefore encourage us to extensively use the new device.

References:

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