



Secondary bacteraemia due to CVC in haemodialysis patients

F.L.Presentati, M.P.Zito, V. Bonori, L.Tridici, M. Righini, G.Donati, G.La Manna
Nephrology, Dialysis and Transplant - S.Orsola-Malpighi, University Hospital, Bologna-Italy

INTRODUCTION AND AIMS

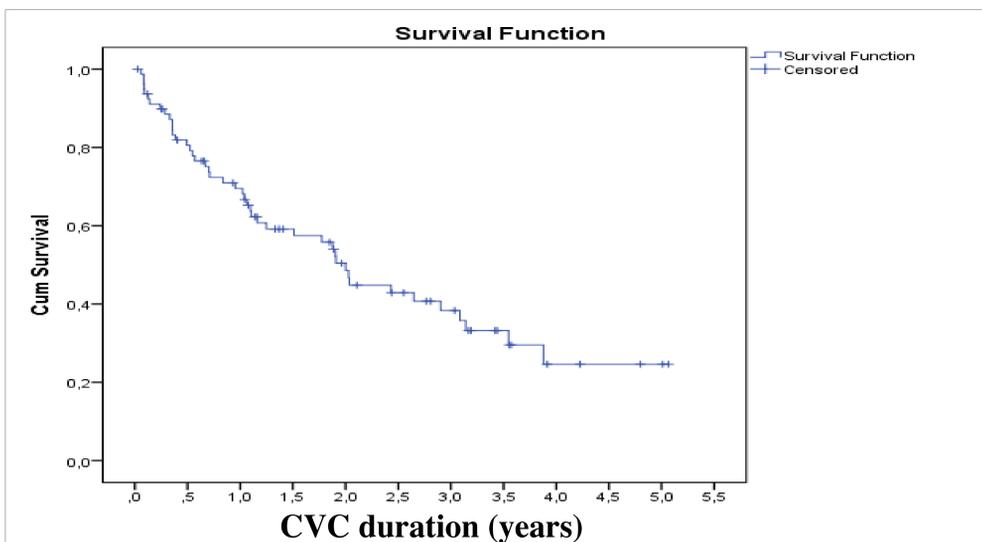
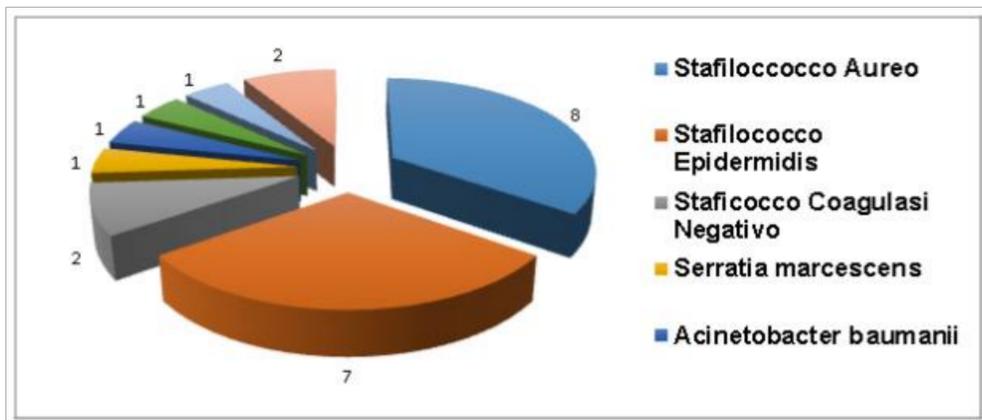
Vascular accesses are a crucial point in a correct dialysis treatment. Artero-Venous Fistula (FAV) is the gold standard but, among people that cannot have it, permanent cuffed tunnelled central venous catheter (PCTCVC) is the most common device. We evaluated secondary bacteraemia incidence due to the presence of PCTCVC in hemodialysis patients and clinical correlations. The following items were considered: risk factors, number of infectious events, principal haematochemical data about infections, survival of vascular access compared with infection of infectious events, patients survival.

MATERIALS AND METHODS

We investigated retrospectively all hemodialysis patients with PCTCVC that underwent treatment between 2011 and 2015 in Sant'Orsola University Hospital Nephrology Unit. We collected all clinical data from patient's dialysis charts.

The risk factors and the data analyzed were: age, patient sex, beginning of dialysis previous vascular access time, catheter residence time, presence of Diabetes, ischemic heart disease, peripheral arteriopathy, infections in other districts, significant haematochemical data for infection such as PCR, white blood cells, hemoglobin at the onset of infection, and type and duration of antibiotic therapy.

