

Dr. W. G. Nicholson, Green Bay, Wis., reports a fatal case of hemorrhage which took place seven hours after the operation. Postmortem examination showed hemorrhage had come from the cut end of the appendix. The colon was full of clotted blood. The method was as follows:

The appendix was clamped and cut off one-fourth inch beyond the clamp; the end of the stump was disinfected with pure carbolic acid, followed by alcohol. The open end of the stump was closed by stitches and then inverted by using a purse-string suture of linen.

Dr. Ernest LaPlace, Philadelphia, reports two cases of hemorrhage after using the inversion method of treating the stump after appendectomy. In these cases the stump was inverted with two rows of superficial sutures passed through the cecum around the inverted stump. In each of the two cases reported the hemorrhage showed itself about four hours after the patient had been returned to bed and continued several hours thereafter. On the first indication of hemorrhage the wounds were opened, sutures removed and a ligature was placed about the bleeding artery found below the mucous membrane of the stump. In neither case was there found blood in the peritoneal cavity.

Dr. George R. Fowler states:

The possibility of the existence of a sufficiently large vessel in the wall of the appendix, from which hemorrhage might occur, suggested itself to me early in the use of Dawbarn's method, and this was verified by experience later.

The case in question had four hemorrhages of bright red blood, sixteen ounces in all, besides several large clots, which told markedly on the condition of the patient, but which fortunately responded to the administration of opium. Careful examination of the rectum failed to reveal any cause for the hemorrhage, and Fowler concluded that the bleeding came from the appendicular artery.

Dr. Seelig in his paper⁵ continues:

I assisted at an operation followed by similar disagreeable hemorrhages. The case was operated on by Dr. Charles Elsborg, Mt. Sinai Hospital. Dawbarn's method of complete inversion of the stump was done. Twenty-four hours after the operation the patient complained of intense abdominal cramps. An enema was given, followed by the expulsion of about eight ounces of bright red blood and numerous clots. There were no hemorrhoids or other rectal lesions. Pulse 118 to 128. Twenty-four hours later another discharge of blood from the rectum. Under opium, with absolute quiet, the hemorrhage ceased.

This author also states that Dr. Charles Mayo, of Minnesota, reported to him an operation in which the base of the appendix was crushed with an enterotribe before inversion, and that thirty-six hours after operation the patient began to pass copious, bright red bloody stools, as a result of which the pulse ran up to 150 beats per minute. The symptoms, although alarming for forty-eight hours, entirely responded to treatment. Dr. Mayo explained the hemorrhage on the basis that some branch of the appendicular artery had not been ligated.

Dr. Van Buren Knott, Sioux City, Ia., reports two cases of postoperative hemorrhage in the practice of other surgeons, following the use of the purse-string suture in the treatment of the stump. He writes: "I was asked to operate on both of these cases, and did so with one recovery and one death." Dr. Knott has performed the operation of appendectomy in nearly 1,500 cases, and invariably employs the silk ligature to the stump.

If any such record of accidents have followed the silk or linen thread ligature to the stump I have been unable to discover it. I have used it in every appendectomy I have performed and it has never failed. It is, in my opinion, the safest and surest method of occluding the stump with the least possible traumatism.

[FOR THE DISCUSSION, SEE THE DEPARTMENT OF SECTION DISCUSSIONS IN THIS ISSUE.]

GALL DUCT OBSTRUCTION CAUSED BY MOVABLE KIDNEY.*

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The association of biliary tract affections with movable kidney has received but little notice in American medical literature, in spite of great activity in abdominal surgery in this country in recent years. The condition is, I believe, not especially rare or unusual, but of relative frequency. In contrast to the infrequent mention of gall-tract affections in association with movable kidney, gastric and intestinal indigestion have been frequently mentioned in this connection. The relation between certain cases of appendicitis and movable kidney has also been emphasized by Edebohls and others and appropriate surgical treatment recommended.

That extreme renal mobility should cause appendicitis in some cases, gastric disturbance in others, and not affect the near neighbors of these organs, the gall bladder and biliary ducts is hardly conceivable. That such obstruction actually does occur, I have had opportunity to observe in two cases during the past four years, in which severe, repeated attacks of pain characteristic of biliary obstruction were entirely relieved by fixation of a movable kidney which was pressing on the gall ducts.

