

and radiates to the right shoulder blade. It appears without the slightest warning and disappears just as suddenly. These seizures have no relation whatever to the injection of food, and are frequently accompanied by chills, fever, and sweats. Should a stone be occluding the common bile duct, periods of jaundice of longer or shorter duration will frequently follow the attacks of pain.

gastric region to the left shoulder blade. It is increased by the injection of food. The location of the ulcer may be partially determined by the period elapsing between the injection of food and the commencement of the pain. If along the lesser curvature, pain appears in from one-half to one hour. If in the pre-pyloric region in from one to three hours.

burning, gnawing character, and may be described as a "hunger pain," always appearing from two to four hours after meals, when the stomach is becoming empty. It is invariably relieved by food. An ulcer in the immediate pre-pyloric region will exhibit the same symptoms as one just beyond the pylorus.

#### VOMITING.

##### Gall-stones

Frequently accompanies the intense pain, and usually gives relief. Is of a greenish color and intensely bitter.

##### Gastric Ulcer

Is usually a prominent symptom. Occurs from one to four hours after a meal, according to the location of the lesion. These vomiting spells are usually accompanied or followed by distressing eructations of gas.

##### Duodenal Ulcer.

Nausea and sour eructations are prominent symptoms from the first, while vomiting in the later stages is always present. Commences as a rule from two to four hours after a meal, though in some cases will appear only once a day, or perhaps only every second or third day. Gas formation is typical of ulcer either just beyond the pylorus or in the immediate pre-pyloric vicinity. Is invariably relieved by food for a period of from two to four hours.

#### HEMORRHAGE.

##### Gall-stones.

Rare—and, if present, is only accidental.

##### Gastric Ulcer.

Probably 60 per cent. of all cases of gastric ulcer have hematemesis, which in the acute round variety is frequently fatal. Hematemesis is, strictly speaking, not a symptom, but rather a late complication

##### Duodenal Ulcer.

Many cases of duodenal ulcer suffer from sudden, severe fainting spells, to be followed almost immediately by blood in the stool (melaena). In this condition the stools have a tarry appearance. Microscopically blood is much more frequently found in feces in duodenal than in gastric ulcer.

#### STOMACH CONTENTS.

##### Gall-stones.

Usually normal.

##### Gastric Ulcer.

Usually an excess of hydrochloric acid. Blood may be found microscopically.

##### Duodenal Ulcer.

As in gastric ulcer, hyperacidity is frequently marked. Blood is not usually present in stomach contents, but may be discovered in the feces.