

The relationship of age and sex is in curious contrast to that in the gastric affection; for while in the latter, young females are the chief sufferers, in duodenal ulceration, on the contrary, the majority of those affected are males, between thirty and forty. In Krauss' collection of sixty-four cases, only six were females. The disease has been met with in the new-born infant,\* but it is rare in early life. As the ulcers in the two situations seem to be identical in pathology this difference is strange, and, at present, inexplicable.

Such constitutional conditions as erysipelas, septicæmia, albuminoid degeneration, diseases of heart and lungs, alcoholic excesses are given as associated with duodenal ulcer; they seem to have no influence in the causation of the same disease in the stomach.

A large proportion of the cases of duodenal ulcer reported have been in apparently exceptionally healthy men, living in healthy environments, and whose nourishment has been ample.

These ulcers occur in the first portion of the duodenum; the other two parts are affected no oftener probably than any other part of the small intestine. Physiologically the portion of the duodenum above the orifice of the bile duct is a part of the ventricular cavity, as its contents are identical with those of the stomach, the acid chyme not being altered until it meets with the bile and pancreatic fluid. This fact, together with the similarity of simple ulcers in the stomach and duodenum, leaves little room for doubt that both owe their origin to a common cause. As to the pathogenesis of these simple ulcers little advance has been made on the views originally expressed by Virchow and others, viz., that there was first, arrest of blood-supply to a portion of mucous membrane; then, secondly, solution or digestion of this ischæmic membrane by the gastric juice, hence the designation "peptic ulcer." The arrest of blood-supply may be due to such causes as embolism, thrombosis, extravasation of blood from trauma, degeneration of arterial walls, etc. Some believe that abrasion of the mucous surface by a hard indigestible substance may originate an ulcer, and that such cause would be more likely to be effective in the duodenum on account of its narrow lumen and fixed position. If this be so, it offers some explanation possibly for the more frequent occur-

rence of duodenal ulcer in males, and at a more advanced age than obtains in the gastric affection.

I should state that I have not included ulcers occurring in cases of burns in this description. They are acute in formation and may cicatrize quite rapidly; cicatrization has been known to be complete in a month. It is uncertain how long it takes the simple peptic ulcer of the duodenum to cicatrize; the time probably varies, as it does in gastric cases, from a few months to several years. With cicatrization complete, the sufferer is not wholly free from danger, as such untoward results as stricture of the gut, obstruction of the hepatic or pancreatic ducts, the portal vein or hepatic artery, are possibilities to be borne in mind.

The clinical history varies greatly in different cases. Even in those with the most marked symptoms it is at least questionable if we can give more than a very probable diagnosis, as there will always be an element of doubt. The phenomena on which Bucquoy, Johnston, and others, have laid most emphasis are: 1. Sudden intestinal hemorrhage in an apparently healthy person, tending to recur. With or preceding this there may be hæmatemesis, if the bleeding has been sudden and free, so as to regurgitate into the stomach. 2. Pain in the right hypochondriac region, occurring late after meals—two to four hours. 3. Gastric crises of extreme violence and without reference to food. Hemorrhage is apt to occur at the time of these crises.

Of these symptoms the intestinal hemorrhage is considered the most important. Occurring in the absence of such common lesions as hæmorrhoids, dysentery, malignant and tubercular disease, and the hemorrhagic diathesis, duodenal ulceration, it is said, may be recognized by this one symptom alone. Yet fatal intestinal hemorrhage has occurred without any of these causes, and no ulcer been found in the stomach or duodenum.

The occurrence of pain after meals is not present in nearly all the cases; not probably in more than half of them, if in so many even. Its cause is usually referred to the passage of the chyme through the duodenum, in which case the pain should begin within half-an-hour after the meal, *i. e.*, as soon as the chyme begins to pass, unless it be due, as some believe, to the greater acidity of the latter part of the chyme.

\**American Journal of Medical Science*, Vol. ii., 1888.