

menting on the preliminary reports of the investigation, that the experiments strongly suggest an actual internal secretion from the duodenum. It may take years to make the conclusion to which he thinks his experiments may lead scientifically acceptable, and he submits his present account of his work more for the importance of the idea than for other reasons. He asks to be allowed to start with the hypothesis that the obstruction causes no ill-effect save through an interference with the physiologic balance of the duodeno-jejunal secretions, and is purely physiologic. The nervous shock, which is more pronounced from cutting the intestine at this point than further down, is transitory, and experience has shown that it is not dangerous. It is therefore, he thinks, negligible as a cause of death. The bacterial infection causing pathologic death from wounds of the intestine are not frequent when the injury is in the duodeno-jejunal region. Bacteria are not found in the blood as a result of obstruction in this part. This is because the bacterial flora of the duodenum is very slight, and because death usually occurs before there is much, if any, impairment of the intestinal wall in these cases. Much has been attributed to the decomposition of food but experience has shown that if the stomach and duodenum had been emptied, death occurs just the same. It was accidentally noticed in a series of experiments for creating a delayed gastroenterostomy, that closure of the oral portion of the intestine (duodenum) almost always caused death before the cutting through of the delayed enterostomy by the McGraw ligature employed. Somewhere between the thirty-sixth and seventy-second hour, the experimental animals were seized with symptoms peculiarly resembling those of parathyreopriva, and frequently died in less than eighteen hours, the course from post-operative seeming health to death being usually very short. It was found that death would not occur in a medium-sized dog if the obstruction lay more than 35 cm. aboral to the pylorus, the addition of a relatively short portion of the jejunum to the oral loop sufficing to prevent the dogs from dying within this short period. It would seem either that the jejunum mucosa had the property of absorbing the poisonous products from the duodenal region, and in some way rendering them harmless, or else it secreted an enzyme which acted as an antibody for the poisonous products. His experiments also proved that the bile did not enter as a factor into this physiologic death, but that, quite irrespective of this, a large proportion of the dogs lived when the pancreatic secretions drained aborally, and that they died under stoma control when it was confined in the oral loop. We must however not forget that the secretions of the gastric mucosa may also be toxic, and that this toxicity may be