

flammation as well, and a few rare diplococci were seen. The primary disease was septic peritonitis.

The amyloid fatty kidneys showed no germs.

Still more interesting and suggestive were the results found in the chronic diffuse, chronic interstitial, and the arterio-sclerotic type of the disease.

In the chronic diffuse nephritis, bacteria were found in all 11 cases. In two there were rather large diplococci, which might be the *diplococcus lanceolatus* as a lobar pneumonia was present. In five, small diplococci; in four short stumpy bacilli were seen with polar staining closely resembling the *B. Coli*. These were situated in the areas of round celled infiltration, beneath the basement membranes of the tubules, and in one case within the lining cells of the secreting tubules.

One case, in which the small diplococcus form was seen, was associated with atrophic cirrhosis of the liver.

There were 10 cases of chronic interstitial nephritis. In all were found the minute diplococci with a halo, mainly in the areas of round-celled infiltration, some few within the Bowman's capsules, and in one case within the cells of the tubular epithelium.

Figs. I. and II., Plate 1, show very well the diplococci in the small celled infiltration. In the 13 arterio-sclerotic and senile forms, three gave negative results, but the specimens were very poor; nine showed small diplococci with a halo, chiefly in the areas of round-celled infiltration, and also in one case in a glomerular capillary, in another, within a Bowman's capsule, and in a third with the lumen of a secreting tubule.

In two of the cases besides there were noted bacilli of varying forms. These were diplo-bacilli of small size, very short bacilli with rounded ends, a slender form with polar staining and others, large and curved conforming well to the usual appearance of the *B. Coli*.

To sum up, in the 45 cases of chronic nephritis of all forms, minute diplococci, as a rule with a distinct halo, were seen in 29, and bacilli having the ordinary appearance of *B. Coli* in 4 more. In only six were no bacteria seen, but this might easily be due to poor sections or errors in technique, for it is difficult in a large series of sections to get perfectly even results.

These diplococcus forms were very minute and might easily be overlooked with an ordinary 1-12th immersion. Sometimes it could be made out that they were really very short, fine bacilli with polar staining the intervening substances being almost colourless. They were generally in the areas of interstitial round-celled infiltration. Rarely I have seen them within the Bowman's capsules, and within the secreting cells of the contorted tubules; on one occasion within a lumen. The halo was probably not a true capsule, but due to the effects of refraction.