

CASE OF ACUTE DILATATION OF THE STOMACH, FOLLOWING LAPAROTOMY.

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THE following case is sufficiently rare to warrant careful record and consideration. It carries with it some instructive features, which will be briefly alluded to after relating the case itself.

The patient, E. H., aged twenty-five, was admitted to the Woman's Hospital April 27, 1887. She had been married four years, but had never been pregnant. Menstruation began at sixteen, and was always irregular and painful, and, until quite recently, profuse. She had been suffering for over four years with constant pains in the lower part of the abdomen, much aggravated by standing or walking. For four years she had had a right inguinal hernia, for which she had worn a truss. She was very nervous, and had a poor appetite and digestion, but was not emaciated. She had been the subject of long-continued, varied, and judicious treatment, including the thorough use of galvanism; but nothing had been of any avail for her relief, and she was growing gradually worse.

Physical examination revealed marked ante flexion, with prolapsed, enlarged, and excessively tender ovaries. After consultation with two of my colleagues, and an examination of the patient under ether, I decided to perform Tait's operation. Before doing so, the patient was subjected to a careful examination of the lungs, heart, and other organs, but nothing abnormal was detected. There was nothing unusual to direct attention to the stomach, as the patient had not suffered from vomiting, though there had been nausea during the menstrual period, as is usual in ovarian disease.

The operation was performed in the usual manner : An incision two and one half inches long was made midway between the umbilicus and the pubes. The right ovary and tube were found to be adherent in one mass, and were with some difficulty detached and removed. There was less disease of the left ovary and tube, but they were removed also. Both pedicles were tied with catgut, without transfixing (as has been my custom for some time past), and dropped back. As there was very little bleeding from the adhesions, no drainage-tube was used. The abdominal wound was closed with two deep silver sutures and superficial sutures of catgut.

The progress of the case was as follows :

First Day.—There were nausea and some vomiting, but not more than often follows the use of ether. Temperature normal ; pulse, 96.

Second Day.—The vomiting continued in the morning, but in the evening small quantities of milk and lime-water were retained for several hours. Temperature in the evening, $100\frac{3}{4}^{\circ}$; pulse, 90. Two ten-grain doses of antipyrin were given, two hours apart.

Third Day.—A little whiskey and water was retained in the morning, but vomiting recurred in the evening. Temperature, $100\frac{1}{4}^{\circ}$; pulse, 90.

Fourth Day.—Vomiting continued. Calomel, one-tenth grain, was given every half hour for three hours. Gas escaped freely by the mouth and rectum. There was slight nausea, but no vomiting. Severe pain was complained of in the abdomen, and there was some distention. Nutritive enemata were given every six hours. Temperature, 99° ; pulse, 100.

Fifth Day.—Bowels moved freely, and there was no vomiting, but the patient had an anxious, haggard look, and was supposed to be developing a low grade of peritonitis. There was some distention of the abdomen, and much vesical irritation. Temperature, 99° ; pulse, 100.

Sixth Day.—The patient drank and retained a considerable quantity of water, but in the evening vomited, with very little effort, a large quantity of greenish fluid. There was some tympanitis, and sharp abdominal pain. The bowels moved slightly. Temperature, $99\frac{1}{4}^{\circ}$; pulse, 100.

Seventh Day.—There was so much tympanitis, with constant vomiting, that I seriously considered the propriety of opening the abdomen to reach the cause of what I supposed to be septic peritonitis, and to wash out the abdomen, as I had done successfully before; but the weak condition of the patient, and the intermittent pulse, seemed to contra-indicate that course. The patient vomited, at one time, nearly a quart of thin greenish fluid, but there was at no time any fecal odor in the fluid ejected. Temperature, $101\frac{1}{4}^{\circ}$; pulse, 135.

Eighth Day.—The patient continued vomiting apparently a larger quantity of fluid than that taken into the stomach, and died of exhaustion.

