

A CONTRIBUTION TO THE STUDY OF INTRA-
ABDOMINAL OMENTAL TORSION.

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THE subject of intra-abdominal omental torsion has only very recently been brought to the attention of surgeons. The credit for having first reported a case of omental torsion occurring in a hernial sac belongs to Max Oberst, of Volkmann's Klinik.¹ In 1882 Oberst operated on a right inguinal hernia of twelve years' standing that had suddenly become irreducible. He found a torsion of the omentum, the cause of which was probably repeated forcible attempts to reduce the hernia. Oberst thought it possible that a loop of intestine had prolapsed into the hernial sac, and that violent peristalsis had aided in bringing about the torsion.

A second onward step in the study of intra-abdominal omental torsion was taken by Professor Maydl,² of Prague, in 1895. Maydl's communication was entitled "Ueber Retrograde Incarceration der Tuba und des Processus Vermiformis in Leisten und Schenkelhernien." Although Maydl only reported retrograde incarcerations of the Fallopian tube and of the vermiform appendix, he really paved the way for the subsequent reports of retrograde omental incarceration. To explain what is meant by retrograde incarceration, Maydl takes the Fallopian tube as an example. Retrograde incarceration of this cordlike organ can take place when it passes three times through the constricting opening (hernial ring); *i.e.*, when the uterine end of the tube is within the abdomen and the fimbriated end lies outside of the constricting ring in the

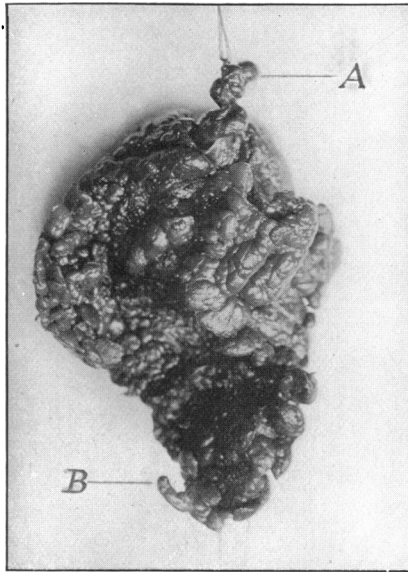


FIG. 1.—A is the pedicle which connected the tumor with the remainder of the omentum. The torsion of the pedicle can still be seen. At B there was an adhesion to an appendix epiploica of the ascending colon, near the hepatic flexure.

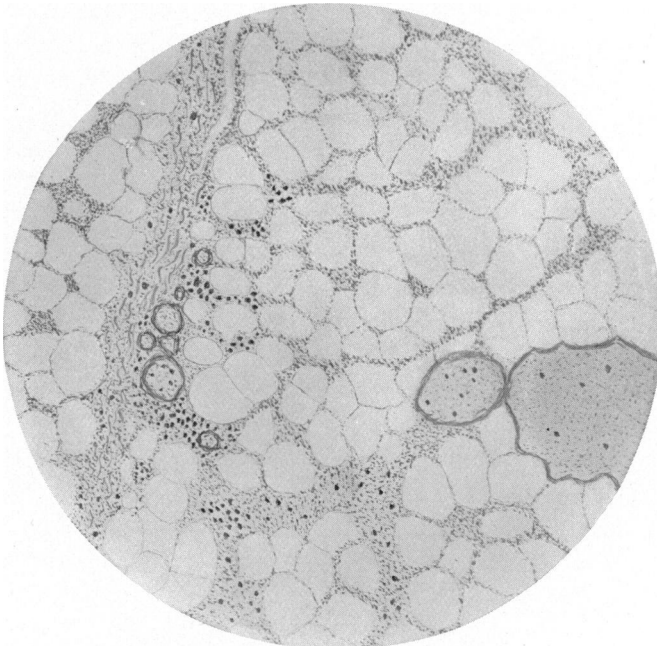


FIG. 2.—Author's case, magnified 100 times. There is some increase in connective tissue, with exudation of blood cells. The veins are dilated and filled with blood.

hernial sac. Naturally there is then within the abdominal cavity a loop of the tube which is incarcerated. This Maydl called "retrograde incarceration."

Shortly after the report of Maydl, Kukula³ was fortunate enough to have a case of retrograde incarceration due to a pedunculated tumor of the small intestine in a patient of seventy-one years.

In the following year, 1896, Schnitzler,⁴ of Vienna, presented the first case of retrograde incarceration of the omentum. The case was diagnosed as an irreducible femoral hernia.

