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# Renal protective effect of metformin in type 2 diabetes patients Get access

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# Abstract

## Background

Inhibiting the development and progression of diabetic kidney disease (DKD) is an important issue, but the renoprotective effect of metformin is still controversial

### Aims

To assess the renoprotective effect of metformin in patients with type 2 diabetes

#### Methods

This retrospective observational multicenter cohort study included 316,693 patients with type 2 diabetes from seven hospital. After age, gender, medical year, baseline estimated glomerular filtration rate (eGFR), urine protein (dipstick), glycated hemoglobin (HbA1C) and propensity score matching; a total of 13,096 metformin and 13,096 nonmetformin patients were included. The main results were doubling of serum creatinine, eGFR  $\leq$  15 mL/min/1.73 m<sup>2</sup> and end stage kidney disease (ESKD).

### Results

After conducting a multivariable logistic regression analysis on the variables, the metformin group was revealed to have better renal outcomes than non-metformin group, including a lower incidence of doubling of serum creatinine (hazard

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functions. Furthermore, when considering factors such as age, sex, comorbidities, and medications in subgroup analyses, it consistently showed that the metformin group experienced a slower deterioration in renal function across nearly all patient subgroups.

#### Conclusions

Metformin decreased the risk of renal function deterioration.

**Keywords:** chronic kidney disease, diabetes mellitus, diabetic kidney disease, end stage kidney disease, kidney, metformin, renal function

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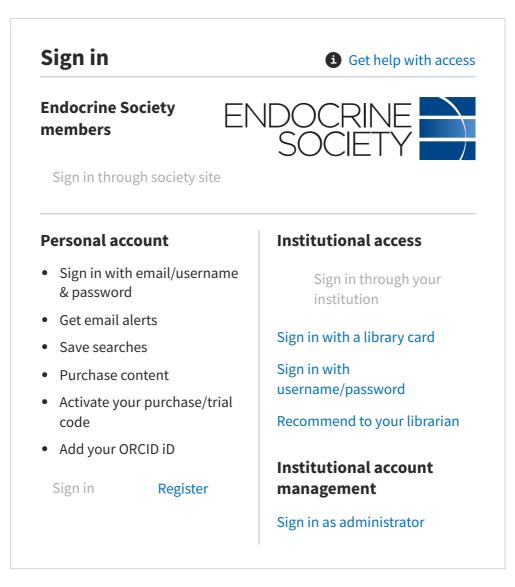
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