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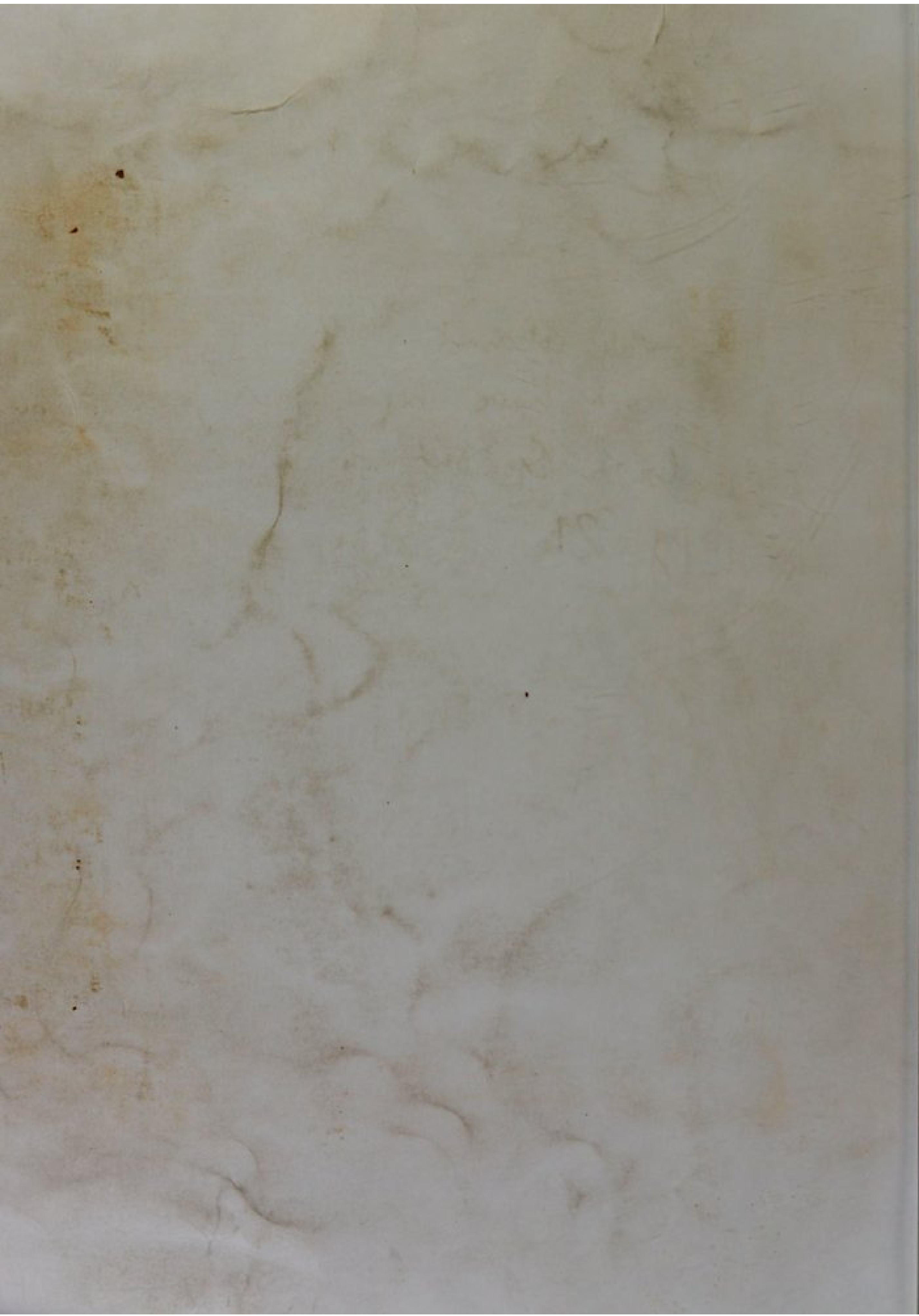

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Hæmatemesis from Gastric Ulcer; Notes on Over Two Hundred Cases.

