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## Vascular Medicine

**EFFECT OF CANAGLIFLOZIN ON TRIGLYCERIDE-TO-HIGH DENSITY LIPOPROTEIN CHOLESTEROL RATIO, A MARKER OF INSULIN RESISTANCE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS**

Poster Contributions

Poster Hall B1

Sunday, March 15, 2015, 3:45 p.m.-4:30 p.m.

Session Title: Links Between Systemic and Vascular Diseases

Abstract Category: 45. Vascular Medicine: Non Coronary Arterial Disease

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**Background:** Canagliflozin (CANA), a sodium glucose co-transporter 2 inhibitor, improves glycemic control, body weight, and blood pressure in patients with type 2 diabetes mellitus (T2DM). It also increases high-density lipoprotein cholesterol (HDL-C) and low-density lipoprotein cholesterol (LDL-C) levels, with no change in the LDL-C:HDL-C ratio. The beneficial effects of CANA may lead to improvements in insulin resistance, which is present in T2DM. Here we evaluate the effects of CANA on triglyceride (TG):HDL-C ratio, a marker of insulin resistance.

**Methods:** Data were pooled from four 26-week, Phase 3 clinical studies that evaluated efficacy and safety of CANA versus placebo (N = 2,313). The effect of CANA on TG, HDL-C, and TG:HDL-C ratio was evaluated.

**Results:** Placebo-subtracted least squares mean percentage change from baseline (95% confidence interval) with CANA 100 mg and 300 mg was -5.2% (-10.0, -0.3) and -7.6% (-12.5, -2.8) for TG, and 5.4% (3.6, 7.2) and 6.3% (4.5, 8.2) for HDL-C, respectively. CANA improved (i.e. decreased) the TG:HDL-C ratio; placebo-subtracted least squares mean percentage change from baseline (95% confidence interval) was -10.0% (-15.5, -4.4) with CANA 100 mg and -12.3% (-17.9, -6.8) with CANA 300 mg. Of the patients with an elevated TG:HDL-C ratio ( $\geq 3.5$ ) at baseline and with a post-baseline assessment (n = 1,031), a larger proportion of patients treated with CANA 100 mg (108 of 375; 28.8%) and 300 mg (122 of 361; 33.8%) had a normalized TG:HDL-C ratio ( $< 3.5$ ) after 26 weeks versus placebo-treated patients (62 of 295; 21.0%). Differences in proportions (95% confidence interval) were 7.8% (1.0, 14.6) and 12.8% (5.7, 19.8) for CANA 100 mg and 300 mg versus placebo, respectively.

**Conclusion:** Treatment with CANA for 26 weeks resulted in significant improvements in TG and HDL-C levels, and TG:HDL-C ratio. Among those with a TG:HDL-C ratio  $\geq 3.5$ , a higher proportion of patients treated with CANA normalized TG:HDL-C to  $< 3.5$  versus placebo, suggesting that in addition to improving glycemic control, body weight, and blood pressure, CANA may also improve insulin resistance. Collectively, these changes could have a positive impact on cardiometabolic risk in patients with T2DM.