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Single-center Experience of Tunneled Hemodialysis Catheter Insertion without Fluoroscopy

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Objectives : The aim of this study was to evaluate the efficacy and safety of TCC insertion without fluoroscopy.

Methods : This study was divided into two phases, that is, temporary non-tunneled catheters (NTC) were inserted between March 2010 and February 2011 (Phase I), and tunneled cuffed catheters (TCC) or NTCs were inserted between March 2011 and February 2012 (Phase II). Catheter survival, nurse satisfaction, and reasons for catheter removal were analyzed.

Results : Two hundred and sixty patients in Phase I and 300 patients in Phase II participated in this study. The success rate of TCC insertion was 98.3%. The catheter survival rate in Phase I was 65.5% at 1 month, and in Phase II was 74.9% at 1 month ($P = 0.023$). TCC survival was higher than NTC survival ($P < 0.001$). Furthermore, the removal rate for a catheter-associated problem was lower for TCC than NTC. However, the catheter removal rate for a catheter-associated problem was greater in Phase I (26.6% in Phase I and 18.9% in Phase II; $P = 0.014$). Cox-regression analysis, adjusted for diabetes and old age (>65-years), showed a hazard ratio in Phase II of 0.718 (confidence interval, 0.526-0.982; $P = 0.038$).

Conclusions : TCC insertion without fluoroscopy can be performed safely. TCC insertion without fluoroscopy can provide a reasonable alternative for hemodialysis (HD) catheter placement in patients requiring long-term HD.

Keywords : hemodialysis, tunneled cuffed catheter, fluoroscopy