Clinicians all recognize the fact that abdominal symptoms may be traceable to pathologic conditions in any one of many organs within or without the abdominal cavity, and abdominal operations frequently fail to give expected relief by reason of the fact that though one pathologic condition is corrected, another equally important factor is overlooked. My purpose, rather than to detail histories of cases, is to emphasize this important principle in abdominal surgery; that when several factors contribute to the patient's ill health all should if possible be corrected.

This principle has frequently been insisted on, as it concerns the gall bladder and stomach, the stomach and movable kidney, the bile tracts and pancreas, but has received slight attention in connection with the question of gall-tract obstruction from movable kidney. Several factors contribute to make it easy to overlook the relation of these two conditions. First, the relatively numerous cases of movable kidney which cause no symptoms make us less inclined to look on it as a source of trouble, particularly when the symptoms are referred to other organs. Second, gallstones may be present, which might readily be looked on as the cause of symptoms of obstruction, though the gallstones themselves might easily have formed as the result of interference with the free flow of bile by pressure from the displaced kidney. But most important of all is the likelihood of overlooking

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abnormal mobility, because the kidney slips up into normal position when the patient is examined in the recumbent position.

In two patients who have come to me for operation the condition had been unrecognized and untreated for many years.

CASE 1.—History.—Clergyman, aged 32, married. For six years previously patient had been in poor health and his condition gradually became worse. He had been troubled with indigestion at times, had had attacks of nausea and vomiting, which about the time I saw him had been very frequent, almost every day. An examination of the stomach contents did not show anything radically wrong with the gastric secretions. On several occasions he had had severe pain located exactly in the region of the gall bladder below the right costal margin; he had never passed gallstones; he thought his stools were somewhat whitish, but not clay color, pasty nor especially offensive. Urine was not usually high colored, and was normal in amount. Had been slightly jaundiced on one or two occasions. At times he had had severe pain in the right side well over toward the loin. Never any pain in the appendix region. He was constipated.

Physical Examination.—Large boned, tall man, well developed but poorly nourished. Skin sallow and pale; mucous membrane, good color. Tongue had a rather thick, whitish coat. Heart and lungs negative. Urine negative. Abdomen absolutely negative except that there was tenderness on deep pressure beneath the right costal border. The abdomen was very flat. Costal and iliac grooves deep. Abdominal muscles apparently well developed. On percussion an area of dullness extended downward three fingers' breadth below the right costal margin in the region of the gall bladder. There seemed to be normal fulness in the region of the right kidney; no tenderness on pressure there. When outlined by percussion the stomach seemed to occupy its normal position. Patient was told that his illness had been of such long duration and medical means had been so thoroughly tried that operation seemed to promise the best prospect for cure in his case.

Operation.—A cholecystostomy was performed Aug. 27, 1903. Ether anesthesia. Abdomen opened by rectus incision. The gall bladder came at once into view. It was considerably distended, coat somewhat thickened, no gallstones felt in it or in the ducts. While the region of the gall bladder was being explored a firm, rounded, movable mass was felt in that vicinity, which proved a very movable right kidney. The kidney could easily be drawn past the median line of the abdomen. It pressed in the region of the bile ducts and pyloric end of the stomach and seemed the probable cause of the symptoms referable to the gall bladder from which the patient had suffered. Kidney could readily be replaced into its normal position. Because of the undoubted symptoms referred to the gall bladder it was stitched into the wound with a continuous suture of fine chromicized catgut, but was not opened. The abdomen was closed with continuous heavy catgut sutures of peritoneum and posterior rectus sheath, interrupted heavy catgut suture of rectus muscle and continuous heavy catgut sutures of anterior rectus sheath. A small opening was left in the region where the gall bladder was sutured to the parietal peritoneum in the wound. Two fine black stay sutures were taken in the portion of the gall bladder stitched into the wound to locate the position for opening the organ later. The wound was dressed with silver foil, covered with sterile cotton, which was painted down with collodion. Some sterile gauze was put on over this, which was held in position with broad adhesive straps. Patient was then turned on his left side. An incision was made beginning just below the last rib in the region of the anterior border of the quadratus lumborum muscle, extending downward and forward obliquely. The peritoneum covering the kidney was exposed. There was a deep hollow in the region which should normally be filled with kidney fat. By making pressure on the abdomen in front the kidney could be pushed up into position. The fat was grasped with forceps and drawn up into the wound, dragging with it the kidney. The fatty capsule in this case was poorly devel-