BY

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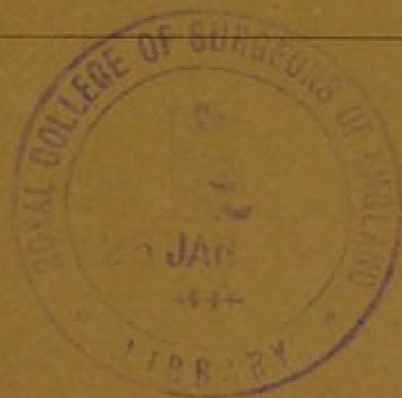

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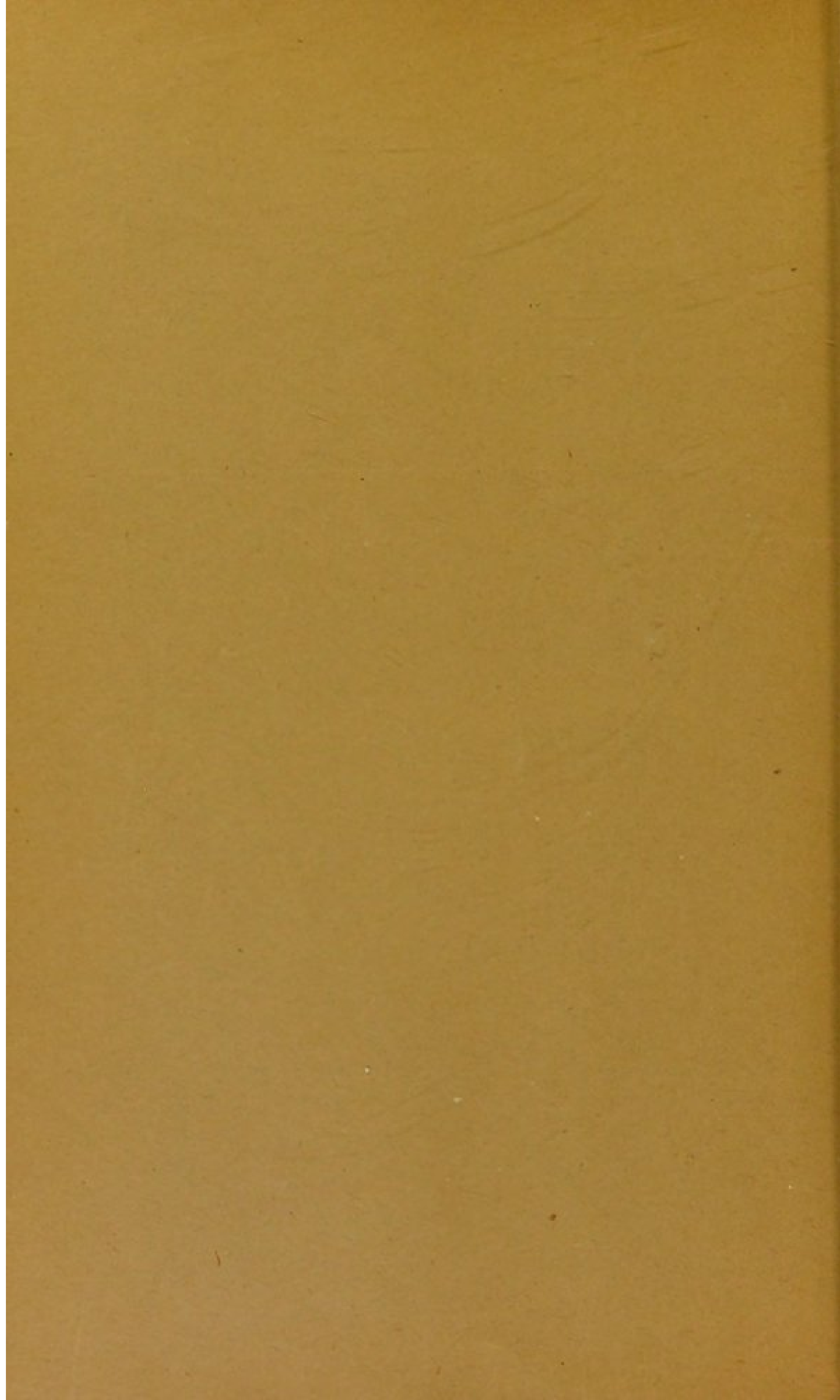
SEPTEMBER, 1905.



