ANALYSIS OF PLASMATIC Lp(a) LEVELS IN GENERAL POPULATION GROUPS IN THE BRITISH ISLES

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Introduction

Cardiovascular disease (CVD), and more specifically myocardial infarction (MI), remains a leading cause of morbidity and mortality despite the targeting of LDL cholesterol via statin therapy. There is a need to identify causal risk factors beyond traditional LDL measurement.

Lipoprotein (a) [Lp(a)] is a plasma lipoprotein consisting of apolipoprotein(a) covalently linked to an LDL-like particle. The LDL-like moiety is composed of a central core of cholesteryl esters and triglycerides surrounded by phospholipids, free cholesterol and a single molecule of apolipoprotein B (apoB).[1] Apolipoprotein (a) may contribute to blood clot formation, and can help bind LDL particles to artery walls (increasing plaque formation and the narrowing and hardening of arteries). This dual action may explain the role of Lp(a) in the promotion of cardiovascular disease.

Lp(a) levels are genetically determined and will remain fairly constant throughout life. Unlike other lipoproteins, the level of Lp(a) is not affected by diet, exercise, and other lifestyle modifications used to lower lipid levels. Large scale studies and international guidelines published recently, have proven that Lp(a) is a major independent genetic risk factor for premature CVD and should be screened in all patients at moderate to high risk. There is a robust and specific association between elevated Lp(a) levels and increased risk of CVD/coronary heart disease (CHD) and a consensus paper recommends as a secondary priority after LDL-cholesterol reduction, a desirable level for Lp(a) < 80th percentile (less than ~50 mg/dL) as well as the screening for elevated Lp(a) in those at intermediate or high CVD/CHD.[2,3]

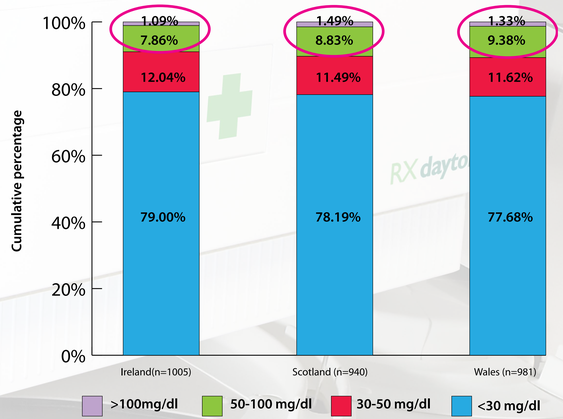
This study reports the evaluation of the levels of Lp(a) in plasma samples from normal population groups in the British Isles to investigate the proportion of individuals presenting levels that could indicate a possible risk factor in the development of CVD/CHD.

Methodology

The levels of Lp(a) were measured in a total of 2,926 plasma samples from general population groups from Ireland (n= 1005), Scotland (n=940) and Wales (n=981). The measurements were performed with a liquid ready-to-use immunoturbidimetric assay (Randox Laboratories Ltd., Crumlin, UK) on a Beckman AU640 analyser (Beckman Coulter Ltd., High Wycombe, UK).

Results

Percentage breakdown of Lp(a) concentration in general population groups in the British Isles



Lp(a) levels above 30 mg/dl	
	Percentage
Ireland	21%
Scotland	21.81%
Wales	22.32%

Conclusion

The data shows that approximately 10% of the general population groups from Ireland, Scotland and Wales of this study present Lp(a) levels (> 50 mg/dL) that could indicate a possible risk of CVD/coronary heart disease, which could be beneficial for clinical awareness.

REFERENCES
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