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Particulate Matter and Mortality Risk in Patients

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Objectives:

It is well known that long-term exposure to particulate matter less than 10 μ m is associated with adverse kidney disease, including chronic kidney disease (CKD), a well-known cause of end-stage renal disease (ESRD). However, the relationship between particulate matter and ADPKD is unknown.

Methods:

We collected 937 ADPKD patients in SNUH between 2010 and 2020. The association between the long-term exposure to PM10 and mortality confirmed by Korea National Statistical Office was estimated in Cox proportional hazard model adjusted for age, sex, and comorbidities.

Results:

During the 6.4 years of average follow-up, 10 deaths (1%) occurred. The average exposure to PM10 was 47.9 μ g/m³ for 1-year, 48.5 μ g/m³ for 2-year. The long-term relationship between mortality risk and increase of PM10 for 1-year (HR 1.15, 95% CI 1.00-1.32), 2-year (HR 1.22, 95% CI 1.05-1.41).

Conclusions:

Long-term exposure to particulate matters was associated with increased risk of mortality in patients with ADPKD.