Biochemical markers of cardiovascular disease risk
Institute for Clinical Systems Improvement

Record Status
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Citation

Authors' objectives
This review aims to assess the available evidence on the use of biochemical markers in the diagnosis of cardiovascular disease risk.

Authors' conclusions
With regard to biochemical markers of cardiovascular disease risk, the ICSI Technology Assessment Committee finds:

The basic lipid profile (high-density lipoprotein, low-density lipoprotein, and triglycerides) provides a useful indication of cardiovascular disease risk and serves as a guide for statin therapy in a primary prevention context.

C-reactive protein (CRP), if measured by high-sensitivity assay (hs-CRP), may have independent value as a predictor of cardiovascular disease risk and independent value in identifying patients with normal lipids who could benefit from treatment (Conclusion Grade II). hs-CRP elevations can be caused by inflammatory conditions and, therefore, are not specific for cardiovascular assessment in individual patients. Further study is needed to determine if decreasing CRP levels would decrease cardiovascular disease risk.

The relevance of studies of tHcy as a risk factor for cardiovascular disease is unclear given the decreasing tHcy levels as a result of mandatory folic acid supplementation. It remains unproven whether lowered tHcy levels will result in reduced morbidity and mortality from cardiovascular disease.

Other biochemical markers do not add to the prediction of risk above that achieved using lipid measures and hs-CRP.

Assessment of the markers is safe, requiring only a blood sample for analysis.

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