The patient was a man of thirty-five years, in whom the hernia had suddenly increased in size and become irreducible. The part of the omentum in the hernial sac was in the shape of a sling, so that one could feel between the loops of the sling in the same manner as between the loops of an intestinal hernia. To the inner side of the hernial ring there was a thick clump of omentum in a state of beginning gangrene; it was adherent to the anterior abdominal wall,—*i.e.*, intra-abdominal,—while the incarcerated portion was perfectly healthy. The explanation of the fact that the part of the omentum in the hernial sac showed only slight circulatory changes, while the part in the abdomen showed marked changes, lies in the slinglike arrangement of the omental hernia. By this arrangement the intra-abdominal portion was peripheral, and its nutrition was in consequence most interfered with.

A new impetus was given to this subject by the report, in 1898, of Professor Carl Bayer,⁵ of Prague, of a case of *retrograde omental incarceration with torsion of the pedicle*. This case was unique, and combined the points of interest of Bayer's case (omental torsion) and Schnitzler's case (retrograde omental incarceration).

Bayer's patient was a woman fifty-four years old, who had a left inguinal hernia since her last confinement, fifteen years previously. The hernia had always been reducible. The day before Bayer saw his patient for the first time she had a severe attack

of coughing. This was immediately followed by severe pain in the hernia, and the patient had the feeling as if a round object were revolving inside of it. She had slept poorly, and had pain even in the recumbent position. On examination the following morning, Bayer could find no signs of incarceration; the bowels had even moved on that day. Examination of the region of the hernia failed to reveal a tumor. It was only on examining the inguinal canal itself that the patient complained of pain. On the following day, however, a distinct tumor could be seen and felt in the inguinal region. The patient had been nauseated



FIG. 3.

several times since the first examination. The operation was now undertaken. It revealed the omentum with a pedicle twisted four or five times upon itself within the abdominal cavity (outside the hernial sac). The peripheral end of the omentum, the real tip, was pushed back through the inner (median) half of the hernial opening into the abdominal cavity; here its knoblike end was swollen, brownish black in color, and almost gangrenous. Even beyond the point of torsion the afferent omental vessels showed marked changes; thrombosed veins could be seen and felt. The pedicle was twisted to the thickness of a finger. The omentum

was adherent to the neck of the hernial sac by a band. This was one point of support; the other point of support was the intra-abdominal pedicle of the omentum. Around these two points the omentum was revolved just as a triangular handkerchief that is held at two ends could be. The circulation is thus interfered with; there is congestion, swelling, œdema. The patient had said that the attack of coughing was followed by severe pain in the hernia and the feeling as if a round object were revolving inside of it. This was certainly the torsion of the omentum which Bayer thinks was due to the attack of violent coughing. The free end of the omentum may have been pushed back into the abdominal cavity by the last act of torsion, or it may have been pushed back by the continually increasing œdema of the omentum resulting from the torsion. Once it was back in the abdominal cavity it continued to increase in size, owing to the progressive œdema, until it filled the whole remaining space of the hernial opening, and continued to increase in size beyond the opening, *i.e.*, in the abdominal cavity, so that it could no longer return to the hernial sac.

The next case of omental torsion was reported by Baracz,⁶ of Lemberg, in February, 1900.

The patient was a man of forty-two, who for several years had had a reducible left inguinal hernia, the size of a goose's egg, for which he wore a truss. On April 4, 1899, after lifting a heavy trunk, he was seized with severe pain in the left inguinal region, and his hernia became larger, harder, and irreducible. After that the patient was confined to his bed. During the night of April 6 the pain in the inguinal region diminished, but severe abdominal pain, coming on in paroxysms, set in. The bowels moved on the 6th and twice on the 7th; after the morning of the 7th no more flatus was passed. Baracz examined the patient on April 7, at 4 P.M., and found the following condition:

Pulse, 120; temperature, $101\frac{1}{2}^{\circ}$ F. The left inguinal region is a little prominent. The right testis is small, soft, and atrophic. The left testis is considerably larger, harder, uneven, and somewhat tender. Extending upward from the left testis there is a very tender, hard strand running along the inguinal canal; it can be moved laterally, but cannot be returned into the abdomen. The abdomen is distended and tympanitic; there is

