A CLINICAL TRIAL TO EVALUATE THE SAFETY AND EFFICACY OF SAROGLITAZAR COMPARED TO FENOFIBRATE IN PATIENTS WITH DYSLIPIDEMIA

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Background and Aims

Dyslipidemia is a strong predictor for cardiovascular diseases and its prevalence is rising rapidly worldwide. Saroglitazar (Lipaglyn®; Zydus Cadila, Ahmedabad, India), a novel dual peroxisome proliferator activated receptor agonist, is approved in India for management of diabetic dyslipidemia and hypertriglyceridemia in type 2 diabetes mellitus not controlled by statin alone. To evaluate the effect of saroglitazar in dyslipidemia, this 24-week clinical trial was conducted from December-2014 to October-2017 in India.

Methods

This was a multicentre, randomized, double-blind study conducted to evaluate the safety and efficacy of saroglitazar 2 mg and 4 mg compared to fenofibrate 160 mg in adult patients with hypertriglyceridemia (≥200 mg/dL). Total 997 subjects at 35 centres were randomized in a ratio of 2:2:1 to saroglitazar 2 mg, 4 mg, and fenofibrate 160 mg, respectively. Efficacy evaluation of triglyceride (TG) (primary outcome) and other lipid parameters was conducted at week-12 and week-24 from baseline.

Results

Saroglitazar 2 mg and 4 mg significantly reduced TG at week-12 and week-24 from baseline (Table-1). Saroglitazar 2 mg and 4 mg significantly reduced total cholesterol, very low-density lipoprotein, non high-density lipoprotein (HDL), apolipoprotein B and significantly increased HDL at week-12 and week-24 from baseline (Table-1). Results for the per-protocol and modified intention-to-treat populations were similar. No serious adverse events or deaths reported in the study groups.

Conclusions

Saroglitazar was found to be efficacious and safe in patients with dyslipidemia.

Table-1: Change in efficacy outcomes from baseline at week-12 and week-24 in the per-protocol population

Efficacy Outcomes	Assessment at Study Time Point	Saroglitazar 2 mg (n = 134) Mean ± SD	Saroglitazar 4 mg (n = 146) Mean ± SD	Fenofibrate 160 mg (n = 67) Mean ± SD
TG (mg/dL)	Baseline	360.36 ± 163.60	345.32 ± 153.88	345.42 ± 134.39
	Absolute change at week-12	-201.74 ± 173.18*	-181.56 ± 168.19*	-174.31 ± 151.67*
	Absolute change at week-24	-201.10 ± 181.39*	-182.96 ± 168.42*	-201.67 ± 134.04*
LDL (mg/dL)	Baseline	127.81 ± 44.55	124.75 ± 43.83	128.23 ± 39.83
	Absolute change at week-12	-9.23 ± 54.70	-6.14 ± 49.38	-9.73 ± 52.53
	Absolute change at week-24	-18.22 ± 60.32*	-10.26 ± 54.83*	-19.63 ± 49.44*
VLDL (mg/dL)	Baseline	72.07 ± 32.72	68.92 ± 30.89	68.72 ± 27.17
	Absolute change at week-12	-40.35 ± 34.64*	-36.17 ± 33.75*	-34.50 ± 30.38*
	Absolute change at week-24	-40.22 ± 36.28*	-36.45 ± 33.77*	-39.97 ± 26.98*
HDL (mg/dL)	Baseline	36.90 ± 9.12	37.60 ± 11.91	39.75 ± 11.77
	Absolute change at week-12	6.28 ± 12.97*	5.55 ± 12.55*	5.03 ± 12.62*
	Absolute change at week-24	6.00 ± 14.50*	5.76 ± 15.54*	6.54 ± 16.59*
Total cholesterol (mg/dL)	Baseline	205.19 ± 44.84	198.11 ± 43.27	204.82 ± 42.80
	Absolute change at week-12	-27.66 ± 55.74*	-22.46 ± 51.76*	-25.34 ± 52.47*
	Absolute change at week-24	-32.36 ± 61.34*	-21.97 ± 58.58*	-32.21 ± 53.29*
Non-HDL (mg/dL)	Baseline	168.28 ± 44.24	160.53 ± 40.38	165.07 ± 42.07
	Absolute change at week-12	-33.92 ± 54.86*	-28.01 ± 51.32*	-30.36 ± 53.54*
	Absolute change at week-24	-38.33 ± 60.56*	-27.77 ± 54.88*	-38.70 ± 50.49*
Apo A1 (mg/dL)	Baseline	130.94 ± 33.56	123.71 ± 30.64	130.46 ± 33.97
	Absolute change at week-12	-3.36 ± 38.14	0.88 ± 36.09	0.08 ± 48.51
	Absolute change at week-24	-7.20 ± 38.04*	-0.54 ± 39.69	-2.37 ± 41.35
Apo B (mg/dL)	Baseline	122.48 ± 32.78	123.71 ± 30.64	118.94 ± 35.03
	Absolute change at week-12	-22.57 ± 41.78*	-16.33 ± 36.14*	-16.31 ± 44.26*
	Absolute change at week-24	-21.24 ± 44.85*	-15.26 ± 37.07*	-21.72 ± 38.75*

*Significant difference compared to baseline using paired t-test;
Absolute change at week-12 = value at week-12 – value at baseline
Absolute change at week-24 = value at week-24 – value at baseline
Abbreviations: SD, standard deviation; TG, triglyceride; LDL, low-density lipoprotein; VLDL, very low-density lipoprotein; HDL, high-density lipoprotein; Apo, apolipoprotein; mg, milligram; dL, deciliter