

Marital woes: Migraine or yours?

If you suffer from daily migraine headaches that are not mitigated by drug treatment, chances are you are involved in a stressful marriage or personal relationship.

That is the finding of internist Harvey J. Featherstone and psychiatrist Bernard D. Beitman, both of the University of Washington School of Medicine in Seattle. Of 40 patients with daily or near-daily migraine headaches occurring for at least four weeks prior to the study, only four of 23 married patients, but 12 of 17 unmarried patients, responded to drug treatment. The married non-responders fit the pattern described in several other investigations of chronic headache sufferers; they tended to deny emotional problems, glossed over painful feelings about relationships and rejected psychological stress as a cause of their headaches. The five unmarried patients who did not respond to drugs also matched this pattern and were involved in stressful personal relationships.

The significance of the findings, which are reported in the January *PSYCHOSOMATICS*, for those who endure episodic headaches is unclear. The researchers recommend psychotherapy or marriage counseling for patients with a daily "marital migraine."

When tempers and temperatures flare

It seems to be good common sense: As the mercury rises, people get steamed and are more likely to commit violent crimes. Data collected in two U.S. cities support this assumption, but contradict the results of laboratory investigations into the interplay of temperature and aggression.

Psychologists Craig A. Anderson of Rice University in Houston and Dona C. Anderson of the Houston VA Medical Center report in the January *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY* that violence and hot weather do indeed go together. They recorded the number of aggressive (murder and rape) and non-aggressive (robbery and arson) crimes mentioned in the Houston Chronicle newspaper crime report from October 1980 through September 1982, along with maximum temperatures for each day in that time period. The number of criminal assaults reported daily to Chicago police from June through August 1977 also were compared with the average temperature for each of those days.

In both cities, aggressive crimes increased as the temperature rose and were most likely to occur on Sunday and Monday. Non-aggressive crimes were unrelated to temperature and day of the week. Laboratory research, on the other hand, indicates that increased temperatures lead at first to increased aggression, but at high temperatures aggression falls off as subjects attempt to escape the heat.

The contradiction between the field and laboratory studies has not been resolved. But, note the researchers, future efforts to unravel the link between temperature and aggression should focus on real-life situations.

Thanks for the memories

Scientists at the University of California at Irvine have found that animals can learn and remember information even when they are anesthetized and much of their brain activity is suppressed. Psychobiologists Norman Weinberger, Paul Gold and Debra Sternberg report in the Feb. 10 *SCIENCE* that anesthetized rats injected with epinephrine (adrenaline) learn to stop drinking water when they hear a tone that is paired with an electric shock. Anesthetized rats that do not receive epinephrine are not conditioned by the shock/tone training.

The researchers say that epinephrine and several other hormones may be used to help weed out brain activity unrelated to the learning process and to identify brain sites necessary for memory and learning.

Radiation as insecticide

While no substitute for ethylene dibromide (EDB) as a soil fumigant, gamma radiation may replace many of the outlawed pesticide's uses in food processing (SN: 2/11/84, p. 89). On Feb. 14, the Food and Drug Administration (FDA) announced proposed regulations to broaden irradiation's already limited approval: Now allowed for killing insects in wheat and flour and for inhibiting potato sprouting, it would also be permitted for use on fresh produce, to kill insects and extend shelf life. The process leaves no radioactive residue. Up to 100 kilorads could be used on produce, up to 3 megarads on spices, including dried onions and garlic. FDA is also reviewing irradiation's potential for meat, poultry and fish to kill the bacteria that cause food poisoning.

Moves against another soil fumigant

Ethylene dibromide (SN: 10/8/83, p. 229) is not the only soil fumigant worrying Environmental Protection Agency officials. The agency is proposing a total ban on DBCP (dibromochloropropane) — to go into effect by 1987 — after finding detectable levels of the insecticide in eight new ground-water aquifers. A monitoring program in Hawaii has been studying effects of the chemical's sole remaining use — protecting pineapple plants from nematodes. Once widely used, DBCP's other applications were banned in 1981 when the chemical was found to cause cancer, birth defects and reduced sperm counts.

Nursing mothers share pollutants

Breast-feeding mothers, particularly those in developing countries such as China, India and Mexico, may be passing on DDT, DDE and HCH (hexachlorocyclohexane) to their babies in amounts that exceed established "Acceptable Daily Intake" guidelines. In developed countries such as West Germany, the United States and Japan, it is contamination with PCBs (polychlorinated biphenyls) that nursing mothers most risk sharing. These are among the major findings of a 10-nation survey that measured levels of these organochlorine compounds in breast milk. A report of that survey, prepared for the United Nations Environment Programme and the World Health Organization, has just been published by the Swedish National Food Administration (SNFA) in Uppsala.

Using samples of breast milk from at least 50 mothers in each country, the survey looked for detectable levels of p,p'-DDT; p,p'-DDE (a DDT-breakdown product that may constitute 75 percent of residual DDT in milk); beta-HCH (the most persistent and toxic form of this systemic insecticide); and the PCB known as Arochlor 1260. All of these compounds are lipophilic, or fat-seeking. As such, they accumulate in the body and are seldom shed — except by nursing mothers in the fat that accounts for roughly 3.5 percent of their breast milk.

Since women were excluded from the study who were known to have been exposed occupationally to any of these chemicals, it is presumed contamination occurred largely through food — by vegetables in countries that still permit use of DDT and HCH, and through meat in countries where these chemicals have been banned or restricted (though they have yet to disappear from the environment). PCBs, whose use has been concentrated in industrial countries, were not even detected in the milk of women from China, Mexico or India.

SNFA's Stuart Slorach and Reggie Vaz, who authored the report of this survey, acknowledge that all surveyed chemicals are known to be toxic in high quantities. Nonetheless, they caution against reading their findings as a reason to discourage breast feeding. They point out that daily-intake guidelines have been developed as acceptable limits for a lifetime at that exposure, and a baby's contamination via breast milk usually lasts no more than a few months.