HEB

Journal of Hospital Pharmacy
An Official Publication of Bureau for Health & Education Status Upliftment
(Constitutionally Entitled As Health-Education, Bureau)

JOHP

Role of Saroglitazar in Patients with Non-Alcoholic Fatty Liver Disease with Diabetes Dyslipidemia in a Tertiary Care Hospital in Southern Rajasthan: A Prospective, Observational Study

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ABSTRACT:

Non-alcoholic fatty liver disease (NAFLD) is a growing metabolic disorder strongly linked to type 2 diabetes mellitus and dyslipidemia, both of which contribute to increased hepatic and cardiovascular morbidity. Saroglitazar, a dual PPAR α/γ agonist, has shown therapeutic potential by improving lipid metabolism, glycaemic control, and hepatic biomarkers. This study was undertaken to evaluate the role of Saroglitazar in patients with NAFLD and diabetic dyslipidemia. **Objective:** A prospective, observational study was conducted over six months in a tertiary care hospital in southern Rajasthan, enrolling 40 patients with NAFLD, type 2 diabetes, and dyslipidemia. **Material and Methods:** All participants received Saroglitazar 4 mg once daily. Baseline and 12-week follow-up assessments included body mass index, lipid profile, glycaemic markers, and liver function tests. **Result:** Statistical analysis was performed using the Wilcoxon test, with significance set at $p < 0.05$. After 12 weeks of therapy, significant improvements were observed in multiple parameters. Body mass index decreased ($p < 0.001$), while lipid profile showed reductions in total cholesterol, LDL-C, VLDL, and triglycerides (all $p < 0.001$), with a concomitant increase in HDL-C ($p < 0.001$). Glycaemic markers, including random blood sugar and HbA1c, also improved significantly ($p < 0.001$). Liver enzymes SGOT and SGPT declined substantially ($p < 0.001$), while bilirubin levels and albumin/globulin ratio demonstrated significant improvements ($p < 0.001$). No statistically significant changes were noted in alkaline phosphatase ($p = 0.051$) or indirect bilirubin ($p = 0.332$). Saroglitazar significantly improved lipid abnormalities, glycaemic control, and hepatic biomarkers in patients with NAFLD and diabetic dyslipidemia.

Conclusion: These findings highlight its potential as an effective and safe therapeutic option for addressing metabolic dysfunction and preventing progression of liver disease in high-risk populations.

KEYWORDS: Non-alcoholic fatty liver disease, Diabetes dyslipidemia, Saroglitazar, Lipid profile, Liver enzymes, Glycaemic control.

Access this Article Online

Website:http://www.journalofhospitalpharmacy.in | Quick Response Code:

Received on 15/10/2025
Accepted on 08/12/2025