

sults were possibly vitiated in that he had not used washed tetanus bacilli, but the amount of toxin injected was very small. As far as the anti-tetanic serum was concerned it was merely preventive in effect. In reply to Dr. McKeown he did not think the mechanical effect was of any importance. As the oxygen is slowly absorbed it was not necessary to repeat the injection..

Dr. Primrose then read a paper on the Surgery of the Stomach and Duodenum in the Presence of Ulcer and Malignant Disease, an abstract of which follows:

The paper is based on 52 cases which have come under the author's observation. There were 12 cases of gastric ulcer, 15 of duodenal ulcer, 24 cases of gastric carcinoma, and 1 of the cardiac end of the œsophagus. The gastric cases presented the usual symptoms of pain, hæmatemesis and vomiting. Free hydrochloric acid is usually increased when the ulcer is near the pyloric end of the stomach, while it generally diminished when the cardiac end is affected. Some of the patients presented no signs till perforations occurred, one woman, aged 27, dying after an operation performed for such an occurrence eighteen hours previously. The relationship of carcinoma to ulcer of the stomach is discussed and reference is made to the results obtained at the Mayo clinic, where the majority of cancers of the stomach are believed to be engrafted on an ulcer. The author cited the case of a man aged 40, who had acute perforation, but owing to inability to close the opening because of the thickened wall, he resected the diseased portion, which turned out to be malignant. For this reason he favors the removal of the ulcer in all cases where it can be done safely.

Duodenal ulceration is nearly always of the chronic variety. The usual symptoms are pain, vomiting and blood by mouth or rectum. The pain comes two to four hours after food and is relieved by taking food. The attacks of pain and vomiting usually show a marked periodicity, with intervals of freedom from symptoms. As to operative treatment the ideal is a posterior gastro-enterostomy. He had been able to follow several of his cases over a period of years, and there can be no question of the permanent relief obtained in the large majority, if not all cases.

In arriving at a diagnosis of gastric carcinoma, valuable information, besides the absence of free HCL and the presence of lactic acid or the Oppler-Boas bacillus may be obtained by the Barium or Bismuth X-ray plates. The supra-clavicular glands, according to Osler and McCrae, are enlarged in 15 per cent. of the cases. Unlike gastric cancer, duodenal ulcer seldom results in malignant disease, but the author cites a case where such actually occurred, the growth being removed suc-