

typhoid without specifying further. In a total of 4,896 cases of typhoid fever there are recorded 44 perforations or .9%—of these 44 perforations 43 died or .8%.—In the 4,896 cases there were 482 deaths from all causes—of the 482 deaths 43 were due to perforation or a mortality percentage of 8.9%, or nearly one in eleven.

Briefly the pathological course of a case ending in intestinal rupture is a proliferation of the endothelial cells of the lymphatics and blood vessels primarily of the lymphoid areas of Peyer's Patches and the solitary glands but extending therefrom, to the subjacent intestinal layers. This cellular blockade of the blood vessels impoverishes the tissues of the intestinal wall and lends intensity to the action of the typhoid, or mixed toxins till there is cut out of the intestinal wall a block of necrosed tissue, varying in shape mainly according to that of the originally infected lymphoid node though to a great extent also influenced by the area of tissue blockaded by the ischaemic process. This necrosed patch, unable to bear the intestinal pressure or movements, ruptures, and there is communication established between the intra- and extra-intestinal areas. The disturbed peritoneum in the immediate vicinity following its rule, throws out a plastic barrier which more or less surrounds the necrosing spot and may in favorable cases effectually limit the intestinal extravasation to such point that there is formed an adhesion to some firm, neighboring support or there collects a circumscribed quantity of matter which spreads in the line of least resistance and may ultimately point in various directions. Perforations are usually single and are found to be located most commonly in the two feet of the ileum proximal to the caecum upon the wall of the small intestine opposite to the mesenteric attachment; a choice of situation that anatomical features would favor; for it is in the upper ileum that the patches of Peyer and the solitary glands are most numerous and it is upon the portion of wall distal to the line of the mesentery that these are more closely clustered as well as most poorly supplied with blood vessels.

The microbic flora associated with the peritonitis ensuing upon a perforation is composed of Eberth's Bacillus, in com-