

The non-lipid risk factors for cardiovascular events

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Non-Lipid Cardiovascular Risk Factors and Flow Basis Markers Introduction:

Innumerable epidemiological studies have established the major ical and discovered a number of putative risk factors for ischaemic heart disease (IHD) (Yarnell et al, 2004). Despite this establishment and discovery most of IHD cases still prove unexpected prompting the healthcare profession to seek better predictive devices (Wayne Alexander, 2005). This paper looks into the risk factors by separating them into two major groups - the plasma lipids and other non-lipid haemostatic/inflammatory ones (Yarnell et al, 2004).

Correspondingly, two sets of predictive devices are taken note of - one for lipids and the other for non-lipids.

While the classical view of IHD has been the accumulation of plasma lipids and other sedimentary substances (plaques) on arterial walls, diminishing the lumens by large percentages till serious impediment to blood flow occurs that lead to the pathological condition. There are also other factors that progressively weaken and rupture arterial walls and also seriously affect blood flow (Libby, 2006). The principal predictive potential to assess degrees of progression towards cardiovascular disease is assaying the levels of these risk factors in the blood. These factors are consequently called biomarkers and since they generally affect blood flow to the heart they are also called flow basis biomarkers. This paper is assessing the predictive values of some non-lipid biomarkers.

Biomarkers:

Biomarkers capable of predicting cardiovascular risk are generally categorised into eight groups - 'inflammatory markers, markers for plaque erosion and thrombosis, lipid-associated markers, markers of endothelial

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dysfunction, myocardial injury or dysfunction markers, oxidative stress, metabolic markers and markers of neovascularisation' (Cooke, 2006).

Common lipid biomarkers are low density lipoprotein (LDL) and high density lipoprotein (HDL) cholesterol including oxidised LDL cholesterol, small dense LDL cholesterol, lipoprotein and lipoprotein-associated phospholipase (Cooke, 2006). Some of these markers have been found to mediate in inflammatory action (Cooke, 2006). Thus, it may be said that many biomarkers have inter-associated activities that allow them to migrate across the eight principal groups of biomarkers posited here (Cooke, 2006).

An effective biomarker must have the following properties - the capacity to reflect accurately the underlying biological processes associated with plaque and disease progression, be reliable and accurate, pathologically sensitive and specific, independently predictive of major inclement cardiovascular events and cost effective (Cooke, 2006).

Non-Lipid Biomarkers:

There are many non-lipid biomarkers but the paper shall look into the efficiencies of some of them.

While whole blood viscosity (a potential non-lipid marker) is not definitely established as an independent indicator of cardiovascular events componential elements of it - haematocrit, plasma viscosity, red cell aggregation as measured by erythrocyte sedimentation rate (ESR) and plasma fibrogen - have been definitely established by prospective studies as independent indicators of such events (Woodward et al, 2003).

Similarly, in another case, Yarnell et al, 2004, report that metaanalysis has well established that fibrinogen, white cell count and C-reactive protein are non-lipid risk factors for cardiovascular events. Yarnell et al, 2004, is a <https://assignbuster.com/the-non-lipid-risk-factors-for-cardiovascular-events/>

comparative study of lipid risk factors - total, HDL-cholesterol, triglyceride - against haemostatic/inflammatory factors - fibrinogen, white cell count and viscosity. The study shows that the haemostatic/inflammatory factors effect as strong predictive values as the lipid ones (Yarnell et al, 2004).

Conclusion:

Thus, the paper finds that definitely the non-lipid risk factors for cardiovascular events have at least as strong predictive values as the more traditional lipid ones. This signifies that they should also be considered as targets for future intervention strategies (Yarnell et al, 2004)in preventing negative cardiovascular events. While this belief has been established for some time now the Woodward et al, 2003, and Yarnell et al,, 2004, studies reinforce it.

Reference:

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