Extracted from the American Journal of the Medical Sciences, September, 1905

HÆMATEMESIS FROM GASTRIC ULCER; NOTES ON OVER TWO HUNDRED CASES.[1]

By W. Gilman Thompson, M.D.,
of New York.

The present inquiry was undertaken with the view of formulating the indications for operation in cases of gastric ulcer. The cases have been collected from the records of the Presbyterian and Bellevue Hospitals, and from private sources, numbering collectively more than 200.

During the past sixteen years there have been treated at the Presbyterian Hospital 195 cases in which the diagnosis of gastric ulcer has been made, including 167 females and 28 males—a proportion of 6 to 1.

The most interesting feature of these cases is the fact that so large a number, considerably more than one-half, were discharged as "cured" after serious hæmatemesis which occurred either immediately before admission or during the patient's stay in the hospital, or both. The exact figures are as follows:

Hæmatemesis: "Cured" under medical treatment	111
Improved " "	19
Unimproved " "	3
Died " "	41
Melæna without hæmatemesis	1
Ulcer without hæmatemesis (cured)	20
	195

The total deaths, numbering 41, present a ratio of 1 death to 4.8 cases. Included in the deaths which took place among the unoperated cases were several in which the ulcer was not the whole cause; thus half a dozen patients died from pneumonia, 1 with abscess of the pancreas, 1 with pyonephrosis, 1 with pyopneumothorax, and 3 with a subphrenic abscess. One patient had a gastroureteral fistula. In 8 of the unoperated cases and in 3 of the 20 which were operated upon, the patients died from the immediate effects of hemorrhage into the stomach, which was found at autopsy filled with blood. In 1 case, for example, the patient lost eighty ounces of

[1] Read before the Association of American Physicians, May 16, 1905.

blood by actual measurement during the three days that she was in the hospital prior to operation. That such a patient should die upon the operating table is no surprise, although the question might be raised as to the propriety of operating at all, for the situation is very nearly as desperate as operating for a ruptured aneurysm.

Twenty cases were transferred to the surgical division of the hospital for operation, of which 14 proved fatal and 6 were discharged as "cured." Of the 14 fatal cases, 4 presented a septic peritonitis from perforation, and were nearly moribund at the time of operation. Another, as stated above, was moribund from hemorrhage, a sixth was found to have a perforated duodenal (not gastric) ulcer, and a seventh proved fatal on the thirteenth day, a recent perforation having been disclosed at operation. No one of these 7 cases should, therefore, be considered as having any real bearing upon the operative treatment of gastric ulcer, for they all presented a forlorn hope, 2 patients dying on the table and 4 within twenty-four hours.

Among the 7 other deaths one was quite unaccountable. The patient, an Irishwoman, twenty-eight years of age, gave an acute history, including much gastric pain, hæmatemesis and melæna. She had had serious gastric hemorrhage the day before the operation, which revealed nothing abnormal. The stomach appeared normal in size; there was no cicatrix, no visible ulcer, and no hemorrhage. She rallied from the anæsthetic, but died within twenty-four hours with a temperature of 105°. The cause of death, unless it was shock, with unusual temperature, could not be determined. Another patient proved to have a general tuberculous gastritis with hemorrhage. She also died within twenty-four hours. (This case was reported to the Association by F. P. Kinnicutt in 1902.) Another patient died from shock within twenty-four hours after operation. She had been in the hospital a year before for hæmatemesis, from which she was discharged "cured."

It appears that among the 20 operated cases the medical diagnosis was erroneous five times, there being 1 case of tuberculosis of the stomach, 1 of perforating duodenal ulcer, and 3 in which no ulcer was discoverable. From a further analysis of these 195 cases it appears that operative measures can rarely be relied upon for the cure of active hæmatemesis, and that also in many cases operation was delayed until the conditions present were too serious to admit of recovery. When successful results are to be anticipated, they are to be looked for in the category of cases with adhesions, cicatrices, and stenosis chiefly, and in operation such as gastro-enterostomy performed between, rather than during, attacks of hæmatemesis. In 2 private cases the only operation consisted in separating adhesions which bound the base of an ulcer near the pylorus to adjacent structures (the pancreas, intestine, etc.), and the stomach was not opened. Both patients have remained in the