The following is an abbreviated report of the appearances noted by the pathologist, Dr. Coe, at the autopsy:

The body was somewhat emaciated. The abdomen was much distended, the distention being most prominent to the left of the median line, above the umbilicus. Percussion gave a mixed dull and tympanitic note. The abdominal wound was firmly adherent, and presented no evidences of suppuration.

The heart was of normal size and appearance, and distended with fluid blood. A few miliary nodules were found at the apices of both lungs. At the apex of the right lung there was a cavity as large as a walnut, the walls of which were soft and sloughy. There was extreme distention of the entire bronchial mucosa, with diffuse gangrene of the right lower lobe, evidently due to the inhalation of catarrhal fluid from the stomach, which filled the smallest bronchioles. There was general distention and cedema of the left lower lobe.

The abdominal cavity was entirely filled by the dilated stomach, which extended to within three inches of the symphysis pubis, displacing the small intestine, transverse colon, and omentum, which latter was slightly adherent at a point within the inguinal canal, at the site of an old hernia. The gut was collapsed and entirely empty. There was no fluid in the cavity, nor were there any evidences of peritonitis. The stomach contained a gallon of black, sour-smelling fluid of low specific gravity. There was no obstruction whatever at the pylorus. The serous covering of the organs was extremely pale. The

mucous membrane showed evidences of chronic catarrhal inflammation, and there was marked general atrophy of all the coats, especially the muscular coat. There was intense hyperemia of the mucosa along the greater curvature. The spleen, liver, and right kidney were normal. The left kidney was intensely congested, and the renal vein much dilated, apparently from the direct pressure of the stomach, which rested upon it.

The uterus, bladder, and rectum were normal. The pedicles presented a healthy appearance, and were secured by the catgut ligatures, which had undergone no change since the operation.

The inference was that death had probably occurred from exhaustion, little, if any, nourishment having been assimilated after the operation.

There was no evidence in this case of the existence of any degree of dilatation of the stomach before the operation. There are cases on record of rapid dilatation occurring under almost similar circumstances, but the cause of this lesion is very obscure. It is interesting to note incidentally that the patient in this case had a right inguinal hernia (omental), a condition which, Kussmaul claims, may cause or at least aggravate dilatation of the stomach, by direct traction on the fundus. There was no chronic obstruction at the pyloric orifice, nor was there any evidence of spasmodic contraction. Relaxation, and not contraction, is the only condition supposable. The stomach had so completely lost its tone that it had not sufficient power to force its contents onward, and the vomiting latterly was rather an overflow than the result of any action of the stomach.

The literature of the subject, as far as I have been able to ascertain, is scanty.

Hilton Fagge (*Princ. and Prac. of Medicine*, vol. ii, page 117) mentions a case of acute gastric dilatation, and adds: "It may be a question whether there are certain very rare cases in which rapidly fatal collapse occurs after the gastric symptoms of at first no particular severity have lasted a few days or a week, and it ought not to be regarded as due

to the supervention of a very morbid state upon one of catarrhal inflammation." He cites two cases in which the physical characteristics were (1) rapidly increasing symmetrical enlargement of the abdomen; (2) dullness in the pubic region, with resonance over the front of the abdomen; (3) a splashing sound on manipulation.

The same author (*Guy's Hospital Records*, vol. xviii, page 1), in a paper on "Acute Dilatation of the Stomach," has a figure which is almost identical with the appearance in the present case. He describes two cases at length, the condition in the second being quite similar to that in this case. In neither instance could cause be found for the dilatation, and it is particularly stated that there was no change in the coats of the stomach. Fagge refers to four other similar cases. His principal deductions are: (1) Acute dilatation may occur in young subjects previously healthy. The actual enlargement is probably gradual, there being no symptoms at first; but when symptoms occur they are sudden and may destroy life in a few days. (2) The symptoms are those of severe abdominal disease, but not of peritonitis. The eyes are sunken and surrounded by brown rings, and the features pinched. There is vomiting at first, but later the stomach is paralyzed and can not empty itself. There is more or less constipation. The urine is very scanty.

