

Cholesterol 1,2,3™

Skin Cholesterol Predicts History of Myocardial Infarction

Background: We previously reported that skin cholesterol levels predict the presence of angiographic disease. It remains unknown whether a correlation with MI history can be discerned; particularly after adjustment for extent of angiographic disease.

Methods: Skin cholesterol measurement, coronary angiography, and traditional risk factor evaluation was performed in 649 individuals, at 3 sites (CCF n=147, THC. n=179, SMH, n=323). Skin cholesterol was determined non-invasively using the Cholesterol 1,2,3 system (IMI). Angiographic outcome was determined qualitatively and categorized as 0%, 1-49% or >50% for the LAD, LCX and RCA. History of myocardial infarction (MI) was also recorded.

Results: Skin cholesterol quintiles were significantly associated with MI history. Once adjustment for extent of disease was performed the relationship remained significant. (Table)

Conclusion: Individuals with higher skin cholesterol levels were significantly more likely to have had a previous MI than patients skin cholesterol values in the lowest quartile, even after adjusting for severity of angiographic disease. This suggests skin cholesterol as a potential predictor of acute coronary events.

Odds ratios (with 95% confidence intervals and p-values) estimating the relative risk of prior MI associated with each successive skin cholesterol quartile.

Skin Cholesterol Quartile	Adjusted for Framingham and Site Adjusted	Adjusted for Framingham, Site and Extent of Dx
≤ 102	1.0	1.0
103-122	1.9 (1.2-3.0) 0.01	1.8 (1.1-2.9) 0.03
123-143	1.6 (1.0-2.7) 0.047	1.3 (0.8-2.2) 0.27
> 143	2.2 (1.4-3.6) 0.002	2.0 (1.2-3.3) 0.008

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