ACUTE INTESTINAL OBSTRUCTION DUE
TO GALL-STONE

REPORT OF CASE

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Among the causes of intestinal obstruction listed in the text-books, such as bands and adhesions, volvulus, Meckel's diverticulum, etc., obstruction due to gall-stone is also mentioned, although it occurs so rarely that many men of large experience go through a long professional career without having seen a case. Because of its relative infrequency, as well as from the interest which is naturally felt in cases of this character, the great majority of cases in which it is recognized are matters of record. This is especially true when the diagnosis is confirmed, or the condition discovered at the time of operation (for it cannot be denied that most cases have escaped definite diagnosis beforehand). It follows that the literature of this subject is fairly comprehensive.

I shall confine myself therefore to a report of my own case, with a brief discussion of some of the more interesting features, referring those who may care for a more thorough investigation to the numerous articles on this subject.

On April 2, 1913, I was asked to see Mrs. W., who for four days had been persistently vomiting large quantities of greenish fluid. All attempts to move the bowels during this period had failed, although five days before, as a result of a purgative, there had been five or six free movements. The obstruction therefore was acute.

History.—The following history of the patient prior to the time at which I saw her was given by her physician, Dr. O. B. Ross of Charlotte, N. C. The patient was a white woman, aged 60. Her father died of old age. The mother died of erysipelas at 45. There were four brothers, of whom two were killed in war and one died suddenly, and three sisters, of whom one died from unknown cause. The patient had measles at 12, and no scarlet fever or diphtheria. She had typhoid fever at 22 and was in bed for four weeks from this cause. During the last ten years she had suffered from several attacks of gout. Eight years ago she had an attack of renal colic and passed a calculus; one year later the patient passed another stone, but has had no attack since. She is the mother of eight children, six of whom are alive and in good health. She has never suffered from jaundice or any symptoms referable to gall-bladder.

Present Illness.—This began March 29, 1913. There was slight stomach disturbance and pain in the right side, which the patient thought was another attack of renal colic. About 5 p. m. of the same day she vomited a large amount of greenish material. She had taken a purgative and her bowels had moved six or eight times the day before. She vomited three times during the day. The liver was not enlarged. There was slight tenderness over the twelfth rib anteriorly. There was no tenderness over the gall-bladder region and no fluid in the abdominal cavity. The heart sounds were fair but rather distant while the patient was lying down. Temperature 99.6 F. Pulse 82. Vomitus from 8 to 15 ounces and very green.

Examination.—The urine was of light amber. Specific gravity 1.020. There was a trace of albumin and also of pus; there was no sugar, few casts, uric crystals and no blood.

March 31, 1913. Leukocytes 9,400. The temperature did not go over 99 F. during the day. Large amounts of green fluid were vomited at intervals of from three to five hours. The pain in the abdomen was general, diffuse and nagging. There was an absence of pain in the right side like kidney pain. There was tympany above the umbilicus; below it there was dulness but not flatness. The patient has had

an umbilical hernia of large size for thirty years, part of the hernia being irreducible. On one occasion she had sudden pain in the region of the hernia, vomiting and cold sweat, which soon passed off on lying down.

When seen by me, four days after the beginning of the attack, the patient had the usual symptoms of acute intestinal obstruction. Considering the length of time the obstruction had existed, her general condition was fairly good. She was a very large woman, weighing over 200 pounds. Palpation of the abdomen, because of its size, was largely negative, and although there was absence of the ordinary signs of strangulation, it was thought that the cause of the difficulty would be found in connection with the hernia.

Operation was advised as imperative, irrespective of the cause, and the consent of the family being obtained was done on the afternoon of April 2.

Operation and Result.—The usual transverse incision for the radical cure of umbilical hernia was made, and the sac found to contain a large amount of omentum, adherent but not strangulated, but no intestine. The cause of the obstruction evidently did not lie there. On passing the hand into the right flank a hard mass was felt the size of an egg, and on delivery of a dark-colored, swollen and distended loop of intestines the lumen was found effectually plugged by a foreign body, which with the discovery of a smaller body in front, and the presence of a facet on both, was sufficient proof of a gall-stone. The small stone acted as a pilot for the larger one, the latter having a rough and corrugated surface, which no doubt materially increased the difficulty of its further progress through the bowel.

