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# Effectiveness and safety of hemodialysis vascular access procedures performed by interventional nephrology fellows

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**Objectives:** Along with the growth of the hemodialysis population, the active involvement of nephrologists is gradually required to cope with sharply growing vascular access complications. In Korea, nephrologists started to play a significant role as an interventionist in the treatment of vascular access problems, and academic training programs for interventional nephrology fellowships have begun recently. We present the success and complication rate of endovascular procedures performed by interventional nephrology fellows in a single tertiary center and the safety and effectiveness of the academic training program for interventional nephrology.

**Methods:** This retrospective analysis investigated the success and complication rates of tunneled dialysis catheter (TDC) placement, percutaneous transluminal angioplasty (PTA), and endovascular thrombectomy for arteriovenous fistula (AVF) and arteriovenous graft (AVG) performed by five interventional nephrology fellows as a primary operator from 2018 to 2022. The outcomes were ascertained and reported in accordance with the reporting standards of the Society of Interventional Radiology.

**Results:** A total of 1860 procedures for 938 patients were performed for five years. The overall success rate was 99.2% and the complication rate was 0.6%. There were two major complications related to the procedures, in which vessel rupture cases occurred during thrombectomy and were salvaged by stent placement and surgical revision, respectively. Minor complications such as vessel dissection, localized hematoma, or bleeding were successfully recovered during the treatment sessions. The clinical success rate of TDC placement, PTA for AVF, PTA for AVG, thrombectomy for AVF, and thrombectomy for AVG was 100%, 98.7%, 100%, 98.7%, and 97.8%, respectively. The outcomes of the endovascular procedures by fellows in the academic training program were favorable compared to the previously reported results.

**Conclusions:** This study presents that nephrology fellows can practice training courses on interventional procedures for hemodialysis vascular access under a supervised academic training program safely and effectively in Korea.