The Patient Knows Best

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"..I could only tell about myself ..."

*Rachel HaMeshoreret**

Modern medicine is searching for novel screening diagnostic modalities to detect those apparently healthy subjects who are at increased risk for illness. Such modalities include blood tests, non-invasive and invasive imaging studies, as well as stress tests and a wide variety of different sophisticated diagnostics. Indeed, a comprehensive set of such studies is offered even as a fringe benefit to employees although the predictive value of such an approach is still in debate.

The self-rated health (SRH) item is another diagnostic parameter considered to correlate with general health status and increased risk for mortality [1]. Different to the above mentioned studies it does not involve any sampling of body fluids or tissue, radiation or exercise. Furthermore, there are no costs associated with this measure. Self-related health is a parameter that presents the self-perception of general health – reported on a numeric scale of five from poor to excellent. One may argue that low SRH results from illness and is actually the reflection of a morbid situation. Yet, even in apparently healthy subjects, and after correction and adjustment for a wide variety of known health-related factors, SRH correlation with prognosis remains valid [2].

*Pen name for the Israeli poetess Rachel Bluwstein

In the present issue of this journal Dr. Leshem-Rubinow and colleagues from Tel Aviv University report the clear association of SRH with inflammatory status [3]. The study is based on a large registry in over 13,000 apparently healthy subjects who underwent general periodic health examinations. The subjects were mostly white-collar employees who reported average to excellent health perception. A small minority of the study population reported poor or very poor health perception. Due to this very small number, these subjects were excluded from analysis and the study focused on the higher three SRH categories (average, good, excellent). The hallmark finding of the study was that SRH significantly correlates with an increased atherothrombotic risk profile and elevated levels of C-reactive protein (CRP). The correlation with CRP was observed in both genders and remained valid after adjustment for potential confounders.

The authors should be saluted for this study, which utilizes a database composed of the results of commercial examinations. It is again proven that a valid research question and rigor analysis may yield substantial scientific data.

CRP is an acute-phase reactant that presumably contributes to host defense. In addition to its presumed inflammatory role, CRP has received considerable attention as a risk marker for cardiovascular disease. Chronic modest elevations in CRP levels have been associated with a greater likelihood of acute cardiovascular syndromes, such as myocardial infarction, sudden cardiac death, stroke, and peripheral vascular disease [4,5]. CRP is also a marker for the progression of subclinical vascular disease and for hypertension [6]. Even researchers who argue about the specificity of CRP and its value over "conventional" cardiovascular risk factors agree that its levels strongly correlate with cardiovascular risk [7].

Accumulating experimental data support a role for CRP not only as marker or predictor but as a mediator of atherothrombosis. Animal studies indicate that CRP is mainly involved in acceleration of endothelial dysfunction and arterial thrombosis while having minimal or no effect on atherogenesis [8,9].

The reason for the correlation between SRH and CRP is yet to be defined. Is there indeed a cause-effect relationship between the elevated CRP levels and SRH? Is it the other way around with one's mental condition promoting inflammation, or is the reported correlation a reflection of a salient pathobiologic state which independently affects both parameters? Clinically apparent inflammation definitely affects general health and its self-perception. The simple putative explanation for the observed correlation is of cytokine-induced sickness perception. Yet, the levels reported in the present study are those defined as subclinical and have yet to be proven as causing such an effect.

Nonetheless, regardless of the mechanism that underlies the observed correlation between subclinical inflammation and elevated CRP levels and self-perceived health status, the current study adds an important variable to the intricate relationship between the inflammatory response and vascular injury and repair. Self-perceived health status through its association with CRP may correlate with increased atherothrombotic risk, which itself may affect SRH. Furthermore, the common notion is that those lifestyle measures that reduce cardiovascular risk, such as physical exercise, improve self-image

and health perception. It appears that we are only starting to unveil the significance and importance of self-perception in indicating cardiovascular risk status and, potentially, its modulation. In the short term we should combine SRH in general health surveys and try to understand its relative association and contribution to known risk markers and risk profile. In the long range, large-scale longitudinal studies are warranted to assess whether, indeed, SRH may serve as an independent risk marker for cardiovascular morbidity and mortality.

Until such studies are conducted and reported we are left with some very simple conclusions. Subclinical inflammation, which is associated with increased cardiovascular risk profile, is associated with decreased health perception. The old saying that the patient knows best is probably true – we should listen to our patients and dwell deep into their symptoms and perceptions.

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