

As to the nature of these diplococcus forms, it may be said that they are identical in appearance and size with the diplococci which Adami has found recently in the liver, associated with progressive portal cirrhosis, and which he has proved to be a variant of the colon bacillus. His very important investigations appeared in the MONTREAL MEDICAL JOURNAL in July, 1898, the British Medical Journal for October, 1898, and the Lancet of August 13th, 1898. He found diplococcus forms in all livers which stained a brownish hue and were probably dead forms, while in atrophic cirrhosis of the liver they were increased in number and stained well. He has, I think, established the fact that these forms are really a modified colon bacillus, and that the liver in health, is constantly excreting them, thus constituting a chief barrier of defence against bacterial infection from the gastro-intestinal tract. In experimental animals he found that in 15 minutes after intravenous inoculation with a pure growth of the *B. Coli*, the endothelium of the capillaries had enclosed the germs, and in two hours the bacteria were to be found within the parenchymatous cells of the liver. The germs which were of the ordinary colon type presented also diplococcus form. The diplococcus isolated from cirrhotic livers formed very minute colonies on nutrient agar and produced relatively little gas, but in other respects conformed well to the colon type.

With a view to discover if the colon bacillus is to be found in the urine of nephritis cases, I have examined the urine in one case of acute hemorrhagic nephritis, and in one of chronic interstitial. The method employed was to sterilise the meatus and glans penis then to allow the patient to pass several ounces of urine and collect the residue in sterilised flasks. These were then sealed and placed in the incubator for 48 hours. In the first case I obtained the colon bacillus, but it died out rapidly, and I was not able to study it very closely.

In the second case, the chronic interstitial, various forms were found as seen in Fig. I., Plate II. These were stout bacilli, either straight or curved with rounded ends, some with polar staining; they all resembled the ordinary colon forms. Besides these there were small ovate bacteria, and shorter more delicate bacilli with polar staining. There were also short chains composed of very short bacilli with rather blunt ends showing polar staining. All were negative to Gram. A broth transfer was made and after 48 hours all the usual forms of the *B. Coli* were seen with the addition of minute diplococci with a halo. These, owing to the crescentic form of the stained portions resembled gonococci. Small diplococci with halos were seen exactly resembling those seen in the sections, also a similar diplococcus, but larger.

When transferred to agar for 48 hours, a thick tallowy growth was produced, and microscopically the germs were short oval bacteria, very small, with the 1-12th oil immersion exactly like cocci; also numerous