best of health, one for five and one for four years. One is a woman forty-eight years of age who, four years prior to operation, nearly lost her life through excessive hæmatemesis, and suffered constantly thereafter from gastric pain and distress, with almost constant nausea and frequent vomiting. She refused my entreaties to submit to operation until she was so feeble as to make it a last hope, and she so nearly died upon the table that gastroenterostomy was not performed. The adhesions covered the base of an enormous ulcer, 5 by 3 inches across, and bound the stomach to the diaphragm and duodenum. For several days after operation violent hæmatemesis occurred, but none has taken place since, and, as stated above, the patient at present, after five years, is in robust health, eating any sort of food in reason. Prior to operation, for a long time I was able to distinguish two varieties of pain, one apparently referable to the ulcer, and another which appeared to be due to adhesions, and was excited by peristalsis induced by natural movement of the bowels and catharsis, by forced diaphragmatic movements, and by manipulations of the thin abdominal wall, especially by coughing while deep abdominal pressure was made against the diaphragm. The operation proved the correctness of this distinction, one which I have been able to make in several other cases. A third case was that of a woman who had been under my observation for half a dozen years with symptoms of moderate gastric dilatation. She never at any time presented any of the symptoms of gastric ulcer, yet when a gastroenterostomy was performed the cause of the dilatation was found to consist in a pyloric ulcer with cicatrization, which greatly narrowed the orifice. I will cite only two other personal cases in illustration of the difficulties which may attend diagnosis of gastric ulcer, even in the presence of hæmatemesis. In one of these cases the patient was operated upon for persistent hæmatemesis with a typical history of gastric ulcer. A small peptic ulcer $\frac{3}{4}$ inch in diameter was found near the pylorus, bleeding actively from its round periphery; considerable blood was also found in the stomach; the ulcer was excised and the patient made a complete recovery. The other case in contrast was clinically even more complete, yet the operation revealed nothing. The patient, a woman thirty-eight years of age, gave a classical history of gastric pain, epigastric tenderness, distress after eating, repeated attacks of hæmatemesis, with increasing weakness and emaciation, symptoms which lasted through many months. During a fortnight's stay in the ward the patient had serious attacks of hæmatemesis, and as there was no improvement under medical treatment, I advised operation. The stomach was opened and the surgeon who operated explored the interior thoroughly with an electric light; the mucosa appeared slightly granular and congested, but there was no hemorrhage, no cicatrix, and no sign of any ulcer. The incision was therefore closed, and the patient died three days later from exhaus-

tion following repeated vomiting. Hence, it sometimes happens that diagnosis of the *exact* condition is extremely difficult as between hemorrhage from a circumscribed ulcer which may be cured by operation and that from a generally congested mucosa which may not be so cured. In none of the cases cited in this study has the chemical analysis of gastric contents proved of determining value, for the results have been too variable, not rarely in the same patient on successive days ranging from anacidity to hyperacidity. Additional difficulty is encountered in the variability and inconstancy of all the so-called "cardinal symptoms," and in fact that any one symptom, such as pain, vomiting, or tenderness which has been present steadily for a long time, may spontaneously disappear or give place to another.

I am not yet prepared to accept a definite clinical classification of gastric ulcer into acute and chronic types based upon hæmatemesis, as attempted by Moynihan, Samuel and W. Soltan, and others.

This classification is based chiefly upon the fact that a number of cases occur in which there is a sudden single hemorrhage followed by complete and permanent recovery under medical treatment, whereas, with chronic ulcers there may be repeated small or large hemorrhages and other gastric symptoms recurring at intervals through months or years. Of course, if a patient has a single severe hemorrhage, without protracted previous symptoms, and never has any further symptoms after recovery, the case may be styled "acute," but many chronic cases of which I have records begin in this acute manner. One of the operated personal cases described above was of this type. Again, there may be no hemorrhage and the patient may yet die of perforation.

