

The “Pressure Cooker” of Stress

By Gregory S. Cohn, M.D.

In March, in a study that was widely publicized, researchers from Columbia University reported that the presence of symptoms of major depression was strongly related to the occurrence of major cardiovascular disease events, particularly for sudden cardiac death. Their data were drawn from over 60, 000 women that had been followed for almost 20 years as part of the Nurses’ Health Study. Notably, this association between depression and cardiovascular events remained significant even after the researchers controlled for the risk factors that commonly contribute to cardiovascular disease (i.e. smoking, diabetes, hypertension, high levels of cholesterol). While these findings are not “new”, they do suggest that arrhythmias (irregular heart beats usually due to a malfunction of the heart’s electrical system and a common cause of sudden cardiac death) may be a culprit behind this link.

Why is it important to discuss this study? The answer is because it strongly reinforces the dangerous consequences that may result from chronic exposure to stress in both men and women. The acute response to stress may be life saving, and some level of stress is required for most people to perform at an optimal level. However, it is the presence of high levels of stress (as might be found in someone with depression and/or anxiety) over long periods of time that is especially dangerous. Physiologically, stress causes activation of the body’s sympathetic nervous system and production of various hormones, including adrenaline, noradrenaline, and cortisol. It is well known that increased activity in the sympathetic nervous system and elevated levels of adrenaline/noradrenaline raise heart rates and blood pressure, and increase the heart’s work load and “irritability”, all of which contribute to the risk for a lethal cardiac arrhythmia (sudden cardiac death). It is also significant to note that each of these 3 hormones (especially cortisol) have actions which counter those of insulin. In other words, elevated levels of these hormones cause an increased level of “insulin resistance” to occur. Regular readers of this column know that I frequently write about the severe metabolic and cardiovascular effects that often result from insulin resistance.

I think that the message here is obvious. As a society living through tumultuous economic, social, and political times, we are all dealing with unprecedented levels of stress, which can literally eat us up from the inside. It has never been more important for us to find safe and effective ways to remedy this situation. I certainly don’t claim to have all of the answers, but I do know that we all must take personal responsibility and make concerted efforts to lessen this burden. Exercising regularly, eating a healthy diet, losing a little weight, and getting an adequate amount of sleep can help tremendously, and are all things that we have the ability to do. One last thing: take some time everyday to laugh and to show somebody that you love them.

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