

acid milk and alkaline milk was fed to 36 animals, 12 each, in ordinary temperature room. In the warm and humid room, 16 were fed plain milk, 8 each with lactic acid and alkaline milk. The mesenteric lymph glands for all 62 young dogs were negative by the guinea pig test.

Under ether anesthesia 50 cc. of saline containing 1 gm. desiccated ox bile, one fresh egg white and 100 mgm. *B. tuberculosis* was injected into the lumen of the duodenum of 7 dogs. 10 cc. of portal vein blood was removed 5, 10 and 15 minutes after intra-duodenal injection. Animals were killed 30 minutes after injection. The portal blood specimen and parts of liver showed an absence of *B. tuberculosis* by the guinea pig test.

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Antigenic Absorption Through Intact Vaginal Mucosa in Humans.

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The introduction of an antigen into the body by applying it upon some surface area has received considerable attention since Besredka's work upon this subject. We wish to report the results obtained so far upon the application of an antigenic substance upon the vaginal mucosa and the demonstrable antibody titer in the blood serum following the contact of the antigen with this body surface. The application of the antigenic substance upon the intestinal mucosa in the light of our previous observations is now being attempted.^{1, 2}

B. typhosus broth cultures were lysed by phage and passed through the Berkefeld filter. The vaginal mucosa was exposed with aid of a speculum and 1 cc. of the sterile *B. typhosus* proteins sprayed upon the wall of the vagina. Blood was obtained before and each week for 3 weeks after the one application of 1 cc. of the antigen.

Ninety-eight cases have been followed through the period of observation. Of these, 75 or 76.5% showed the presence of agglutinins after 3 weeks, 23 or 23.5% were negative. Table I shows

¹ Arnold and Finder, *PROC. SOC. EXP. BIOL. AND MED.*, 1928, xxv, 615.

² Arnold, *J. Hyg.*, 1929, xxix, 82.

TABLE I.
B. typhosus proteins (dissolved by phage) applied to mucosa of vagina. Agglutination titer 3 weeks after application.

No. Cases	Dilution	%
9	1:20	12.0
36	1:40	48.0
29	1:80	38.7
1	1:160	1.3

the average titer of agglutinins in the 75 positive cases. A group of 40 of the 98 cases were tested each week for 3 weeks. After 7 days 63% showed positive agglutination, 14 days, 72%, and after 21 days 80%. The agglutination titer remains constant for at least 6 weeks. Further work is in progress upon the antigenic absorption in pregnant women. The work upon the oral administration of antigens has not been completed.

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The Electrical Resistance of Live and Dead Tissue.

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It can be shown that the stationary temperature which results after sending an electric current through tissue for a considerable time depends mainly on 4 factors: (1) the current intensity, (2) the cross section of the tissue penetrated by the current, (3) the specific resistance of the tissue, (4) and the heat conductivity of the tissue, which depends primarily upon the blood circulation. The importance of this factor has been demonstrated conclusively by a recent investigation about the effect of electric currents upon the blood vessels.¹

The specific resistance is of prime importance, because, in addition to determining the heating effect of a given current, it also influences the path of the current, as soon as this resistance varies over the volume of tissue in question. Therefore the experimental determination of the resistance of the various tissues of the human body as of the animal is of great importance.

Omitting the meagre literature^{2, 3} about the subject I will describe

¹ Jaffé, Willis, Bachem, *Arch. Path.*, 1929, v, 244.

² Wildermuth, *Mittlgn. a. d. Grenzgeb. d. Med. u. Chirurg.*, 1911, xxii, 511.

³ Dowse and Iredell, *Arch. Radiol. a. electrother.*, 1920, 33.