Fenofibrate decreased microalbuminuria in the type 2 diabetes patients with hypertriglyceridemia

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SUBJECT AREAS

Clinical Pharmacology

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type 2 diabetes mellitus, hypertriglyceridemia, fenofibrate, urinary albumin/creatinine ratio

Abstract

Background: This study was to research the efficacy of fenofibrate in the treatment of microalbuminuria in the patients with type 2 diabetes mellitus (T2DM) and hypertriglyceridemia.

Methods: Type 2 diabetic patients (56) with microalbuminuria and hypertriglyceridemia aged 30 to 75 were randomly divided into the fenofibrate treatment group (n=28) and the control group (n=28) for 180 days. Urinary microalbumin /creatinine ratio (UACR) and other metabolic parameters were compared at baseline, during treatment and after treatment.

Results: After 180 days, the reduction of levels of fasting blood glucose (FBG) and glycosylated hemoglobin (HbA1c) in two groups were no differences. In treatment group, uric acid (UA) (296.42 ± 56.41 vs 372.46 ± 72.78), triglyceride (TG) [$1.51(1.17, 2.06)$ vs $3.04(2.21, 3.29)$], and UACR [$36.45(15.78, 102.41)$ vs $129.00(53.00, 226.25)$] were significantly decreased compared with the baseline. The high-density lipoprotein cholesterol (HDL-C) levels were significantly increased (1.22 ± 0.26 vs 1.09 ± 0.24) compared with the baseline. The decrease in UACR [$-44.05(-179.47, -12.16)$ vs $-8.15(-59.69, 41.94)$] in treatment group was significantly higher compared with the control group. The decrease in UACR was positively associated with the decreases in TG ($r = 0.447, P = 0.042$) and UA ($r = 0.478, P = 0.024$) after fenofibrate treatment.

Conclusion: In the patients with hypertriglyceridemia and type 2 diabetes mellitus, fenofibrate can improve microalbuminuria and do not increase the deterioration of glomerular filtration rate

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed.

However, the manuscript can be downloaded and accessed as a PDF.

Tables

Due to technical limitations, Tables 1-2 are provided in the Supplementary Files section.

Figures

Fig 1.

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Figure 1

In the fenofibrate group, the decrease in UACR (Δ UACR) was positively associated with the decreases in TG(Δ TG) ($r = 0.447$, $P = 0.042$) and UA(Δ UA) ($r = 0.478$, $P = 0.024$) after fenofibrate treatment

Supplementary Files

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Table 1-2 (2).pdf