

Cancer and the right to know

Should patients be told when they have cancer? Almost 90 percent of U.S. physicians didn't think so 20 years ago; 97 percent think so today. So report Dennis H. Novack of the University of Rochester (N.Y.) Medical Center and his colleagues in the March 2 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION on the basis of a physician survey they conducted.

Various factors appear to have brought about this dramatic shift in attitude, Novack and his co-workers write. Therapy for many forms of cancer has improved considerably in recent years (SN: 1/11/75, p. 26). The public has become much more aware, largely through the press, of cancer and of ways of fighting it. Physicians have become more comfortable with death and have learned how to better assist dying patients (SN: 3/15/75, p. 176). The consumer movement has made many people more aware of their rights as patients.

The survey that Novack and his colleagues conducted, however, reveals that physicians' attitudes toward whether or not patients should be told they have cancer are based on personal convictions, not on scientific evidence that telling patients they have cancer will help them.

One solution to teen pregnancies

The United States is in the throes of a teen pregnancy epidemic (SN: 5/6/78, p. 299), and while the causes are complex, at least one solution is emerging — a medical center-based program for teen mothers and their infants.

Such a program is headed up by physicians Janet B. Hardy and Theodore K. King at the Johns Hopkins Medical Institutions in Baltimore. Staff members provide the mothers with comprehensive medical and psychological services, conduct classes from the first prenatal visit through labor, delivery and three years after delivery and, perhaps most crucial, form close supportive relationships with the young women. Eighty-five percent of mothers enrolled at the center in the past two and a half years have returned to school, and only five percent have become pregnant again within a year after delivery. Of all teen mothers in Baltimore only 10 percent return to school and 47 percent become pregnant again within a year. Teen mothers in the program also suffer fewer obstetrical complications, have fewer premature deliveries and give birth to larger and healthier babies than do Baltimore's teen mothers in general.

The Hopkins center has been so successful, in fact, that it was used as a model for developing President Carter's teen pregnancy prevention program (SN: 1/27/79, p. 52).

Gland cells into nerve cells

Nerve growth factor, which was discovered by an Italian scientist named Rita Levi-Montalcini in 1952, has turned out to be one of the great intrigues of modern neurobiology. NGF was, and still is, the only chemical known to stimulate the growth and differentiation (specialization) of immature nerve cells, yet only select immature nerves make use of NGF. NGF is present in many tissues that seem to have little connection with nerve growth. Receptors for NGF can be found on cancerous pigment cells (SN: 5/21/77, p. 330).

Now still another provocative insight into NGF is reported in the March PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES by Levi-Montalcini and Luigi Aloe, a colleague of hers at the Laboratory of Cell Biology in Rome: NGF can divert only partially specialized glandular cells into nerve cells in the developing organism. The researchers injected NGF into the adrenal glands of rats during fetal and postnatal life and found that it massively transformed certain immature adrenal cells into nerve cells.

Janet Raloff reports from the meeting in Park City, Utah, on Implications of New Energy Technologies

More on radon's daughters

Not only do fission products, or "daughters," of radon — present in all uranium and hardrock mines — appear to pose a greater hazard to nonsmoking miners than to smoking ones (SN: 4/14/79, p. 247), but they also appear to provide more damage (per unit exposure) at low doses than at high ones, according to Victor E. Archer, a medical director with the National Institute of Occupational Safety and Health in Salt Lake City. The epidemiologist, who has studied uranium miners for 20 years, says his views are still not widely accepted, although they're shaped on a body of research that has been building for 10 or 15 years.

Combining the work of Olav Axelson on non-uranium miners with studies on uranium miners here, in Canada and Czechoslovakia, Archer finds an increased risk of lung cancer at doses as low as 50 months exposure to "one working level" (1.3×10^5 million electron volts of alpha radiation per liter of air). He also found that the period of exposure prior to onset of cancer is "strongly dependent" on the age at which a person begins mining; the older the beginner, the faster his cancer will develop. And short miners who smoke heavily have the highest rate, he says; more than 50 percent die from lung cancer.

In another study reported by Axelson and Christer Edling, both of University Hospital in Linköping, Sweden, buildup of radon daughters in homes — as a result of outgassing from natural rock, brick and concrete — is implicated with an increased risk of lung cancer. Axelson expressed concern that as homes are more tightly insulated to conserve energy, the reduced influx of fresh air will cause increasingly hazardous levels of radon to accumulate.

The diesel cough?

While diesel-powered machinery has been used in the underground mines of Europe and Canada for decades, it has failed to gain even a toehold in unionized coal mines here despite growing pressures to go diesel. Reasons why have changed over the years, but the latest centers around concern about potential health effects to the miners. What is believed to be the first scientific support for that concern now comes in work by Robert B. Reger and J. Hancock of the Appalachian Laboratory for Occupational Safety and Health in Morgantown, W. Va.

In their study, 722 pairs of coal miners were matched for race, smoking habits and geographic region — and as much as possible for age, height and the number of years each worked in the mines. One in each pair had been occupationally exposed to diesel-exhaust emissions, the other had not (having worked in all-electric-powered mines). Tests for respiratory ailments showed a striking difference between the two groups.

Fully 41 percent more — or 24 percent — of those in the group exposed to diesels reported a persistent cough, and 20 percent more — or 28 percent — reported persistent production of phlegm. Not unexpectedly, smokers in each group reported more symptoms than ex-smokers or nonsmokers.

What's more, for each smoking status, diesel-exposed miners showed poorer lung-function performance than did their matched counterparts as measured by five different tests. And the variation between the groups increased with an increase in the number of years that a miner was exposed to diesel exhaust. More perplexing, however, although the lungs of the diesel-exposed group performed less well, the unexposed group consistently reported more wheezing and shortness of breath.

While this study is the first to correlate adverse health effects in coal miners with exposure to diesel exhaust, the authors are quick to caution that it falls short of proof. Without knowing the accumulation of coal dust in miners' lungs, they can't rule out dust alone as a possible cause for the effects.