MEDICINE

New Pneumonia Serum Promises Treatment For 90 Per Cent

Specific for Type III Together With Previous Serums Takes Care of All But Very Rare Kinds

LIFE-saving serum for treatment of upwards of 90 per cent. of all pneumococcus pneumonia cases will be available after the first of the year. This is the promise seen in the announcement by the Lederle Laboratories, Inc., that serum for Type III pneumonia will go on the market in January.

Serum for treatment of Types I, II, V, VII, and VIII pneumonia are already available. These together with Type III pneumonia make up the bulk of all pneumococcus pneumonia cases. Cases of others of the thirty-two types of pneumonia are so rare as to be considered medical curiosities.

Manufacture of the new Type III serum, effective in a pneumonia that kills from sixty to eighty out of every hundred patients, is possible because of researches at the Rockefeller Institute for Medical Research which showed that rabbit blood could be used instead of horse blood for manufacture of pneumonia serum.

The life-saving results of the new serum, as well as of the others now available, depend on early, accurate diagnosis of the ailment in each case. Medical and health authorities stress the importance of having facilities available everywhere to make the laboratory tests which show what type of pneumonia a particular patient suffers from. It does no good and may do harm to give a patient Type III serum, for example, if he is sick with Type II pneumonia. The serums are only effective in the particular types of pneumonia for which they are made.

Science News Letter, December 25, 1937

MEDICINE

Cancer-Causing Chemicals Step Towards Understanding

A CLEARER definition of the essential structural features of cancer-producing chemicals, one more step in science's many-fronted fight to conquer the disease, has been made in the Converse Memorial Laboratory at Harvard University by Prof. Louis F. Fieser and his associates.

While the important problem of determining the exact manner in which these chemicals initiate malignant growth is still unsolved, scientists feel that this progress may clarify their understanding of the chemicals and help point the way to an eventual solution.

Three years ago Prof. Fieser accomplished the synthetic production of methylcholanthrene, a complex and very powerful cancer-producing hydrocarbon. This compound can also be obtained chemically from the bile acids of the human body.

Since that time Prof. Fieser and his research group have synthesized 68 new chemical compounds, all of them similar to methylcholanthrene but each with small structural differences. These have been injected into mice in an attempt to learn why methylcholanthrene is so powerful and how it acts on living cells.

Experiments now completed show that 22 of these new compounds are definitely carcinogenic and that 19 definitely are not. Of the active compounds certain ones of far simpler molecular structure than methylcholanthrene, known chemically as 1:2-benzanthracene derivatives, are very nearly as powerful as the complex hydrocarbon.

The fact that methylcholanthrene can be chemically obtained from the bile acids, Dr. Fieser points out, gives strong support to the possibility that cancer might result from abnormal metabolism that leads to the formation of some hydrocarbon of the methylcholanthrene type within the body.

This idea is also supported by what Dr. Fieser terms "the striking circumstance that this particular hydrocarbon—which carries as a mark of its possible origin the five-membered ring characteristic of sterols and sex hormones—is very potent."

Since any investigation of the biological formation of methylcholanthrene by direct experimentation is not yet possible, these circumstantial lines of evidence are very important.

Science News Letter, December 25, 1937

BACTERIOLOGY

Useful Bacteria in Lakes Encouraged by Solids

BACTERIA in lakes are useful because they have an important part in the cycle of life whereby food is built up for fish.

Researches at the University of Wisconsin indicate that their growth can be encouraged by pouring into the water finely divided substances of no direct food value, like pulverized charcoal or crushed sand. Apparently the bacteria thrive when they have such clean, solid surfaces on which to cling, just as oysters grow best when there are solid objects like broken stone or old bottles on the oyster beds.

The researches were conducted by Drs. W. H. Stark and E. McCoy, in collaboration with Drs. E. A. Birge and C. Juday.

Science News Letter, December 25, 1937

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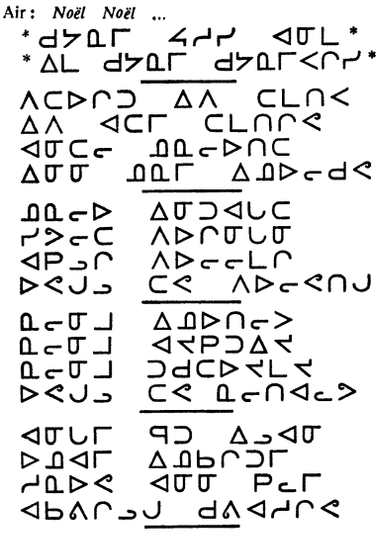

POUR NOEL

Eskimo kids will be looking at this text on Christmas Eve, and singing an Eskimo carol set to an old French tune.

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