

Behavior that triggers heart attacks

There has been a lot of talk recently about the Type A person, and how he is prone to heart attacks. Type A people are those who strive diligently to achieve and are perfectionist, tense, unable to relax, active and energetic. If such behavior really leads to heart attacks, can it be identified beforehand, especially by some automated means?

To find out, C. David Jenkins and his behavioral epidemiologist team at the Boston University School of Medicine selected 2,750 men free of heart disease. The men filled out a computer-scored test questionnaire to see whether they had a coronary-prone Type A personality. They were then followed for the next four years to see which of them had heart attacks. The men who scored high on Type A behavior turned out to have twice as many heart attacks as did men who scored low, Jenkins and his colleagues report in the June 6 *NEW ENGLAND JOURNAL OF MEDICINE*.

New virus from human cancer

There was a great hoopla during 1971 and 1972 about finding cancer viruses in human cancer tissue (SN: 7/10/71, p. 21; 9/18/71, p. 185; 11/25/72, p. 345). Although the commotion has subsided, largely because the evidence for these viruses has not always been solid, biologists are still trying to detect cancer viruses in human cancers.

A DNA virus that is well known to cause cancer in animals, the SV40 virus, has now been detected in a human malignant melanoma (cancer of skin tissue). The finding, by Federico Soriano and his colleagues at the Health Central Inc. & Life Sciences Foundation in Minneapolis, is reported in the May 31 *NATURE*. "This is the first time that the SV40 virus has been detected in human cancer tissue," Soriano told *SCIENCE NEWS*.

In addition to detecting the virus, the Minneapolis biologists have also identified its antigen in the cancer. The cancer tissue made antibodies to this antigen. "Confirmation of the oncogenicity of SV40 for humans," they say, "will have to come from finding additional cases, especially by tumor antigen detection."

The chemistry of HL-A antigens

Whether skin grafts and organ transplants are rejected or not depends on histocompatibility (HL-A) antigens. These chemicals are present on the surface of lymphocytes and most other cells with nuclei. In other words, if antigens on donor tissue differ chemically from antigens in the recipient's body, the recipient's antibodies and lymphocytes will reject the donated tissue as foreign.

Overcoming the rejection problem depends, in large part, on better understanding the chemistry of antigens, and how this chemistry differs from one person to another.

During the past year or two, a compound called B₂ microglobulin was found to be an integral part of the cell surface. A few months ago Lars Östberg and his co-workers at the University of Uppsala found that the B₂ microglobulin is one of two polypeptide chains that comprise the HL-A antigen, specifically the chain that is constant from person to person. The Swedish chemists now report in the May 31 *NATURE* further evidence that the HL-A antigen is made up of these two chains. The B₂ microglobulin and the variable polypeptide chain are physically linked to each other on the cell surface.

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Schizophrenia in winter

Schizophrenia remains one of the most puzzling of all mental conditions. There is little agreement about its causes or cures. Three British researchers have now come up with a bit of information that may "open a promising field for further study into the possible causal factors." They have found that schizophrenics and manic depressives tend to be born during the winter months.

Edward Hare, John Price and Eliot Slater report in Vol. 124 of the *BRITISH JOURNAL OF PSYCHIATRY* that birth dates were examined for all patients admitted to psychiatric units in England and Wales during 1970 and 1971. The birth rate of schizophrenics and manic depressives was from seven to nine percent above normal during the first quarter of the year. No other mental disorders showed this type of distribution. The researchers suggest "that winter-born children are prone to nutritional deficiencies or infections which may damage the constitution and so facilitate the manifestation of a functional psychosis in those generally at risk." The next step is to see if the same results can be found in other countries, especially in those with widely different climates.

The drinking rat

Animals can be used to study the effects of alcohol because they show some of the same reactions humans have to the drug. They can show tolerance and withdrawal symptoms, for instance. But there has been little evidence that animals develop the most important factor in alcoholism—a strong motivation to get a drink of alcohol. J. D. Sinclair of the State Alcohol Monopoly in Helsinki, Finland, has found that rats can learn to work for alcohol. His report is in the June 7 *NATURE*.

Rats were supplied with all the food, water and alcohol they wanted. Those that showed a high preference for alcohol after 55 days were then put in Skinner boxes where they had to push a bar for alcohol. There was also a lever for water, and food and water were always available without work. Once the rats learned to work for alcohol, they continued to do so even after the water and alcohol bars were switched. And when the alcohol bar was made gradually harder to press, the rats still continued to work for their drinks. In previous experiments, animals have been taught to work for alcohol but they usually did not perform when food and water were freely available. In conclusion, says Sinclair, "Humans are not the only creature sometimes motivated to obtain alcohol for drinking: Some rats seem to develop a similar motivation which can lead them to learn new responses for alcohol reinforcement and to expend rather large amounts of effort to obtain it."

Keep them laughing

A little humor can liven up a boring lecture and it might also make the lecture easier to remember, says Murray Weinberg of Yeshiva University. Students were tested on the basis of IQ and anxiety. They then listened to lectures that were interspersed with humorous examples, nonhumorous examples or no examples at all. It was thought that the humor might help the high-anxiety students to relax and get more out of the lectures. In fact, the low-anxiety students benefited more from the humor. When tested, they did better than the high-anxiety students. The high-intelligence, low-anxiety students also performed better in the humorous situation than in the nonhumorous lecture.

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