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Title

Systemic Inflammation Among Adults with Undiagnosed Cardiometabolic Conditions: Is This A Neglected Focus for Prevention?

Priority 1 (Research Category)

Cardiovascular disease

Presenters

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Abstract

Context: Systemic inflammation is associated with the development and progression of many chronic conditions like atherosclerosis, diabetes, hypertension, hyperlipidemia and obesity, as well as morbidity and mortality. Even with evidence about the role of inflammation in development and progression of chronic disease it is not typically measured clinically except in certain autoimmune and infectious diseases. It is unclear the population prevalence of systemic inflammation, particularly for undiagnosed cardiometabolic disease.

Objective: To assess the prevalence of elevated inflammation using high sensitivity C-reactive protein (hsCRP) (>0.30 mg/DL) in adults with no cardiometabolic disease, undiagnosed disease and diagnosed disease.

Design, Setting, and Participants: An analysis of the 2015-2020 National Health and Nutrition Examination Survey which after accounting for the weighting and design of the survey allows for population estimates of the US population. Adults >= 20 years old were included. HsCRP levels >=0.30 mg/dl has been linked to the development of cardiometabolic disease. Individuals were classified into disease defined as having one or more of the following: diagnosed disease--diabetes, hypertension, hyperlipidemia, or obesity by diagnosis; undiagnosed disease (self-report of no doctor diagnosis but positive biomarker); no disease.

Main Outcome Measures: Prevalence of systemic inflammation

Results: 12,884 unweighted individuals representing 314,440, 018 adults in the US population were assessed in the US population were assessed. 35.2% of the population have elevated CRP. A substantial proportion of adult individuals with undiagnosed disease have elevated CRP 45.1% at 0.30 mg/DL. This is similar to the proportion of individuals with diagnosed disease 48.1%, while only 19.4% of those with no disease had elevated CRP. When stratifying by race/ethnicity among people with undiagnosed disease 39.3% of Non-Hispanic Whites had elevated CRP versus 50.1% of Hispanics and 55.6% of Non-Hispanic Blacks.

Conclusions: A substantial proportion of the adult population have elevated inflammation. This is apparent in adults with undiagnosed disease and in particular, minority populations. Systemic inflammation may be useful to assess as a potential focus for disease prevention and disease progression.