

Transfer factor and breast cancer

Some 20 years ago, H. Sherwood Lawrence of New York University Medical Center found that when a chemical extracted from the lymphocytes of a person immune to a specific organism was injected into a person lacking immunity to the organism, the chemical gave the recipient immunity against it. Since lymphocytes bestow cellular immunity, this work showed that cellular immunity could be transferred from one person to another. Lawrence named the chemical taken from the lymphocytes "transfer factor."

Since then, transfer factor has emerged as a promising treatment for a number of bacterial, viral and fungal diseases and for several kinds of cancer—bone cancer, Hodgkin's disease and nasopharyngeal carcinoma (SN: 2/9/74, p. 86; 6/15/74, p. 383). Transfer factor has now been used with some success against breast cancer, Lawrence and his colleagues report in the PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (Vol. 71, No. 6).

The New York immunologists took transfer factor from the lymphocytes of women age 40 to 65 years, with no history of cancer. They then injected the transfer factor into five women with advanced breast cancer in hopes that it would cause their cancer to regress. The treatments boosted the cellular immunity in all the patients and triggered cancer regression for six months in one patient. Most gratifying, the treatments produced no side effects, giving patients whole lymphocytes can.

Bowel movements and diseases

Ever since Dante, if not before, excrement has been one of the most maligned of human byproducts. This is most unfortunate, D. P. Burkitt of the Medical Research Council in London, and his colleagues, contend in the Aug. 19 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Heart disease, varicose veins, hemorrhoids, cancer of the colon, gallstones, obesity and some other ills of 20th century Western civilization have been linked with the sluggish movement of food through the alimentary tract and less-than-robust "stools."

The problem, as Burkitt and his team explain it, is that the intake of cereal fiber has fallen to one-tenth of its 1870 figure. Americans and Europeans eat refined cereals, breads and flours rather than whole-grain ones. These foods add fiber to bowel movements and hence speed their passage through the body so they cannot dally and upset caloric intake, the levels of cholesterol in the blood, fecal bacteria, bile salts and other aspects of metabolism.

All of the above conditions are almost nonexistent in native African populations whose basic diet still consists of coarsely processed cereals.

PKU infants being missed

Phenylketonuria (PKU), a disease that results from a liver enzyme deficiency, leads to the buildup of the amino acid phenylalanine in the body and mental retardation. A few years ago investigators learned that PKU could be prevented by screening newborns for elevated levels of phenylalanine, then putting them on diets lacking it. Most states have laws requiring the screening of all newborns for PKU.

But more than 10 percent of infants with PKU are either not being screened or are not being detected by screening, Neil A. Holtzman and his co-workers at the Johns Hopkins University School of Medicine report in the Aug. 5 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

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Poll supports environment standards

A public opinion survey released by the Environmental Protection Agency indicates that recent fuel shortages have not diminished Americans' desire to eliminate pollution. Though environmental damage is not as prominent an issue as it was a year ago, the poll shows that people generally are as much or more in favor of fighting pollution than before the energy crisis warmed up. Only 3 percent of those polled said they are now less in favor of fighting pollution and only 12 percent favor the controversial moves to let air pollution increase in areas that now have clean air.

While Americans continue to worry about fuel shortages, most favor easing the problem through methods that would not significantly increase pollution, such as improving public transportation (favored by 84 percent), lowering speed limits (78 percent) and driving smaller cars (71 percent).

The results of other, independently sponsored polls have been gathered by the Council on Environmental Quality and these tend to confirm the conclusions of the EPA poll: A statewide poll in Florida found 59 percent of the people considering environmental issues the state's most urgent problem—up from only 10 percent that thought so in 1970. Polls by congressmen in Pennsylvania and Iowa found solid majorities of their constituents favoring spending more money to clean up the environment. More citizens are beginning to see the connection between environmental problems and land use planning, as demonstrated by polls and successful citizen-action projects in Minneapolis-St. Paul, Florida, Idaho and Delaware. And in recent California elections, three environmental propositions, each costing hundreds of millions of dollars, all won.

Water for energy or people?

Plans for electrical generating plants, coal gasification facilities and oil shale processing operations in the southwestern United States may run into a serious snag, according to an article in the September ENVIRONMENT. The article cites an unpublished report by the U.S. Bureau of Land Management (BLM) as saying the planned facilities would require around 16 percent more water from the Colorado River basin than is available if allocations for drinking and irrigation are to be preserved. Even this figure is too conservative, the article concludes: Taking into account the increased population and other demand increases associated with development of the area, a shortfall of almost 20 percent would appear more reasonable.

The BLM report apparently contradicts an earlier Department of Interior statement that asserted enough water was present. Already, farmers along the Colorado River are troubled by salinity poisoning irrigated ground. Withdrawing larger amounts of water would worsen the problem. A similar problem exists in the upper Missouri River basin, the article concludes.

Buried in sulfur

A report presented to the northeastern regional meeting of the American Chemical Society this month indicates that if the sulfur removal devices now contemplated to ease air pollution are really effective, a pile of elemental sulfur greater than the nation's annual needs will accumulate. Conclude Milton E. Abraham and Peter P. Beno of the R. B. MacMullin Associates: "By that time our sulfur mines will be shut down, [but] we may just have to reactivate them to bury the sulfur we will be producing."

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