Goodhart (*Trans. London Path. Society*, vol. xxxiv, page 88, 1883) reports nine cases of "dilated stomach not due to pyloric obstruction." It is noticeable that Case 8 was that of a woman who died nine days after ovariectomy had been performed, the following note being made: "The stomach symptoms were considerable. Two days after the operation flatulent distention of the abdomen was noted. Four days after, the patient was very sick and weak, and six days after there was vomiting. The stomach was extremely dilated; there was not much evidence of peritonitis."

Case 9 was that of a man aged twenty-nine, whose knee was excised under chloroform. He vomited every few minutes for seventy-five hours, and finally died of exhaustion. The

autopsy was performed by Dr. Fagge, who notes that "the stomach was dilated, reaching down to the umbilicus; its walls were thin; its mucous membrane had undergone solution to some extent, and it contained a large quantity of thin, greenish-brown fluid, etc. . . . The air-passages contained a quantity of the same fluid, which bubbled out of the finer tubes on pressure; and in the back part of the right lower lobe were large patches of lung-tissue uniformly stained by the fluid, which must have been sucked in during life."

In none of these cases was dilatation suspected during life; hence, the clinical data are imperfect. The writer arrives at the conclusion that "paralysis of the viscus is, if not the determining cause, at any rate an accompanying condition."

Morris reports a case of "acute gastrorrhea and acute dilatation of the stomach" after chloroform anesthesia (Case 9 before referred to), the following condition being noted *post-mortem*: The stomach occupied almost the whole of the front of the abdomen and reached to within three inches of the symphysis pubis. The stomach contained twenty-eight ounces of grumous fluid; the sub-mucosa and mucosa were stained and injected, and the coats thin. The small intestines were congested on the peritoneal surface and were nearly empty. The colon was collapsed. There was no obstruction. The author explains the vomiting and dilatation as "due to the enormous quantities of gastric fluid secreted; and this is due to some error either of the nerve influences or circulation of the stomach. . . . This over-secretion," he adds, "may proceed naturally or interruptedly, and thus slowly wear out the patient; or, secondly, it may be more rapid, so that several quarts may be evacuated in twenty-four hours, and after this the vomiting may cease, owing to the palsy of the coats of the stomach and abdominal muscles, and the patient will die with many quarts of the same kind of fluid accumulated within the dilated organ; or, thirdly, the secretion may be rapid, the vomiting existing from the first,

and yet the patient dies with the stomach dilated and with many ounces or even pints within it."

Andral (*Clinique Medicale*, tome ii, p. 114) reports two cases of dilatation with absence of obstruction, although these were rather of a chronic character.

Hughes Bennet (*Prac. of Medicine*) also reports a case.

The case which I have reported is of special interest in connection with laparotomy, as presenting one of the possibilities which may be encountered at any time without warning. I do not believe in my case it was possible to foresee, or guard against, or anticipate the condition of the stomach with which we had to deal.

There is some excuse for failing to recognize a condition so exceedingly rare, and simulating so closely other conditions not unusual after laparotomy. The distention, the pain, the pulse, and the temperature corresponded almost exactly with those of septic peritonitis developing slowly after an operation where pelvic adhesions have been separated. It is fortunate that neither opening the wound nor puncture were resorted to, though both were seriously contemplated.

The question naturally arises whether, had the condition been recognized early, anything could have been done for the patient's relief. In the early stages of the dilatation it would certainly have been justifiable to resort to the stomach-tube; but later, when the walls of the stomach were exceedingly thin, its use would have been accompanied with much danger.

The practical lesson to be drawn from this case is one looking to constant vigilance as to the condition of all the organs and functions of patients who are submitted to surgical operations. Many of the deaths that follow laparotomy are due to causes not referable to the pelvic organs or to the operation, but to diseases which, perhaps more often than we are aware, determine the result in cases where the cause of death is obscure, or is perhaps erroneously ascribed to septicemia or peritonitis.