oped. The fibrous capsule of the kidney was then seized. It stripped very readily from the kidney. An area about 3 cm. square was exposed, and by the fibrous capsule the kidney was drawn up still further into the wound. The fibrous capsule was stitched to the erector aponeurosis of the muscles by interrupted chromicized catgut sutures. The aponeurosis of the muscle was closed with a continuous catgut suture and the skin was sutured subcutaneously with silver. Foil dressing. Heavy cotton pads used to protect both wounds. Tight abdominal bandage applied. During the gall-bladder operation a small sandbag was used under the back to bring the spine up and render the exploration of the gall ducts less difficult, following suggestion of Mayo Robson. Heavy sandbag was used under the right side during fixation of the kidney in place of an Edebohls bag. During the abdominal operation the patient was not well under anesthesia a large part of the time, and considerable difficulty was experienced in making a satisfactory closure. Patient took his ether well.

Postoperative History.—Gall bladder opened the day following operation and bile, the consistency of partially dried mucilage, discharged. Drainage was free for a week, but then ceased and the wound rapidly closed. The sutured parts of both incisions closed by first intention. Convalescence was uneventful and patient rapidly improved in health, and has been entirely free from his former symptoms for over three years.

CASE 2.—History.—Married woman, aged 48. For many years she had had attacks of pain of greater or less severity in the region of the gall bladder. There had also been a good deal of pain in the back, considerable digestive disturbances, never jaundice nor high colored urine; a number of years ago had an attack resembling gallstone colic. Two analyses of stomach contents showed absence of HCl and presence of lactic acid. Patient had not been troubled with nausea and vomiting, had not been losing weight; in fact, had gained in flesh considerably.

Operation.—April 7, 1906, operation was performed under ether anesthesia. An incision was made over the outer part of the rectus muscle from costal margin to umbilicus. On opening the abdomen the omentum was found adherent to the abdominal wall in the region of the gall bladder. It was not adherent to the gall bladder, however. The gall bladder seemed to be in perfectly normal condition, not enlarged, walls not thickened, surfaces showed no signs of inflammation. It was not considered justifiable to drain the gall bladder. On separating some deeper adhesions, which were found near the pyloric end of the stomach, the right kidney was found lying just to the right of the median line, and in a position to press on the duodenum, pyloric end of the stomach and gall ducts. The adhesions were separated and the kidney was pressed back into normal position. The stomach was explored and found apparently perfectly normal. On examination of the appendix, a good-sized concretion was found near the tip and the appendix was excised. The abdomen was then closed. The patient was turned over on left side and face and an incision was made over the kidney from the costal border to the crest of the ilium. The layers of muscle were separated, the kidney fat exposed, seized and the kidney drawn up into the wound. The fat was stripped from the surface over the kidney and pushed downward and toward the median line. The capsule was then divided over about two-thirds of the free border of the kidney and stripped off for a short distance. It was attached to the fibrous tissue just below the twelfth rib and also the muscle in the region of the wound with catgut sutures. The muscles were then closed in layers with interrupted catgut stitches. After placing an iodoform and split rubber tube drain down to the exposed surface of the kidney, the skin was then closed with subcutaneous silver stitch. The operation was necessarily considerably prolonged, but the patient left the operating table in very good condition.

Postoperative Note.—Patient was placed with head of the bed elevated. She suffered little from nausea and vomiting, but had considerable pain during the first two days. There was also considerable distension, which was promptly relieved by the use of turpentine enemata and stupes. Both wounds healed by first intention and further recovery was un-

eventful. Patient was able to take an extended trip through California, taking in the Grand Cañon and Yellowstone Park *en route*, the summer following operation. Pain relieved and digestion improved a year and six months after operation.

Very little has appeared in the literature on this subject. Cordier has reported six cases in which gallstones were associated with movable kidney due, he believes, to compression of the common duct. Von Tischendorf performed nephrorrhaphy in one case on the peritoneal side after an operation for biliary calculus with a successful result. Apolant believes that there are many cases at Carlsbad whose symptoms are due to movable kidney, but are wrongfully attributed to biliary tract lesions. I am not aware that any patients presenting the same conditions occurring in the cases I have reported have been treated surgically, though there may be several physicians who have had a similar experience.