For these and similar reasons it does not appeal to me to accept a hæmatemetic basis of classification. In other words, a single large hemorrhage may denote a chronic ulcer, equally with an acute one. After all, the important difficulty lies not in trying to separate the gross ulcers into varieties, but in differentiating such cases as the three operated upon at the Presbyterian Hospital in which no gross lesion was found, *i. e.*, the cases of diffuse punctate hemorrhage. These cases suggest those of early hæmoptysis without discoverable bronchial ulceration, and the early hemorrhage of typhoid fever which arises during the congestive stage, before the ulcers are well defined. They also resemble those cases of hæmatemesis which result from congestion in chronic endocarditis and hepatic cirrhosis with portal obstruction, yet no such lesions are found to explain them.

I have not attempted to trace the after-history of the patients who were discharged from the hospital as "cured" cases of hæmatemesis, for owing to the peculiar social conditions existing in New York this is well-nigh impossible. The great majority of hospital cases occur among young women, many of them foreigners, who belong

to the social order of domestic servants, seamstresses, factory, operatives, etc. They constitute a floating population to a large extent, and are constantly changing their address, for the servants change their employers, and others rarely occupy the same lodgings for more than one or two consecutive years. If a subsequent attack of hæmatemesis occurs, the patient is quite likely to go to a different hospital, nearer perhaps to a changed residence. It would not be possible to trace successfully the after-history of more than 10 per cent. of this series which extends over a period of sixteen years, and partial statistics of this sort are decidedly misleading.

A better result is obtained, I think, by reviewing the past records derived from the patients on admission to the hospital, many of whom give a history of repeated attacks extending over a period from one or two, to a half dozen years or more, showing that a complete or permanent cure is comparatively rare. Among the cases discharged as "cured" were some in which repeated hæmatemesis had occured during five to six years

To estimate the mortality of gastric ulcer by statistical methods is liable to misinterpretation. For example, J. W. Russell[1] states that 42.6 per cent. of patients recover.

To say that more than 55 per cent. of patients with hæmatemesis received into the Presbyterian Hospital (111 cases out of 195) were discharged as "cured" is of little prognostic significance, for they might nearly all die within from one to six years of hemorrhage, perforation or other complications, and I do not think any patient should be regarded as "cured" unless an interval of at least five years of health shall have followed the attack, and even in such cases the diagnosis may haye been wrong, and the original hemorrhage due to congestion, punctate erosions, chlorotic anæmia or other cause, and not to peptic ulcer.

It is admitted that the cases studied for this review do not appear perhaps to make a very strong argument in favor of operation, but many came under operation too late, and most were operated upon before the recent advances in the technique of gastric surgery.

On the other hand, a total fatality of 41 cases among 195 and a possible much larger mortality among those which have not yet run their course, should constitute a plea for earlier surgical intervention in fairly typical cases.

The mortality from cases of gastroenterostomy for gastric ulcer appears to be gradually lessening under improved technique.

Thus, in 1897 von Mikulicz[2] gave it as 16.1 per cent. for 238 collected cases, and in 1900 Mayo-Robson[3] gave practically the same figure, 16.4 per cent. for 188 collected cases, for all compli-

[1] Lancet, January 30, 1904.
[2] Centralbl. f. Chirurgie, 1902, 1897, p. 69.
[3] Philadelphia Medical Journal, May 25, 1901, p. 1005.

cations except active hemorrhage and perforation, and a year later the mortality rate for his own cases was only 5 per cent. B. G. A. Moynihan's[1] figures are 153 gastroenterostomies for ulcer with only 2 deaths, and in 22 cases of gastric hemorrhage which apparently would have soon proved fatal there were 19 recoveries after operation.

Joseph A. Blake, in an article upon "The Surgical Treatment of Gastric Ulcer," published December, 1904, in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, states his opinion "that a single large hemorrhage, without previous symptoms referable to ulcer, should not be operated upon, but when there have been antecedent symptoms operation should be performed." Also that "cases suffering from a recurrent hemorrhage should be operated upon."

In these views I concur and would add that those chronic cases also should be operated upon in which the patient's life is either made miserable through pain or endangered through persistent vomiting and emaciation, provided medical treatment tried for two or three weeks has failed to produce any improvement. Let the surgeon be given the advantage of dealing with cases not already made almost hopeless through anæmia, ulcers on the verge of perforation or complicated by a mass of perigastric adhesions. To offset these grave dangers early operation (gastroenterostomy) offers freedom from further hemorrhage, from chronic hyperacidity, pain, traumatic irritation of the ulcer by food, motor insufficiency, and gastric dilatation. Blake makes the further assertion that in the early operative cases the patient may be subjected to less shock than in most cases of appendicitis.

