BACTERIOLOGY-MEDICINE

Whooping Cough's Whoop Captured in a Test Tube

Laboratory Cultivation of Spotted Fever Germ Also Reported to Society of American Bacteriologists

THE WHOOP of whooping cough has been captured, so to speak, in a test tube in the laboratory. At least, the discharge or exudate that makes the whooping cough patient whoop has been produced outside the body and has all the sticky qualities of the material coughed out by the patients.

Production in vitro of this sticky exudate was reported by Dr. John A. Toomey of Western Reserve University and Cleveland City Hospital at the meeting of the Society of American Bacteriologists. Dr. Toomey suggested that this material might be used to protect persons against the worst stages of the disease, and that some way might be found to prevent the whoop altogether by vaccinating against this exudate itself.

It is not the whooping cough germ but something the germ produces that causes the cough and whoop, Dr. Toomey explained. The germ of the first phase of the disease, which goes by the scientific name of *Hemophilus pertussis,* produces nothing more serious in a human being than rhinitis, a nose inflammation resembling a cold in the head.

As the disease progresses the patient gradually becomes sensitized to the germs and the poisons in their bodies. The patient then begins to whoop and the most severe stage of the disease follows. As the patient's condition gets worse, the germs of the first phase of the disease are less easily found.

In view of his finding that the exudate or discharge is the agent that produces the most severe stage of the disease, Dr. Toomey pointed out that it would be logical to try to protect persons against this substance. Injecting the cough-producing factor itself in patients already ill with the disease might make them immune to it more quickly and hasten their recovery.

Spotted Fever Germ Grown

A further step toward conquest of dangerous Rocky Mountain spotted fever appears in the report of Ida A. Bengtson, bacteriologist of the U. S. Public Health Service's National Institute of Health. Miss Bengtson has succeeded in growing the germs of this disease on artificial culture media in the laboratory. With further improvement in the method it is hoped that the laboratory-grown germs can be cultivated in sufficient numbers to be used in making the vaccine that protects against the highly fatal spotted fever.

At present the vaccine must be made by grinding up live ticks that harbor the spotted fever germs in their bodies. The procedure is dangerous for those engaged in vaccine production, and the resulting vaccine is costly and the supply limited. The fact that Rocky Mountain spotted fever is not confined to the Rocky Mountain region but has been found in many eastern states as well makes it a public health problem of national concern.

Tick Carries Horse Disease

The virus germ that causes encephalomyelitis in horses is carried by a tick, Drs. Jerome T. Syverton and George Packer Berry of the University of Rochester School of Dentistry and Surgery reported. This is the first time, it seems, that a tick of the genus *Dermacentor* has been implicated as carrier of a filterable virus disease.

The Rochester investigators had previously found that gophers can get the disease as well as horses. The fact that gophers, the disease itself and ticks of this genus are all found at the same seasons in the same geographical locations seemed significant and led to the investigations of the tick as carrier of the virus. This proved to be the case. The virus is carried by the ticks in all stages of their developmental cycle, including the egg stage.

Pasteurized Sweet Wine

Pasteurized wine may be on the market some day, it appears from studies reported by Drs. H. C. Douglas and L. S. McClung of the University of California. Pasteurization, they found, will overcome bacterial spoilage of fortified sweet wines which has been a serious problem in the California wine industry.

The bacteria causing the spoilage were described by the scientists. Sulfur dioxide as well as pasteurization will overcome the difficulty.

Wines most frequently affected were muscatel, sherry and angelica. Occasionally the spoilage was found in port, Tokay and Malaga wines.

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RADIO

January 12, 5:15 p.m., E.S.T.

NEW JOBS FOR MOLDS—H. T. Herrick of the U. S. Bureau of Chemistry and Soils.

Jan. 19, 5:15 p.m., E.S.T.

SWIMMING IN WINTER—Ralph E. Tarbett of the U. S. Public Health Service.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.