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#### Dyslipidemia induced inflammation, platelet activation, and endothelial dysfunction in rabbits: protective role of 10-DHGD

**Background and aims:** Last years we have reported that 10-Dehydrogingerdione (10-DHGD) is a novel Cholesterol ester transfer protein (CETP) inhibitor of natural origin. Such study demonstrated its potential to attenuate lipid profile, inflammation, oxidative stress and additional risk markers in dyslipidemic rabbits. Some synthetic CETP inhibitors have recently been reported to suppress PCSK9. Therefore the present study aimed mainly to clarify 10-DHGD effect on platelet activation, endothelial dysfunction and cellular adhesion molecules in relation to certain biomarkers. The latter includes a lipogram profile, inflammatory markers, CETP inhibitory effect and PCSK9 suppression as compared to atorvastatin in dyslipidemic rabbits. This may have a value as therapeutic target of dyslipidemia and subsequent atherosclerotic complications.

**Results:** Both 10-dehydrogingerdione and atorvastatin significantly reduced CETP protein level, CETP activity, serum PCSK9, LDL-C and raised HDL-C levels as compared to control rabbits ( $p < 0.001$ ). Both treatments induced a marked decrease in the interferon-gamma (IFN- $\gamma$ ), soluble CD40 ligand (sCD40L), soluble P-selectin (sP-selectin), inflammatory cell infiltration, atherogenic indexes as well as aortic intima/media ratio, respectively as compared to the control group ( $p < 0.001$ ). These Markers showed a significant correlation with PCSK9 suppression and CETP inhibitory effect however 10-dehydrogingerdione exerted marked potential regarding these biomarkers as compared to atorvastatin.

**Conclusion:** Our findings suggest that 10-dehydrogingerdione is a promising PCSK9 inhibitor and of significant value against many atherosclerotic risk factors.

#### Biography

Mohamed M Elseweidy has completed his PhD at the age 35 years from faculty of pharmacy - Cairo University and Postdoctoral studies from Medical College of Georgia - Augusta GA- USA. He has published more than 70 papers in reputed journals and has serving as Editorial Board member of certain journals. He is a Professor of clinical Biochemistry and Clinical nutrition and a supervisor of Research Team Members in the faculty of Pharmacy - Zagazig University, Egypt. His field of interests are Diabetic complications and Hyperlipidemia, Natural Antioxidants and their applications in Hyperlipidemia and Diabetic nephropathy, Gastritis, Role of Helicobacter pylori and Natural products as Therapeutic agents

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