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## **Incident age-related macular degeneration in kidney transplant recipients of South Korea**

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**Objectives:** Age-related macular degeneration (AMD) is the leading cause of adult blindness in industrialized countries. AMD and end-stage renal disease (ESRD) share common risk factors. Previous studies have suggested the association between chronic kidney disease and AMD, although little is known about the epidemiology of AMD in kidney transplantation (KT) recipients. Herein, we aimed to explore the incidence of AMD after KT compared with patients maintaining dialysis in a population-based cohort.

**Methods:** We identified more than middle-aged ESRD without pre-existing AMD by using a Health Insurance Review and Assessment Service of South Korea from the year of 2010 to 2016. KT recipients were matched with dialysis patients with respect to age, sex, and the entry year. AMD was defined as Korean Standard Classification of Diseases Code (H353, H3530, H3532, H3535, and H3539) and Rare and Intractable Disorder Registration Code (V201). Incidence of AMD in KT recipients was compared with those in dialysis patients.

**Results:** A total of 6,282 KT recipients and 55,112 ESRD patients were included. Before matching, KT recipients were younger, more men, and having longer dialysis duration. During follow-up, 188 (3.0%) KT recipients and 2393 (4.3%) dialysis patients developed AMD. After 1:2 matching, the difference of age and sex distribution disappeared. The incidence of overall AMD was 25% lower in KT recipients than dialysis patients (hazard ratio [HR], 0.75; 95% confidence interval [CI], 0.64-0.89;  $p = 0.001$ ). Lower incidence of AMD of KT recipients than matched dialysis controls was also found in both wet (HR 0.67; 95% CI, 0.49-0.93;  $p = 0.015$ ) and dry AMD (HR 0.75; 95% CI, 0.64-0.89;  $p=0.004$ ) subtypes. However, AMD development in KT recipients did not elevate the risk of time dependent death-censored graft failure.

**Conclusions:** In our study, KT recipients developed AMD lower than matched dialysis controls. Therefore, the KT would be helpful to prevent AMD in ESRD patients.