MEDICINE

Serum and Sulfanilamide Saves 30 out of 43 Lives

Chemical Methods Used in Preparing Antiserum Has Led to Triple Vaccine for Single-Shot Protection

SAVING of 30 out of 43 child lives doomed otherwise to almost certain death from influenzal meningitis was achieved by a treatment reported by Dr. Michael Heidelberger and Dr. Hattie E. Alexander of Columbia University Medical School, and Dr. William E. Bunney, Dr. Tillman D. Gerlough and Dr. John W. Palmer, of E. R. Squibb and Sons, New Brunswick, N. J., at the meeting of the American Chemical Society in St. Louis.

Chemical methods used in preparing the antiserum for this treatment can be applied to health improvement for national defense, it was pointed out. Experience with these methods has already led to production of a triple vaccine against typhoid fever, tetanus (lockjaw) and diphtheria, which has shown protective value in animal tests. If trials on humans confirm these findings, it will be possible, with a single "shot in the arm," to give a soldier, or a civilian population in times of disaster, protection against these three serious diseases.

Influenzal meningitis, for which the treatment now reported was said to be the most successful yet developed, is not due to the virus that causes influenza, but to another kind of germ, called Haemophilus influenzae, type B. The disease attacks small children chiefly and is rare both in adults and in children over eight years of age. It is highly fatal. Before the new treatment was instituted, the mortality rate at the Babies' Hospital, New York City, was 100%.

Antiserum, such as was used in the treatment described, is made by injecting the germ of a disease into the veins of a horse or, more recently, a rabbit. The animal responds by the production of a specific chemical substance in the blood, which is called an antibody.

The active agents in the antisera used for treatment are now known to be circulating proteins modified under the stimulus of the bacterial vaccine or other agent used in producing serum in animals. Analytical chemical micro-methods for picking out these active curative agents from the other inert matter of the serum and actually weighing the amount present, instead of depending on vague relative methods, have not only resulted in a great extension of knowledge regarding the curative antibodies, but have supplied a valuable means of checking the value of alternative methods of immunization and so producing stronger and more efficient antisera and deciding which species of animal produces the best sera.

When these sera are available, the same methods aid in purification and separation of the antibodies, so that the reactions and inconveniences resulting from their use may be minimized. If the antibodies have not been damaged in purification the same analytical methods provide a quicker, cheaper and more humane index of potency than, for instance, the testing of antibodies in mice.

These new methods were used to prepare the rabbit antisera and purified rabbit antibody which, used along with sulfanilamide, turned the 100% influenzal meningitis death rate into an approximately 70% recovery rate.

Science News Letter, April 19, 1941

MEDICINE

Cancer of Lower Lip May Come From Chronic Sunburn

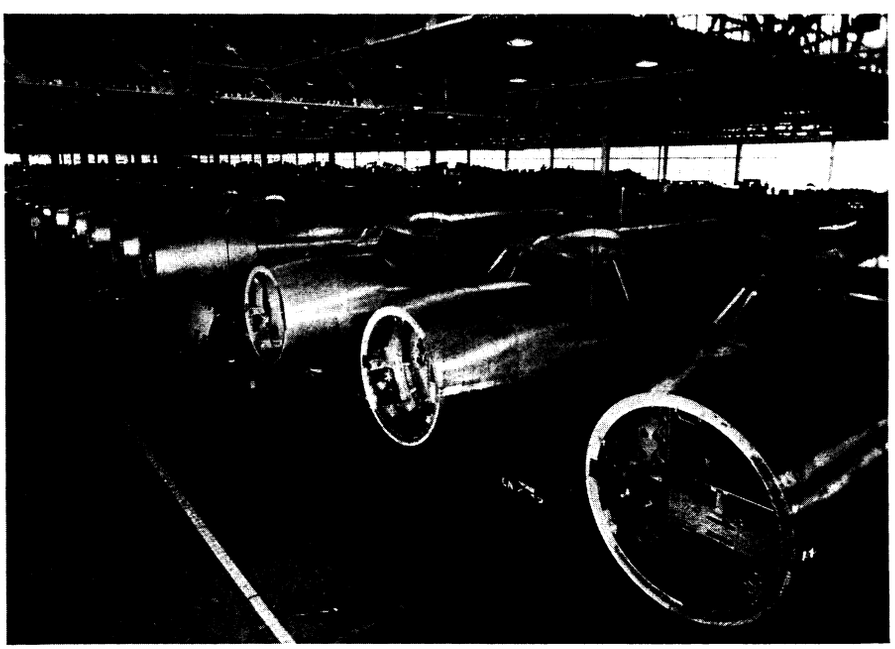
SO-CALLED smokers' cancer, when it occurs on the lower lips of laborers, may be due to chronic inflammation from habitual sunburn and not to smoking, as has previously been believed, Dr. George C. Andrews, of Presbyterian Hospital, New York, declared at a meeting sponsored by the American Society for the Control of Cancer.

"Sunlight, like most things that are good for us, if indulged in to excess may be harmful, even to the point of causing cancer," he said.

He sees no reason, however, for alarm on the part of persons who go in for suntan as a fad or who work in outdoor occupations, because skin cancers occur where they attract attention when still small and they can all be cured if properly treated.

Science News Letter, April 19, 1941

Peppermint leaves are one of Germany's tea substitutes, it is reported.



BOMBERS

Lined up here are nose-sections of the new Martin B-26 medium bomber, awaiting their turn on the final assembly floor of the Glenn L. Martin Company, Baltimore. By a new production tooling and technique, the big sections meet in the splicing jigs and invariably fit to within a few thousandths of an inch.