REMOVAL OF TUNNELED CENTRAL VENOUS CATHETER AFTER KIDNEY TRANSPLANTATION

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Aim

To present approach and experience at our kidney transplantation (TX) center with removal of tunneled central venous catheter (TCVC) after kidney TX. The optimal timing for removal is not known, while infections, mechanical complications or bleeding during the removal and need for TCVC after TX are relevant.

Patients and methods

Forty one patients (24 males, median age 60 years, 30 – 73) underwent TCVC removal after kidney TX that was performed from 1-Jul-2018 to 30-Jun-2023. Total number of patients with TCVC at the time of TX among total of 249 patients was 41 (16.5 %). The timing was planned related to the receiving of the finding of the first protocol graft biopsy that we perform at 2 months after TX. If graft function was stable and pathohistological finding was normal, without need for parenteral therapy or plasma exchange for rejection, the removal was scheduled. TCVC was removed using the day hospital system. Anticoagulant was taken from TCVC and it was rinsed with saline thereafter; under local anesthesia, the catheter was pulled gently from the tunnel, liberating it mechanically and rendering the cuff free, without clumping or cutting skin or catheter if it went smoothly. If there was no complication, the patient was discharged several hours after the procedure.

Results

Thirty seven patients had Hickman while 4 had Tesio TCVC, 29 in the right, 8 in the left jugular, 3 in the right subclavian and 1 in the left femoral vein. Median time to the removal after TX (n = 36) was 4 months, 1 – 145. Kaplan-Meier analysis with 5 censored cases (still waiting for removal) showed median time to CVC removal of 4 months, 95% CI 3.249 – 4.751. One patient had signs of tunnel infection after TX and in one the removal was done due to sepsis which was not confirmed as the catheter related. Three patients had unsuccessful first attempt of the removal, two of them were sent for ablation to another center, the third underwent a second try at our center, without complications. One patient experienced moderate bleeding and was followed up with laboratory check-ups.

CHARACTERISTICS OF PATIENTS (N = 41)	
Age (years)	Median 60 (30 – 73)
Males : females (n)	24 : 17
Catheter type (n) Hickman Tesio	 37 4
Catheter place (n) Right int. jugular vein Left int. jugular vein Right subclavian vein Left femoral vein	 29 8 3 1
Time to removal after TX (months), n = 36	Median 4 (1 – 145)
Complications (n) Tunnel infection Sepsis Unsuccessful first attempt of removal Moderate periprocedural bleeding	 1 1 3 1

Conclusion

Experience at our center showed safety of the approach to remove tunneled CVC 3 – 5 months after kidney TX, without high risk for infection or major complications of the removal. The preceding protocol biopsy justified that TCVC would not be needed in the near future any more.