

Skin Tissue Cholesterol is Associated with Angina, Diabetes, and History of Stroke/TIA in Subjects with Coronary Artery Disease

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Recent reports demonstrate an association between skin tissue cholesterol (skin TC) and markers of cardiovascular risk, including Framingham risk score, ICAM-1, coronary calcium, and angiographic coronary disease (CAD). These associations however were studied in subjects not receiving lipid-lowering drugs. We evaluated skin TC in 274 consecutive subjects with proven CAD as part of a larger observational registry, 89% of whom were taking statins. Skin TC was measured using a rapid, non-invasive assay (Cholesterol 1,2,3TM, IMI, Toronto, Canada).

Results: Mean age was 63.1 \pm 10.5 yrs, 15% female, 57% Caucasian, 38% South Asian. Total cholesterol was 4.41 \pm 1.26 mmol/l, LDL-C 2.37 \pm 1.10, HDL-C 1.20 \pm 0.30, and skin TC was 100.4 \pm 18.9, an intermediate level. Skin TC was not correlated with age, blood lipids, blood pressure, glucose, waist circumference or hs-CRP. Skin TC was higher in Caucasians than South Asians (102.8 \pm 19.6 vs. 96.3 \pm 17.3, p=0.005). Skin TC levels were categorized as low (<80), intermediate (80-110), or high (>110). Angina (p(trend)=0.004), diabetes (p(trend)=0.03), and history of stroke/TIA (p(trend)=0.03), increased in incidence as skin TC levels increased. While blood lipids were significantly lower in diabetics than non-diabetics they were not significantly different in subjects with and without angina or past stroke/TIA. CRP levels were not significantly correlated with angina, diabetes, or history of stroke/TIA.

Conclusions: Skin TC appears to provide new information about risk that is independent of blood lipids and may have value in stratifying subjects with established CAD who are treated with statins.

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