In CHD, Type 'D' Personality Stands for Distress

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BARCELONA — Type D personality is a powerful independent predictor of future cardiac events in patients with coronary heart disease, Johan Denollet, Ph.D., reported at the joint meeting of the European Society of Cardiology and the World Heart Federation.

This common personality trait—a tendency to experience negative emotions and feel inhibited in expressing them in social situations—is also associated with impaired health status and worse quality of life in patients with chronic heart failure or peripheral artery disease independent of the severity of their underlying cardiovascular disease, added Dr. Denollet of Tilburg (the Netherlands) University.

Type D individuals bathe in gloominess, worry, and unhappiness. They prefer to keep others at a distance. They are prone to depression—a known risk factor for poor cardiovascular outcomes—but type D (the "D" represents "distress") is a stable personality trait, not a mood disorder. It is readily distinguishable from depression on psychological tests, and it remains a potent predictor of worse outcomes after testers control for depression and standard cardiovascular risk factors, the psychologist explained.

Based on a growing body of evidence supporting the clinical relevance of type D personality, including a series of prospective studies in coronary heart disease patients that began appearing a decade ago (Lancet 1996;347:417-21), Dr. Denollet said he believes it is time for physicians to routinely incorporate screening for type D into cardiovascular risk assessment. Toward that end, as well as to facilitate research, he has developed a 14-item type D scale that takes patients less than 2 minutes to complete (Psychosom. Med. 2005;67:89-97).

Psychological stress has also been linked to worse outcomes in coronary heart disease. But psychological stress fluctuates in response to life events and other factors, while type D is stable and long term. Both need to be assessed to optimally identify high-risk patients, the psychologist argued.

This was underscored in a recent study in which Dr. Denollet and coworkers assessed 337 coronary heart disease patients

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in a cardiac rehabilitation program for type D via the 14-item scale as well as psychological stress using the General Health Questionnaire. The prevalence of type D was 14%. During 5 years of follow-up, 14% of patients had a major cardiac event. Type D patients had a 3.3-fold increased risk compared with those who weren't type D. Patients who scored high for psychological stress at baseline had a 2.5-fold increased risk.

In a multivariate analysis, only type D personality, baseline ejection fraction of 40% or less, and no coronary artery bypass surgery independently predicted cardiac events (Am. J. Cardiol. 2006;97:970-3).

A couple of years ago the Tilburg group together with investigators at the Thoraxcenter in Rotterdam, the Netherlands, showed in 875 consecutive recipients of a sirolimus-eluting or bare metal stent that type D personality was associated with a fivefold increased risk of death or MI during 9 months follow-up after adjustment for all other variables. More recently they demonstrated in the same cohort that the 28% who were type D experienced significantly impaired health status at 12 months compared with non–type Ds on all subdomains of the Short Form–36 except physical functioning (Int. J. Cardiol. 2006 [Epub doi:10.1016/j.ijcard.2005.12.018]).

Having spent a decade establishing that type D is common, is readily detectable, and has deleterious consequences, Dr. Denollet is focusing now on pathogenic mechanisms.

One possibility is that type D exerts harm through direct physiologic effects; type D individuals appear to have higher levels of tumor necrosis factor–α and other inflammatory cytokines. Type Ds also may be more resistant to lifestyle modification and less adherent to therapy than other patients. It's known they are less likely to report symptoms to their physicians. ■