

## Getting to the heart of panic disorder

Some people walking into an emergency room or doctor's office with a pounding heart or chest pain may be suffering from a panic attack, a syndrome that can mimic symptoms of a heart attack, says Wayne Katon of the University of Washington Medical School in Seattle. Often, physicians send these patients on for expensive cardiac tests, leaving the panic disorder undiagnosed and untreated, Katon reported at the 16th American Heart Association Science Writers Forum in Monterey, Calif.

To test the theory that primary-care doctors frequently don't distinguish between heart attacks and panic attacks, Katon studied 74 people with chest pain who were sent on for coronary arteriography, a \$2,000 procedure that determines whether blood vessels are clogged with plaque. Nearly 38 percent of these patients showed no evidence of coronary disease. Psychiatric evaluations of the chest-pain patients with healthy hearts revealed that 43 percent met the standard diagnostic criteria for panic disorder, compared with nearly 7 percent of the patients whose tests confirmed heart disease.

The results suggest physicians need to be educated to consider the possibility of panic disorder when patients complain of chest pain. People having heart attacks report a centrally located pain that radiates to the neck and arms, Katon says. In contrast, panic-attack patients may report a pain on the right side of the chest. The typical panic-attack victim is a woman in her 20s or 30s, he says, while the typical heart-attack patient is a middle-aged man. There are many exceptions, however, and Katon says he is not recommending that physicians automatically exempt such patients from cardiac testing. All patients with chest pain should see a physician, he adds.

Physicians have reported panic disorder at least since the 1800s. The attacks can be triggered by a stressful event such as combat duty or divorce. But many patients can't identify any specific cause of their distress. Katon says it's likely a series of small stresses may cause panic attacks in these people.

Panic disorder can be functionally crippling, especially when undiagnosed. In the throes of a panic attack, many patients believe they are in imminent danger of a heart attack, even when doctors tell them they don't have evidence of blocked arteries. Some restrict their activities to avoid their symptoms; some give up their jobs due to the condition. But Katon says that in many cases, once the panic disorder is diagnosed, attacks can be prevented with antidepressants. — K.A. Fackelmann

## Vaccination success convicts seal killer

In the first scientific test in seals of two vaccines for canine distemper virus (CDV), Dutch scientists have successfully inoculated six of the animals. The work constitutes the "final proof" that either CDV or the closely related phocine distemper virus caused the deaths of thousands of seals in the North and Baltic seas in an epidemic that began last April (SN: 9/3/88, p.149), says study leader Alfred D.M.E. Osterhaus of the Dutch National Institute of Public Health and Environmental Protection in Bilthoven.

The Dutch team vaccinated six harbor seals with either a whole dead virus or a substance made from two CDV proteins that has been shown to prevent the disease in dogs. Two other seals received a sham vaccine. The seals, which had been kept in isolation for many years, had shown no signs of the disease and carried no antibodies to CDV before the experiment. But when tested after the third inoculation, the six given the vaccine had developed a significant number of antibodies to CDV.

Ten days later, the scientists put all eight seals into a pool infested with cells from the spleen and lungs of seals that had died during the outbreak, a procedure that causes CDV symptoms in

dogs. As a result, the two sham-vaccinated seals developed signs of CDV, such as respiratory problems, nasal discharge and general lethargy. Both died within three weeks. No clinical signs of the disease appeared in the vaccinated animals, the scientists report.

"Although the number of animals studied is small, the data warrant the conclusion that seals can be protected from phocid distemper [or CDV] by vaccination with certain inactivated CDV vaccines," they write in a Jan. 5 letter to NATURE. The vaccines have already been distributed to aquariums, zoos and sanctuaries, some of which had been using them before they were proven to work, Osterhaus says. He adds that the immune-inducing substances are not meant for wild seals because of practical difficulties in administering them.

Although the death rate has leveled off, seals continue to fall victim to the virus. The death toll to date is estimated at 17,000 — 60 to 80 percent of the total number of seals that formerly lived off the coasts of Denmark, Germany, the Netherlands and Great Britain, Osterhaus says. Most died in the first two weeks of the epidemic. — I. Wickelgren

## Greek contact for humans, Neanderthals?

Stone tools recently found in eastern Greece may be the products of Neanderthals who borrowed styles of tool manufacturing from anatomically modern humans also living in the region, according to a report presented earlier this month at the First Joint Archaeology Congress in Baltimore.

The discoveries support the controversial hypothesis that Neanderthals and modern humans evolved separately, with Neanderthals hitting an evolutionary dead-end around 30,000 years ago (SN: 2/27/88, p.138), says Curtis Runnells of Boston University, who describes the finds in the just-released Fall 1988 JOURNAL OF FIELD ARCHAEOLOGY.

In 1987, Runnells and his co-workers located 32 archaeological sites along Greece's Peneios River and in nearby caves and rock shelters. The sites yielded 211 stone tools. Most of the artifacts were found on terraces of the river or eroded banks of the riverbed.

Radiocarbon dates for the layers of river sediment where the artifacts lay range from 45,000 to 27,000 years ago, Runnells says. Comparable dates have been obtained at other Greek sites with similar stone tools.

Some of the tools found by Runnells, such as "leafpoints" sharpened on both

sides and scrapers, resemble artifacts associated with Neanderthals. Others, including retouched blades, flints with beveled points and leafpoints with rounded bases, are more like the tools of early modern humans.

The Greek material is similar to stone tools from Hungary and Bulgaria dated to about the same time period, Runnells says. Researchers have suggested the latter artifacts were produced by Neanderthals who were in contact with anatomically modern humans some time after 38,000 years ago.

Since no human bones have yet turned up at the Greek sites, the origin of the stone tools remains unclear, Runnells acknowledges. Nonetheless, he asserts, these artifacts vanish from Greece's archaeological record at the same time as the disappearance of Neanderthals from Europe and the Near East, making their manufacture by Neanderthals the best bet for now.

There is no evidence for human occupation between 27,000 and 9,000 years ago at the sites studied by Runnells. He suggests the region was uninhabited or little used between the disappearance of Neanderthals and the founding of Late Stone Age agricultural settlements.

— B. Bower