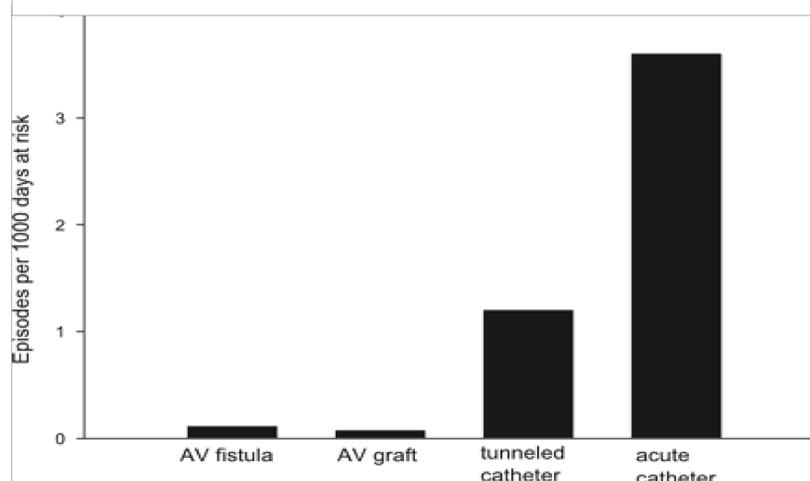
CVC-related bacterium-isolated etiologic agents



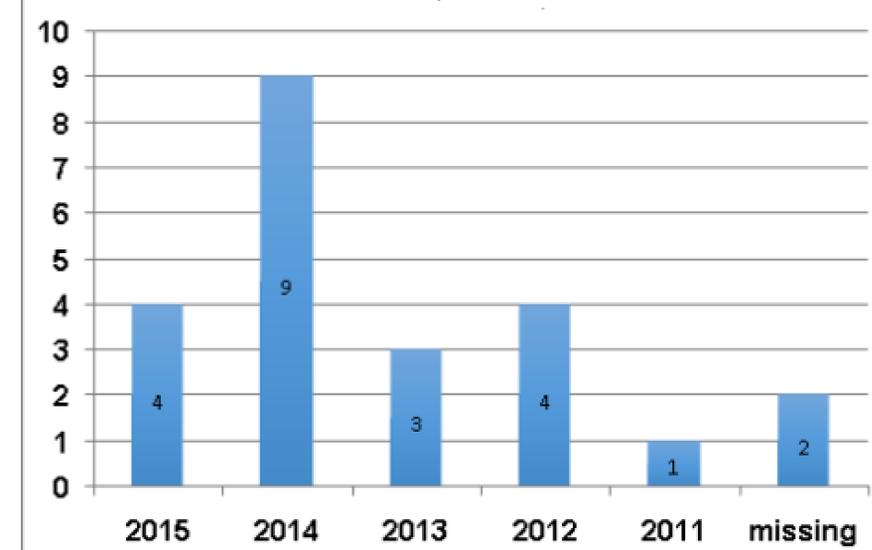
RESULTS

In our study we included 79 patients who had PCTCVC, medium age was $75,3 \pm 12,3$ years, 48 were males. Medium survive of CVC was of $3,8 \pm 0,3$ years. Bacteraemia 's incidence resulted 0.52 pro 1000 catheter days. The probability to be free from cvc infections resulted 81,6% in 12 as in 24 months. 16 patients presented bacteraemia compared with 63 patients without bacteraemia; there were no differences in terms of sex, age, diabetes, onset of ischemic cardiopathy. The residence time of CVC ($12,4 \pm 15,2$ vs $21,8 \pm 16,0$ months) resulted significantly different. Infections in other sites (31,3% vs 4,8%) were detected meanwhile CVC infections. Peripheral artery disease were predominant in bacteraemia group (93,8% vs 64,1%). Death rate was almost the same.

Risk of bacteremia in different vascular access



No. CVC / year infections



CONCLUSIONS

PCTCVC has a higher risk of infections. In our observational study on tetragonal and cuffed catheteries, 23 bacterium infections were found in 16 patients in 79 who were subjected to permanent hemodialysis catheterization in the years between 2011 and 2015. The agents responsible for the infections were in 35% of the cases due to the staphylococcus aureus and in 30% to the staphylococcus epidermidis. As predictive risk factors for infection in CVC we detected the presence of peripheral artery disease and the presence of a previous infection in another district. The catheter-related bacterium incidence rate was 0.52 per 1000 catheter days. There was no difference in the mortality rate between patients with CVC infection and uninfected patients.

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