Some additional data derived from a series of 107 cases occurring during the past eight years may be of interest as bearing more or less directly upon the subject and the possibilities of operative interference. Although the ages of the patients range from seventeen to sixty-nine years, 51, or nearly one-half of this series, occurred between the twentieth and thirtieth year, and were observed as follows:

Seventeen to twenty years, 10 cases; twenty to thirty years, 51 cases; thirty to forty years, 34 cases; forty to fifty years, 7 cases; fifty to sixty years, 5 cases.

Of the 28 cases among males, more than one-fourth occurred among those whose occupations predispose to metal poisoning. Thus there were 3 coppersmiths, 2 printers, 3 painters, and 1 pianomaker. All but 8 were more than thirty years of age. Some years ago I lost a patient from foudroyant hæmatemesis, a man forty years of age, who for three years had taken large quantities of arsenic. A physician had prescribed it for chronic acne and

[1] British Medical Journal, April 8, 1905.

eczema, and the patient, unaware of its baneful effect, had continued its daily use upon his own responsibility. The hemorrhage was the only symptom of ulcer, but it proved fatal during one night and I attributed it to a probable ulcer from this form of metal poisoning.

To the above list of 195 cases may be added 6 which occurred in Bellevue Hospital during the past year, of which 3 were males and 3 females. Of these 1 was cured, 1 improved, 1 died of hemorrhage, and 3 were unimproved—All had hæmatemesis. The ages of the three males were respectively forty, forty-one, and fifty-one years. In January of this year two more cases occurred among males.

One patient, thirty-six years of age, was discharged improved after hæmatemesis, and one fifty-four years of age died after operation with perforation of pyloric ulcer. He had no hemorrhage at any time (he was a painter).

(The 8 cases, added to the previous 195, make a total of 203 hospital cases.)

The influence of social status upon the etiology of gastric ulcer is well exemplified in a comparison of the records of Bellevue and the Presbyterian Hospitals for the year 1904. In Bellevue, with 17,765 medical cases treated during that year, there were only 6 cases of gastric ulcer in the entire service, one of the four divisions having none at all—approximately 1 case in 3,000. In the Presbyterian Hospital, with 1218 medical cases treated, there were 15 of gastric ulcer, a proportion of 1 case in 80. In Bellevue, with 7595 surgical cases treated, but one operation was performed for gastric ulcer (which proved to be a complication of carcinoma), against 1925 operated cases in the Presbyterian Hospital, with 4 for gastric ulcer. The majority of gastric ulcers occur among the servant-girl and seamstress class, patients who are more likely to seek private than municipal hospital relief, either from a species of natural selection or because their well-to-do employers are in the habit of contributing to the financial aid of private hospitals; hence they become interested in them and refer their dependents to them. The municipal Bellevue Hospital abounds in cases of alcoholic gastritis, gastric carcinoma, syphilis, arteriosclerosis, privation and starvation, yet these prove to be comparatively infrequent etiological factors. There were 144 cases classed as "gastritis" in Bellevue in 1904. What is there in the dietetic or other habits of life of the serving-woman class that predisposes to this definite lesion of the stomach wall? It can hardly be their frequent diet of tea and toast, nor tight lacing (Rasmussen); yet what is it? I raise the question as an interesting one, but cannot answer it.

I have examined also the records of cases treated at the Cornell Dispensary since its foundation five years ago. There have been in the General Medicine Clinic alone 13,500 cases, with only one of gastric ulcer—a male, a metal polisher, forty-nine years of

age. He had had gastric symptoms for eight months, including hæmatemesis. I was greatly surprised by these data, the more so because Dr. William Armstrong, of my staff, has for several years devoted his time to making analyses of stomach contents as an aid to diagnosis. He reports that among 150 cases lately studied he has not once been enabled to make the diagnosis of gastric ulcer.

These data are of interest in showing the relative frequency of occurrence of gastric ulcer among certain classes of the community.