

Peyer's glands normal. There was no evidence of ulceration anywhere in the intestine, nor any evidence of healed typhoidal lesions. The duodenum showed marked inflammation on tops of rugae resembling the effects of chloride of potash.

*Stomach.*—Moderately small. Posterior aspect greatly congested, extending to lower end of oesophagus. Area of congestion has a characteristically velvety appearance. (Patient had been treated with Yeo's mixture.)

*Pancreas.*—Pale and glassy looking.

*Liver.*—Weight 1570 grms. Organ pale, flabby, with moderately obtuse edges. Slight fatty appearance. Bile ducts fairly full of bile. Not specially friable. No focal necroses recognizable. Gall-bladder distended and full of thin greenish bile. Common duct free. Old pericholecystitis.

*Kidneys.*—Supra-renals cavitated.

*Left Kidney.*—Weight 210 grms. Capsule peels off with ease. Cortex pale. On section cortex pale and much swollen. Consistency relaxed. Malpighian tufts and straight vessels congested. Fatty change. Sub-acute nephritis.

*Right Kidney.*—Weight 198 grms. Same as left.

*Genito-urinary System.*—Otherwise normal.

#### MICROSCOPICAL EXAMINATION.

*Lung.*—Areas of broncho-pneumonia. Section stained by Gram-Weigert method showed a vast agglomeration of the micrococcus lanceolatus about the pneumonic patches. By Löffler's method a few large bacilli were noted but did not resemble typhoid.

*Heart.*—Cloudy swelling.

*Spleen.*—Hyperplastic and congested. Infarction. Stained by Löffler's method, clumps of *B. Typhi* were seen in pulp. Decolorised by Gram.

*Liver.*—Severe parenchymatous degeneration amounting in parts to diffuse inflammation with necrosis. Some fatty change. Infiltration of leucocytes in portal sheaths. Proliferation of bile capillaries.

*Kidneys.*—Sub-acute parenchymatous nephritis. No bacilli seen.

*Pancreas.*—Slight necrosis of cells.

*Thyroid.*—Normal.

*Mesenteric Glands.*—Hyperplasia and acute congestion with commencing necrosis in the centre. By Löffler's method sections show *B. Typhi* in small numbers, in the characteristic clumps.

*Peyer's Patch.* A section was made through one of the Peyer's glands which presented the slight swelling. All that could be found was a proliferation of the lymphatic tissue in the sub-mucosa which was very generally infiltrated with lymphoid elements. This affected only the sub-mucosa. The patch was not congested and there was no evidence of necrosis. Stained by Löffler's method, in the deeper parts were found small clumps of bacilli resembling typhoid and which decolorised by Gram's method. On superficial part were numerous bacilli of various kinds, evidently intestinal bacteria which stained by Gram-Weigert method.

#### BACTERIOLOGICAL EXAMINATION.

Cultures from blood taken at autopsy were sterile. Serum gave the typical Widal-Johnston reaction. Cultures from the spleen on agar gave pure growth resembling typhoid. The bacillus was actively motile and negative to Gram. It was grown on gelatin, lactose agar, bouillon, potato and milk, and in every way corresponded to Eberth's bacillus. Litmus-agar cultures gave in our experience proved fallacious. Tested by the action of typhoid serum a typical Widal-Johnston reaction was produced. From the liver two varieties were obtained. One gave small round transparent colonies and when grown on the above mentioned media corresponded in every way to the *B. Typhi*, including the typical reaction to typhoid serum. The other presented colonies which were larger and more opaque than the first, and the growth on agar was more luxuriant and opaque in appearance than the typhoid. It however grew otherwise fairly characteristically, except that it curdled milk and did not give the true serum reaction.