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Feasibility of Expanded Hemodialysis for Extremely Older Patients in South Korea

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Objectives : Expanded Hemodialysis (HDx) with Medium Cut-Off (MCO) membranes is known for its improved clearance of various molecules. The safety of HDx in older hemodialysis patients is a critical area for study. Our research focuses on evaluating mortality in this population during HDx treatment.

Methods : This retrospective study was conducted at Ulsan University Hospital from 2017 to 2022 and included 1,134 hemodialysis patients aged 65 and above, undergoing HDx. Data were gathered from the Ulsan University Hospital Clinical Data Warehouse (uICE), specifically targeting those using the 'Theranova 400® Baxter' dialyzer.

Results : A total of 1,134 patients were included in the Kaplan-Meier survival analysis, and 511 patients were involved in the Cox proportional hazards regression analysis. The mean follow-up duration for these patients was 36.5 months. Kaplan-Meier and Cox regression analyses indicated no significant increase in all-cause mortality across different age groups undergoing HDx, including the extremely old age group. The Cox regression analysis, adjusted for variables such as sex, various comorbidities, and several laboratory parameters, revealed varied hazard ratios (HRs) for different age groups. Patients aged 80 to less than 85 years had an HR of 2.82 (0.93 – 8.55) with a P-value of 0.066. Patients aged 85 years and above showed an HR of 0.79 (0.26 – 5.81) with a P-value of 0.788. These results collectively suggest that HDx is safe across various age groups in older hemodialysis patients.

Conclusions : Expanded hemodialysis (HDx) with medium cut-off membranes is safe for older patients, showing no increased risk of mortality. Its consistent survival rates across age groups highlight its viability as a dialysis option, offering enhanced clearance without impacting survival.