

The Impact of Triglyceride Levels on Achieving Non-HDL-C Targets in Patients with Very High Cardiovascular Risk and Controlled LDL-C

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Background: Previous studies have shown a strong association between elevated triglyceride (TG) levels and the challenges in achieving non-HDL-C therapeutic targets in patients at very high cardiovascular (CV) risk.

Objective: The Gulf CALLS Study aims to assess the proportion of patients achieving non-HDL-C goals among those with very high CV risk and controlled LDL-C levels.

Methods: Conducted in five Middle Eastern countries, the Gulf CALLS Study retrospectively examined patients' data from hospital medical records, including clinical, laboratory, and treatment information. The study focused on patients over 45 years old with established CV diseases or diabetes, LDL-C levels below 1.8 mmol/L, and TG levels below 4.5 mmol/L.

Results: Out of 1,697 patients analyzed, 31% (531/1,697) had high TG levels (>1.7 mmol/L). Within this group, 63% were male; mean age was younger compared to those with lower TG levels (65 vs. 68 years, $p<0.001$). Diabetes prevalence was higher in the high TG group (84% vs. 80%, $p=0.031$), as was the mean body mass index (BMI) (30 vs. 29.5 kg/m², $p<0.001$). Notably, fewer very high-risk patients with high TG levels met the non-HDL-C target goals (<2.6 mmol/L) compared to those with lower TG levels (68% vs. 97%, $p<0.001$). Statin use was more prevalent in the lower TG group (97% vs. 83%, $p<0.001$), while fenofibrate (3% vs. 0.7%, $p<0.001$) and omega-3 prescriptions (5% vs. 3%, $p=0.028$) were higher in the high TG group. There was no significant difference in the use of ezetimibe or other lipid-lowering treatments between the groups.

Conclusion: In the Middle Eastern population studied, a considerable proportion of patients with high TG levels, very high CV risk, and controlled LDL-C did not meet non-HDL-C target goals, highlighting a significant residual risk for cardiovascular diseases.

Key Words: Triglyceride, LDL-C, Non-HDL-C, Diabetes, Cardiovascular diseases, Middle East Countries