Next in importance to the diagnosis I should place the method of fixation adopted, for it is well known that there are many recurrences of mobility after nephropexy. I prefer the muscle splitting incision for exposure of the kidney. The surrounding fat should be entirely separated away, otherwise firm adhesion will not be secured. Attachments to the colon should be freed or the kidney will be dragged on when the intestines are full. As the kidney capsule is the only part of the organ tough enough to hold stitches with certainty, I am accustomed to separate it from about two-thirds of the convex border and suture to the aponeurotic structures in the incision. A loop of gauze made of two pieces, sutured together with catgut to facilitate removal, passed around the lower pole of the kidney, aids in holding the kidney in place and in forming firm adhesions. The patient should be kept on the back or right side for the first ten days or two weeks after operation. With this technic, I believe there will be no trouble about recurrence of mobility.

In presenting this brief paper it has been my endeavor not to exaggerate the frequency or overestimate the importance of gall-tract obstruction from movable kidney. It is certain that the subject has seldom been mentioned in the literature and that such cases have been overlooked on the operating table, occasionally at least. If we are always to give our patients the degree of relief which they confidently expect when they consent to abdominal operation we must recognize and correct all causes of trouble within the abdomen, whether of frequent or infrequent occurrence.

[FOR THE DISCUSSION, SEE THE DEPARTMENT OF SECTION DISCUSSIONS IN THIS ISSUE.]

ABDOMINAL SYMPTOMS OF THORACIC DISEASE.*

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Acute pleuritis is sometimes accompanied by pain referred to the hypochondriac region of the affected side, and a peculiarity of the pain is its constancy. It is not felt merely on deep breathing, nor more severely on inspiration, as is so commonly the case with pleuritic pain in the nipple region. Exertion and cough, however, are prone to accentuate it, and it may cause more or less grunting respiration. I recall one case of severe

epigastric pain caused by diaphragmatic pleuritis in which cough was absent, and in such a case it is difficult to arrive at a diagnosis at the onset of the disease, time and developments being necessary to determine the real nature of the affection. The abdominal pain that is present in some cases of lobar pneumonia, however, is particularly striking in its deceptive characteristics. Last autumn I observed two cases in which the onset of the disease was attended by extreme pain in the region of the gall bladder, indeed, cholecystic disease was seriously considered until there appeared physical signs sufficient to call attention particularly to the lower lobe of the right lung. There was no chest pain proper, but, on the contrary, the pain radiated downward from the region of the gall bladder. The disease was not ushered in by a distinct chill nor was the temperature high, and the early diagnosis was further confused by the absence of cough. The respirations were only moderately increased at the beginning. One of these patients was a woman 80 years of age, and there was felt in the right hypochondrium a mass suggesting a dilated gall bladder. Her leucocytes were high, 30,000, and death ensued in a few days. The other patient was a woman of 47 years who was, and had been for ten years, practically bedridden with arthritis deformans. In her case also at the onset of the disease the liver was by palpation and percussion found abnormally below the free border of her ribs. Her leucocytosis was only 18,000 and she also died after a short illness.

Not only may the pain of lobar pneumonia be felt in the epigastrium or hypochondrium, but in rare instances it may be present in one of the inguinal regions. If in the right iliac region the disease may simulate appendicitis so closely as to render some difficulty in diagnosis. In illustration of this point I may cite a case occurring in the practice of Dr. DeLancey Rochester. He was called to see a boy, whom he found with a moderate elevation of temperature, and pain, tenderness and rigidity in the right iliac region. There was constipation, coated tongue and an absence of other symptoms ordinarily attending the onset of pneumonia. Surgical consultation was had, the boy was removed to a hospital, and a normal appendix was removed. The temperature rose, and within the following twenty-four hours the physical signs of pneumonia of the lower right lobe developed. In this instance the early absence of cough and chest signs, coupled with the distinctive manifestations of disease in the right iliac region, led to the adoption of the course related. Leucocytosis, while not often high in early appendicitis, yet reaches a figure that might well accompany pneumonia, and if a high leucocytosis were present in such a case it would not draw attention from the appendix as the seat of the disease. It must be admitted that the symptom-complex in Rochester's case would prompt most alert physicians to advise prompt operation. The case, however, emphasizes how distant from the seat of trouble may be an abdominal symptom in thoracic disease, and at this point it is well to call attention to the fact that with the abdominal pain there is often tenderness on pressure and either rigidity or tympanites. In all the cases above mentioned there existed more or less abdominal tenderness and rigidity, though these symptoms were less marked in the region of the gall bladder than in the region of the appendix in the case last spoken of.

Among the more acute diseases of the lungs or pleuræ that exemplify the point of my paper, none does so more strikingly than empyema. This affection may

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