

中文題目：二氧化氮濃度用於預測腹膜透析患者的死亡率

英文題目：Environmental NO<sub>2</sub> Level Is Associated with 2-year Mortality in Patients with Peritoneal Dialysis

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**Background:** With the effects of global urbanization, there is on going global issue regarding that air pollution has been associated with increased incidence of morbidity and mortality on human health. Advanced study of this issue on peritoneal dialysis patients has never been reported. We aimed this study to assess the effect of traffic-related air pollutants and other important mortality-associated factors on 2-year mortality in peritoneal dialysis (PD) patients.

**Methods:** We recruited a total of 160 peritoneal dialysis patients in this 2-year retrospective observational study. We analyzed the difference in air quality based on the patients' living areas. Those PD patients were categorized into 2 groups based on high NO<sub>2</sub> exposure (n=65) and low NO<sub>2</sub> exposure (n=95). We estimated demographic, hematological, nutritional, inflammatory, biochemical, air pollutants, and dialysis-related data based on cross-sectional study. Causes of death and mortality rates were also analyzed for each subgroup.

**Results:** 160 PD patients (38 men and 122 women) were enrolled in the study. Fourteen patients (8.8%) died within 2 years. Among above fourteen patients, the causes of 2-year mortality were infection (10 subjects, 71.4%), malignancy (1 subjects, 7.1%) and cardiovascular events (3 subjects, 21.4%). Among the 10 died from infection patients, 5 patients caused pneumonia, 4 patients caused PD related peritonitis and 1 patient caused unknown origin sepsis. All the pneumonia caused mortality patients were living in high environmental NO<sub>2</sub> exposure areas.

**Conclusion:** This retrospective-observational research provided those patients with high environmental NO<sub>2</sub> exposure had a higher mortality rate in the association with PD patients at 2 years of follow-up. Air pollution may be the main factor that induces this incident.