

MEDICINE

Body Fights Germs Harder In Winter Than Summer

Report Finding of Chemical Important in Body's Fight Against Disease; Killing of Cancer Cells Explained

THE BODY puts up a stiffer fight against invading disease germs in winter than in summer.

This discovery, accidentally made from observation of the marks of the battle on the brain tissues of mice that had encephalitis, was reported by Drs. R. D. Lillie, R. E. Dyer, Charles Armstrong and Joseph G. Pasternack of the U. S. National Institute of Health, Washington, to the meeting of the American Association of Pathologists and Bacteriologists in Chicago.

Whether the fiercer fighting in cold weather means that the body is more successful in resisting germ invasion is not yet known. That is the next problem for investigation. Meanwhile the discovery reported here gives an entirely new explanation for the old idea of a relation between climate and infectious disease.

Climate does not affect infection or transmission of disease, but exerts its influence on the internal or tissue reactions of infected animals to disease, Dr. Lillie and associates explained. These reactions, termed inflammatory changes, are part of the body's defense mechanism.

At warm temperatures, apparently, the standing army of defensive antibodies in the blood stream are sufficient to fight invading disease germs, Dr. Lillie suggested as a tentative explanation of the findings. When the temperature gets low, the reserves are called out, and these are the mechanisms within the body's cells which produce inflammation when they go into action.

Brains of Mice

Brains of mice that had encephalitis of the type epidemic in St. Louis in 1933 and 1934 gave the first hint that temperature affected the body's defense mechanism. The research had started in the winter and the reaction to the infection seen in the mice brains was graded severe, moderate and slight. As the seasons changed, fewer moderate and severe reactions were noted and in

summer even slight reactions were few. In August the severe and moderate reactions began to increase again.

The evident relation to temperature suggested further studies, which were made with "hot" and "cold" mice infected with encephalitis and with guinea pigs infected with typhus fever and kept at varying temperatures.

Discovers Chemical

A chemical, tentatively named leukotaxine, which plays an important part in the body's fight against disease, has been discovered by Dr. Valy Menkin, of Harvard Medical School.

Reporting to the meeting of pathologists and bacteriologists, Dr. Menkin said that the chemical is produced by injured cells of the body but not by normal cells; that it causes increased leakage of fluid from small blood vessels, seen as the swelling in inflamed

tissues; that it causes migration of fighting white blood cells to the point of injury; that it is a crystalline, water-soluble substance, as yet unidentified chemically.

No Danger

Encouragement for those who use benzedrine sulfate to decongest their noses during a cold appears in the studies reported by Drs. W. E. Ehrlich and E. B. Krumbhaar of Philadelphia. These studies show the drug has a wide range of safety.

This chemical, or the similar benzedrine hydrochloride has other uses besides decongestion of nose, throat and ears. It is like adrenalin and ephedrine, and like them increases the blood pressure. Benzedrine, however, generally works more slowly and longer than ephedrine and adrenalin. It is said also to stimulate the brain, both in causing excitement, preventing sleep, relieving fatigue or narcoleptic (sleepy attacks) symptoms and shortening anesthesia from amylal.

Experimental studies have lagged behind the clinical use of this important drug, and the Philadelphia scientists undertook to determine the safety limits of the drug and whether its continued use would have any bad effects. Working with rats, they found that even when given over long periods, the drug



DATES WEAR RAINCOATS

Not good-looking young fellows in slickers. Just big clusters of the California palm-fruits covered with little individual tents of tough waxed paper to keep off dew and drops from any untimely shower that might fall during the ripening period. Even an almost microscopic wetting might cause the spoilage of a fifty-pound cluster of dates.