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The trends in epidemiologic characteristics and clinical patterns of vascular access of incident hemodialysis patients: Nationwide cohort study (2006-2019) in Korea

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Objectives : The prevalence of end-stage kidney disease (ESKD) cases requiring hemodialysis (HD) is rapidly rising in Korea. Despite the presence of a Korean Renal Dialysis System (KORDS) registry for analyzing HD practice patterns in Korea, the registration rate was only 63.8% in 2022, which is insufficient to capture real-world dynamics. Therefore, we analyzed clinical practice patterns in HD patients in Korea using National Health Insurance System (NHIS) data.
Methods : We extracted participant data from NHIS data, comprising patients with code V001 for financial support designated for patients with rare, incurable conditions (i.e., ESKD) and code O70102 signifying HD treatment spanning 2006–2019. Epidemiological characteristics and practice patterns of vascular access in initiated HD patients were examined. Central venous catheter (CVC) users were identified through code O7012, indicating charges linked to Health Insurance Service Procedures within 6 months before encoding the HD-related code. arteriovenous (AV) access users were identified through AV access-related codes (O2083, O2056, O2081, O2082, O2083, and O2059) within 6 months before encoding the HD-related code.
Results : Patients initiating HD surged from 4,927 in 2006 to 14,049 in 2019. The proportion of those aged 70–79 years and above 80 years rose from 10% and 1% in 2006 to 25% and 18% in 2019, respectively. CVC usage increased from 43% in 2006 to 54% in 2019, while AV access rose from 15% to 28%. AV access users increased significantly (from 5% in 2006 to 15% in 2019), especially in the 60–79 years age group. The mean duration after AV access creation before usage also increased (from 2.3 months in 2006 to 3.6 months in 2019).
Conclusions : While the epidemiologic characteristics were similar compared to the KORDS registry, vascular access-related clinical patterns at HD initiation differed. Our findings might help represent realworld aspects in ESKD patients undergoing HD.