The intestine at the point of obstruction seemed badly affected though still viable, and an effort, which was partly successful, was made to slide the stone into a more favorable locality before the bowel was opened. During this maneuver the small stone slipped down and was not again found, until it passed by rectum on the third day.

The intestine was incised opposite its mesenteric border, and the large stone delivered, the bowel being closed in the usual manner. A considerable portion of the omentum, adherent to the hernial sac, was amputated; as a result the remaining part was too short to interpose between the damaged intestine and the abdominal wall. A superficial examination of the gall-bladder region, which was all that could be made without an enlargement of the wound, showed extensive adhesions, but no special attempt was made to demonstrate the point of anastomosis between the gall-bladder and the intestine.

In the desire to cure the hernia the fascia was overlapped transversely and the wound closed without drainage, the absence of a drain being no doubt a technical error, considering the extreme probability of wound contamination.

The patient was immediately relieved of the vomiting and other obstructive symptoms, and the progress of the case was most favorable until the fifth day, when a slight rise in temperature developed, and on the sixth day on examination of the wound the right half of the incision was found to be infected, the left half healing primarily. In a few days, from the character of the discharge and the escape of gas, it became evident that there was also a fecal fistula. The sutured portion of the ileum, having no omental covering, had no doubt adhered to the under surface of the abdominal incision. There was profuse discharge for about ten days, after which the wound began to heal quite rapidly, until at present, May 28, there is a very small fistulous tract with almost no discharge. The patient is up and about, but so far there is no indication of a return of the hernia.

The large stone in this case was 6 inches in its greatest circumference, and $4\frac{1}{2}$ in the lesser; the length was $2\frac{1}{2}$ inches. The largest stone reported by Barnard¹ was $3\frac{3}{4}$ inches in circumference.

The relative infrequency of gall-stone obstruction is seen in the oft-quoted statistics of Leeds Infirmary and

1. Barnard: Ann. Surg., August, 1902.

the St. George Hospital. The former showed only one case in ten years, and the latter only one in fifteen years. Martin² says that the records of Johns Hopkins Hospital, together with those of the Union Protestant Infirmary in Baltimore, out of 280 cases of obstruction, show only one due to gall-stone. He also states that he was able to collect but four cases from the six leading surgeons of that city, and that two of the men with the largest and most active careers had never seen a case.

Access to the intestinal canal practically always presupposes the passage of the stone through a fistulous tract between the gall-bladder and the intestine. The point of communication is most commonly the duodenum, and occasionally the colon, but some very strange cases have been reported in which the stone escaped into the urinary bladder, or into the stomach, being later vomited. For obvious reasons the stone can very seldom produce obstruction when it enters the colon, but in the small intestine, because of the gradual narrowing of the lumen, "funnel-shaped" it has been called, the stone is usually arrested within a few feet of the ileo-cecal valve, sometimes in the valve itself.

Few cases of gall-stone ileus have been diagnosed prior to opening the abdomen. Barnard was able to make an accurate diagnosis in one of his three cases, but Møller³ of Copenhagen, in analyzing twenty-two cases of gall-stone ileus in which he operated, commenting on diagnosis, says that "there had been no previous symptoms of cholelithiasis in quite a number of cases," while typical colics had occurred in only six of the twenty-two. Other observers have made similar statements, so that we can obtain but little aid from this source.

Møller further noted that "even when the abdomen is opened, the diagnosis is difficult; in a number of instances the conditions first found were assumed to be sufficient to explain the ileus and no further search for a gall-stone was made, and thus it escaped detection. In only three cases was the ileus traced to its true cause before the operation. Only four of the twenty-two patients survived; the mortality was thus 82 per cent." In all of his cases, however, the obstruction had existed for two weeks or more before the operation.

The peculiarly fatal nature of this form of ileus is shown in the experience of all other writers on the subject, the mortality following operation, in the opinion of one operator, who lost twelve out of thirteen cases, being prohibitory. Even in the recent statistics collected by Martin, the death-rate is given as 69 per cent., the reasons for which he thinks are due to the advanced age of the patients, the fact that operation is often undertaken as a last resort, and the long-standing toxemia resulting from obstruction.

