Heart attacks: High hopes vs. high anxiety

Telling someone who's just suffered a heart attack to lighten up sounds like the height of insensitivity, but it may be the best advice. Patients who keep their anxiety in check after a heart attack suffer fewer complications, according to a new study.

"People who felt more in control did better," says Debra Moser of Ohio State University in Columbus. "I've always been impressed by the link between emotions and health, and this backs it up."

Patients in Moser's study took a widely used stress test within 48 hours of suffering a heart attack. The test measures feelings of anxiety and control of a situation. Medically stable and free of pain in their hospital beds, the patients answered a series of questions about their emergency, such as "How much were you distressed by shakiness or nervousness inside?"

Understandably, the test group displayed anxiety levels far above those found in the general public. Moser placed more than a quarter of the heart attack victims into a high-stress group, defined as people with anxiety scores above the average for newly admitted psychiatric patients.

The 86 test takers were then tracked during their hospital stay for signs of further heart trouble. Almost 20 percent of high-anxiety patients, versus 6 percent of low-anxiety patients, suffered further complications, such as angina, heart spasms, another heart attack, or death. After controlling for age, seriousness of the first heart attack, and other factors, the researchers discovered that the stress-related risk was even higher than the raw numbers indicated. High-anxiety patients were 4.9 times more likely to suffer further complications, Moser reports in the just-released September-October PSYCHOSOMATIC MEDICINE.

"This doesn't mean everyone who's nervous is in danger," she says. "You have to be in a vulnerable state first." She also cautions that the results do not shed any light on the cause of the relationship between anxiety and further heart attacks.

However, Moser and her coauthor, Kathleen Dracup of the University of California, Los Angeles, conjecture that the high-anxiety patients suffer from an excess of stress–related chemicals that thicken the blood. Thickening promotes further blockages in the arteries near the heart. A vicious cycle may ensue as stress erodes the patient's health, thereby generating more stress.

"It's an entirely plausible speculation and an excellent, though small, study," says Richard P. Sloan of Columbia-Presbyterian Medical Center in New York.

Sloan observes that doctors tend to shy away from dealing with patients' emotions: General practitioners often fail to diagnose depression, for example.

Nonetheless, he says, physicians have used calming measures to treat heart attack victims. Until the early 1980s, when a new class of blood-thinning drugs emerged, physicians prescribed sedatives to patients to soothe their nerves. Studies have suggested that hospitals can reduce fears by counseling heart attack patients, extending visiting hours, and playing music.

An alternative explanation for the study's findings is that high-anxiety patients might sense genuine symptoms that medical tests fail to uncover. "They may know something we don't," admits Moser.

Among the low-stress patients, those who felt most in control of their condition, however severe, seemed to get better faster, according to Moser.

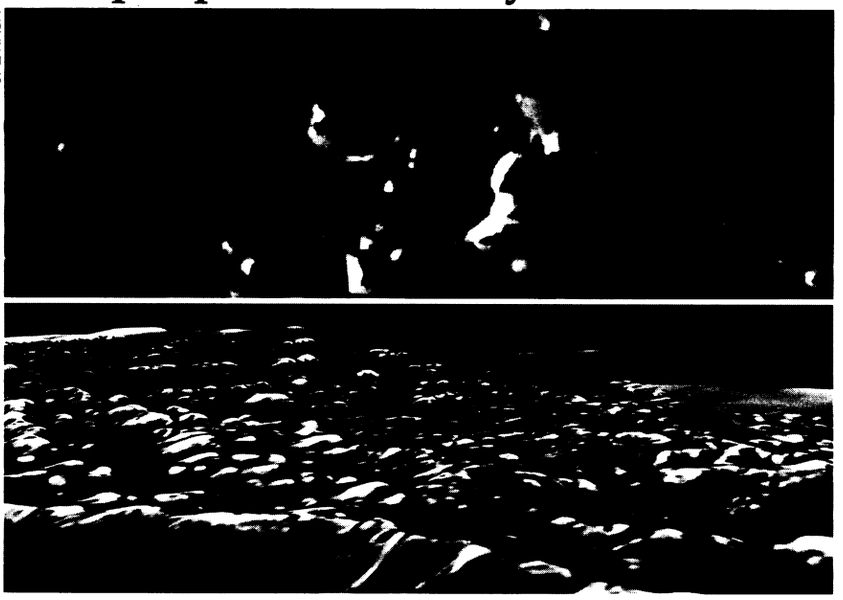
She and Dracup plan a larger, international study that will monitor patients' blood for signs of stress-related chemicals.

The researchers see the growing trend toward patients taking more responsibility for their own progress as a healthy development. "The irony is that the general public seems to have more faith in the idea of a mind-body link than do health care professionals," says Moser.

— D. Vergano

New perspectives on Ganymede

JPL/NASA



Calling all hot doggers! Take a gander at these steep, frosted slopes that shoot into icy craters (top). This view of a northern patch of Jupiter's moon Ganymede reveals what may be the best place to schuss and slalom on the solar system's biggest satellite.

Taken by the Galileo spacecraft during a Sept. 6 flyby, this image poses a puzzle. Although the sun shines from the south, the north-facing walls of the ridges and craters are brighter than the south-facing ones. James W. Head, a member of the Galileo imaging team at Brown University in Providence, R.I., suggests that the pattern tracks the migration of ice. He and other scientists propose that the chillier north-facing walls trap water-ice vaporized from the sun-warmed, southern slopes. A deposit of frost would explain the brightness of the northern faces.

"The evidence really points out that sublimation and redeposition [of water-ice] is an important process on Ganymede and perhaps other icy satellites," Head says.

Scientists have also created a three-dimensional image (bottom) of Ganymede's rugged Galileo Regio region by combining images taken June 27 and Sept. 6, when the Galileo craft flew past the same site at different viewing angles. With this stereo perspective, "you get a real sense of the personality of the landscape," including the heights of raised rims and the depths of furrows and impact craters, Head notes.

In other images, showing the Nippur Sulcus region, scientists see Ganymede's darker, presumably older terrain blending into brighter, younger terrain. Faulting appears to be chopping up the older surface. "You see the process in action," notes John R. Spencer of Lowell Observatory in Flagstaff, Ariz.

These and other Galileo pictures, only recently radioed to Earth, were unveiled last week at the annual meeting of the American Astronomical Society's Division of Planetary Sciences in Tucson.

—R. Cowen