

INCIDENCE OF TUNNELED CUFFED VASCULAR CATHETERS INFECTION IN DIABETICS ON HEMODIALYSIS

S. Bajcetic¹, A. Jankovic^{1'2}, P. Djuric¹, J. Popovic¹, N. Dimkovic^{1'2};
 Medical University Center Zvezdara¹, Belgrade, Medical University Belgrade, Serbia ²

OBJECTIVES: Advanced age and high comorbidity is the cause of more frequent application of tunneled cuffed catheters (TCC) for hemodialysis. The aim of this study was to determine whether the population of diabetics with TCC has more frequent bacteremia and more pronounced inflammatory response than non-diabetic hemodialysis patients.

METHODS: During the period from January 2010 to June 30, 2015. 110 permanent catheters were implanted in 64 patients (1.72 catheters per patient, 51.6% male, mean age 67±12years, 20 diabetics). TCC as the primary vascular access was applied in 15 patients (23.4%) and 11 of these patients (73%) were diabetics.

RESULTS: The initial position of TCC's was in the right internal jugular vein (RIJV) in 53.1%. Mean survival time of TCC was 279 ± 297 days (from 3-1678 days). In the follow-up period of 64 months, 59.4% of patients with TCC had at least one catheter-related infection. The most common causes of infections were G + germs (90%). There were 53.6% TCC with infection, and among them 14.5% were in diabetic patients. The overall incidence of TCC infections was 3.6 episodes / 1,000 catheter-days (DM vs. non-DM: 3.9 vs. 3.5 ep / 1000 cath.days). There was no statistically significant difference in the incidence of TCC infections in diabetics and non-diabetics ($\chi^2 = 0.34$; $p = 0.353$). In diabetic patients with TCC infection, there are significantly more pronounced inflammatory response-C reactive protein ($p=0,05$) than in non-diabetic patients who have infection (table I.)

CONCLUSION: In presented group of patients TCC infection rate is high, and diabetics have a 25 percent higher risk. TCC into the right jugular vein stands out as protective.

Table I. Data about TCC infection in diabetic and non/diabetics

Infected TCC No.(%)	DM 16 (13,5)	Non DM 43 (39)	p
Incidence	3.9/1000 CD	3.5/1000 CD	ns
CRPmg/L	174,2±128,5	72,1±71,8	0,05
Le x 10 ⁹	12,5±7,7	9,6±5,0	ns
Feritin umol/l	630,3±680,1	402,9±281,2	ns

The presence of DM increases the risk of infection by 1.25 times (OR 1.25; CI 0.53 to 2.90, $p = 0.606$).

Binary logistic regression analysis confirmed that right jugular position of TCC had protective effect on the of infections occurrence (OR 0.71; CI 0.13 to 3.76: $p = ns$).