

BACTERIOLOGY

Chairman: DR. C. G. CULBERTSON, Indiana State Board of Health
Professor L. S. McClung, Indiana University, was elected chairman of the section for 1942.

ABSTRACTS

Heterophile and oral pneumococcal antigenic action of cold vaccine. H. M. POWELL, Lilly Research Laboratories.—Comparative importance of virus and bacteria, including even their order of entrance if both are present, as the cause of colds has not yet been fully determined. The study of the presumably earlier virus phase has not yet led to the practical use of antiviral vaccine. On the other hand, several bacterial cold vaccines have come into considerable use and necessitate tentative laboratory assays of antigenicity quite apart from the bacterial count. Two methods of assay are described. The first is a quantitative seriological method which can be completed in a few hours. Such tests may be conducted by laboratory technicians familiar with hemolytic titrations such as those used in the Wassermann test. A second method of assay is useful as a rapid laboratory test of oral immunizing action of the oral vaccines. These vaccines are preponderately pneumococcus in content, and their oral immunizing action against type I pneumococcus infection in white rats can be determined in seven days. The two tests described are not conclusive or final. The results obtained, however, give indications of antigenicity in vitro and orally in vivo.

Bacterial Content of Normal Human Tissues. LYLE A. WEED, Indiana University School of Medicine.—From 96 surgical cases, 171 sections of tissue were examined bacteriologically. Bacteria were found in 71% of the cases and in 50% of the tissues. Staphylococci, streptococci and diphtheroids were the organisms more frequently found. *Clostridium welchii* was isolated from two cases, one of which had a stormy course for two days post-operatively and recovered spontaneously without specific therapy. Many gram positive diplococci and short rods were found in the original culture tubes but did not grow on sub-culture. Bacteria were isolated from bone, uterine muscle, skeletal muscle, subcutaneous areolar tissue and skin.

Trypsin as a digestant of sputum and other body fluids preliminary to examination for acid-fast bacilli. EDITH HAYNES, Indiana University Medical Center.—A method of digesting sputum and other body fluids with trypsin preliminary to microscopic examination, culturing and guinea-pig inoculation, is presented. This method is considered to be practical for it is simpler in procedure than other methods and requires less of the technician's time. In a comparative study, of this method and the flocculation method of Hanks et al., of 100 positive specimens 11% more positives were found by the trypsin method. In 71.5%

of the smears made from the trypsin digested portion of the specimens, more acid-fast bacilli were found than in smears made from the flocculation concentrate, and in 30% of these at least twice as many bacilli were found. In contrast with these results, only 28.4% of the smears made from the flocculation concentrate showed more bacilli than those made from the trypsin digested portion of the specimen, and of these only 7% showed twice as many or more acid-fast bacilli.

Inhibition of chemotherapeutic action of sulfapyridine by local anesthetics. H. M. POWELL, M. E. KRAHL, and G. H. A. CLOWES, Lilly Research laboratories.—Following Woods' observation of the antagonism between p-aminobenzoic acid and sulfanilamide on hemolytic streptococci in vitro, Selbie showed that oral administration of p-aminobenzoic acid could inhibit the chemotherapeutic effect of sulfanilamide on hemolytic streptococci infections in mice. Keltch, Baker, Krahl, and Clowes have shown that local anesthetics derived from p-aminobenzoic acid exhibit a blocking action against the *B. coli* bacteriostatic property of sulfapyridine and sulfathiazole, while certain other local anesthetics do not have this property. It became of interest to determine the effects of these two classes of local anesthetics upon the well known antipneumococcal chemotherapeutic action of sulfapyridine in white mice. This paper gave a preliminary report of these tests. The procedure and results were described. A demonstrable inhibition of pneumococcal chemotherapeutic action of sulfapyridine has been obtained by certain local anesthetics derived from p-aminobenzoic acid but not by certain other local anesthetics not derived from p-aminobenzoic acid.