2. Martin: *Ann. Surg.*, May, 1912.

3. Møller, P.: Gall-Stone Ileus. *Hospitalstid.*, March 26, 1911, No. 13; abstr., *THE JOURNAL A.M.A.*, May 17, 1913, p. 1589.

Resuscitation.—An interesting and useful number of the medical series of publications of the University of Missouri is that on resuscitation, by D. H. Dolley. The author discusses at some length the scientific basis of resuscitation, the specialized work of the organs of the body, the viability of the brain and nervous system, which is the weakest point in respect to viability after asphyxiation, the viability of the other organs, clinical death and true death and instances of resuscitation after prolonged periods of apparent death. Methods of resuscitation and their relative efficiency are given consideration, and the treatment of accidental asphyxiation produced by different agents is set forth. It is suggested that too much reliance should not be placed on the popular "pulmotor" and similar contrivances.

SEVERE ERYTHEMA MULTIFORME WITH ANAPHYLAXIS DUE TO OYSTER PROTEIN

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Erythema multiforme with visceral manifestations of varying degrees of severity is recognized by the majority of clinicians. The descriptions of Osler¹ still stand as classics; but little has been added to them.

The etiology of the condition has never been settled, except that the majority of observers are agreed that there is a toxemia of some kind, whatever that may mean. Köbner² thought that it was angioneurosis due to vasomotor disturbances; Lewin³ that reflex causes, especially those of urethral origin, might be responsible. Galloway⁴ considered that auto-intoxication was to blame, and Finger⁵ thought that the local effects of bacteria on the tissues might be the cause. Certain other observers⁶ have shown its association with typhoid fever, or with other infections. Corlett⁷ has definitely established that some cases may be due to streptococcus infections.

In a recent case, under my care, the patient apparently suffered because of a definite anaphylaxis against oyster protein, and because of this fact the case is worthy of being put on record.

E. F., white woman, aged 50, trained nurse, was referred to me, Jan. 3, 1913, by Dr. Jackson of Washington, because of a very severe attack of hives.

The history showed that about the middle of December she had eaten a few raw oysters, and that a few hours later had had a rather violent attack of urticaria that lasted about seventy-two hours. Accompanying this attack there had been some fever and fairly definite abdominal pain.

On the night of December 31 she had eaten about half a dozen fried oysters, and four hours later was seized with abdominal pain and very severe urticaria, which was not relieved by cathartics and simple lotions.

When seen by me, January 3, her entire body was covered by an eruption that was a combination of the macular type of erythema multiforme and of urticaria. None of the lesions were more than 2 cm. in diameter, and many were distinct wheals, but the macular lesions persisted for several weeks, and were not at all wheal-like. The itching was very intense, and the skin was covered by scratch marks. The temperature by mouth was 101, and the pulse 104. The right knee and the left elbow were swollen and painful, and the movement in them was markedly restricted. The abdomen was slightly tender, especially over the left upper quadrant. The urine had a specific gravity of 1.010, and contained no albumin or sugar, no casts, red or white blood-cells, and no excess of indican. The hemoglobin was 90 per cent., and the white cells numbered 16,500. A differential count of 500 leukocytes stained by the Jenner method showed the polymorphonuclears 45 per cent., eosinophils 17.8 per cent., large mononuclears 1 per cent., small mononuclears 32 per cent., transitionals 4.2 per cent. and mast-cells 0.8 per cent.

January 8 it was noted that the cutaneous condition was no better, in spite of the usual treatments, and that the tem-

1. Osler: *Am. Jour. Med. Sc.*, 1895, cx, 629; *ibid.*, 1904, cxxvii, 1; *Brit. Jour. Dermat.*, 1900, xii, 227.

2. Köbner: *Klinische und experimentale Mittheilungen*, etc., 1864.

3. Lewin: *Berl. klin. Wchnschr.*, 1876, xiii, 321.

4. Galloway: *Brit. Jour. Dermat.*, 1903, xv, 235.

5. Finger: *Arch. f. Dermat. u. Syph.*, 1893, xxv, 765.

6. Parker and Hazen: *Bull. Johns Hopkins Hosp.*, 1911, xxii, 79.

7. Corlett: *Jour. Cutan. Dis.*, 1908, xxvi, 7.