

Bacilli were much fewer in number, being mainly confined to the interlobular and straight vessels, but also being seen as shadows in the parenchymatous cells of the convoluted tubules.

Rabbit D., killed four hours after.

The bacteria were seen largely in the interstitial substances between the convoluted tubules; many were within the excreting cells showing as faint diplococci or short bacilli with polar staining. Some were also seen beneath the basement membranes of the tubules, and with the lumina.

The glomerular capillaries contained very few. The diplococcus form was noted to be much smaller than the usual colon type. Cultures from the urine were sterile.

Rabbit E., killed 24 hours after.

Marked parenchymatous degeneration of the secreting cells; very few bacteria could be seen, mostly in shadows beneath the basement membrane of the contorted tubules.

These simple facts are in accordance with the observations of Chiari, Adami and others. After the intravenous inoculation of an animal, bacteria are found in all organs, principally the liver, kidneys, spleen and bone-marrow, but after a short time, chiefly in the liver. It is important to note that the endothelial cells of the capillaries and the secreting cells of the convoluted tubules in the kidney, have the power of ingesting bacteria, rendering them for a time, at least, inert. The same thing has been shown by Adami in the liver, when within 15 minutes after inoculation, he observed bacteria within the endothelium, and in two hours within the liver cells themselves. I have seen the same ingestion of germs by the secreting cells of the contorted tubules of the kidney in the case of acute nephritis in lobar pneumonia, and in septicæmia. (Fig. 1, Plate IV.) The tendency of the bacillus to assume a diplococcus form is noteworthy.

Thus the liver and kidney parenchyma are shown to play an important part in the resistance of the organism against bacterial invasion. This resisting power on the part of the parenchyma, however may be diminished in many ways, particularly by chemical and bacterial toxins, thus permitting the more rapid passage of germs through the organs.

*Cavazzani*, (Ueber die Absonderung der Bakterien durch die Nieren. Otbl. f. allg. Path. u. path. Anat., iv. ii., 1893), found that after the injection into an animal of toxic substances such as cantharides or pyrogalllic acid, the kidneys permitted the passage of bacteria through their substance much more quickly than in the case of animals which were not so treated.

That the kidneys are a most important factor in the elimination of germs from the body is beyond question; they may do this when least