dulness in the flanks, which disappears on changing posture, showing the presence of free fluid. Operation showed a much thickened hernial sac. Its contents consisted of a clear fluid, and a hard strand, twelve centimetres long (of the thickness of a finger), turned five or six times on its axis, bluish-black in color, and adherent to the base of the sac by a broad band. This strand admitted a finger alongside of it in the inguinal canal, and it was found that the strand terminated in an intra-abdominal tumor. Accordingly, the abdominal walls were incised upward ten centimetres. The strand was found to be in connection with a tumor the size of an ostrich's egg, consisting of several bluish-black tumors the size of hens' eggs. The tumor was interlaced with connective-tissue strands and thick dilated veins. In the abdominal cavity there was bloody serum. The tumor was composed of the lower part of the omentum very much thickened and turned several times around its axis, in consequence of which there was marked stasis and a bluish-black color. The twisted pedicle of the omentum was very thin; above the point of torsion the omentum was normal. The tumor after its removal weighed one kilogramme. On section it consisted of islands of fat separated by connective-tissue walls in a state of marked congestion, and in places there was extravasation of red blood-cells, similar to the picture of a hæmorrhagic infarct. The arteries and veins were dilated *ad maximum* and stuffed with blood-corpuscles.

Baracz says his case is noteworthy because at the time of operation there was no true incarceration, as the lower twisted strand was movable in the hernial sac, and because the torsion took place high up in the abdominal cavity. The questions are whether the intra-abdominal torsion of the omentum (fixed by a band to the hernial sac) alone produced the symptoms of incarceration, and how the torsion took place. Baracz explains the origin of the torsion in the following manner. There was an old omental hernia adherent by a strong, thick strand to the hernial sac. The lower part of the omentum must have been very rich in fat and hypertrophic, partly filling the sac. The hypertrophy was probably caused by irritation of the truss and daily manipulation of the hernia for its reduction.

The tendency to torsion or partial torsion of the omentum must have existed for a considerable length of time, also in consequence of the daily manipulation. As this torsion was only partial, and as the blood supply to the partially twisted omentum was ample, the patient suffered little or no inconvenience therefrom. On lifting the heavy weight (three days before the operation) the hypertrophic mass of omentum which filled the hernial sac was twisted more forcibly around the strand, which acted as a cord; the blood supply of the twisted omentum was thereby cut off, and there followed complete stasis and thrombosis. The conditions of the adherent omentum in the hernial sac are now similar to those that exist when you attach a weight to an angle of a triangular cloth of which you are holding the other two angles. If, now, you impart a motion of rotation to the weight with the part of the cloth between the two hands as an axis, the weight readily drops to the opposite side of the axis. The two ends of the axis thereby are twisted, just as in this case the strand by which the omentum was adherent to the hernial sac was twisted. The subsequent torsion must have been accomplished by abdominal pressure. It was only after rest in bed that the omental mass was able to slip back into the abdomen.

This case is similar to Bayer's, but in Bayer's case the greater part of the omental tumor lay in the hernial sac; whereas in Baracz's the whole omental tumor slipped back into the abdominal cavity. In the latter case the omentum did not slip back into the abdomen at the beginning of the symptoms of incarceration (when the heavy trunk was lifted), and the torsion did not take place inside the abdomen; because the patient distinctly stated that immediately after lifting the weight, when the pain set in, the hernia became larger than usual and irreducible. So it must be assumed that the torsion took place in the hernial sac, and that later, after rest in bed, the omental tumor slipped back into the abdomen.

Dr. Charles H. Peck,⁷ of this city, presented a specimen of omental torsion before the Surgical Section of the Academy of Medicine in February of this year.

To quote from the report in the *Medical Record*: "The tumor was made up of the entire omentum. This had been found rolled up in a vertical direction, and filling the right side of the abdomen from the umbilicus down to the pelvis. It projected behind the uterus and to the right, and pressed well into the anterior fornix of the vagina. The woman gave a history of having been in her usual health up to four or five days prior to her admission to the French Hospital. She had then been attacked suddenly with abdominal pain and vomiting, associated with a moderate rise of temperature. On admission the temperature had been 100.5° F., and a mass could be made out indistinctly in the abdomen. On performing abdominal section this solid tumor had been found. About two inches below the transverse colon a very tightly twisted pedicle had been discovered. This had proved to be the entire upper portion of the omentum twisted around the vertical axis. The symptoms had evidently begun when the strangulation of this portion had been produced by the twisting." In reply to a letter of mine, Dr. Peck kindly furnished me with the following additional data of his case: "My case of omental torsion did have a small reducible hernia (inguinal) on the right side of twelve years' standing. There was nothing in the sac at the time of the operation, and the omental mass was not apparently connected with it in any way. There were some old adhesions around the right tube and ovary with which the omental mass lay in contact. There was no tumor tissue in the mass; sections showed simply chronic inflammatory changes, with venous engorgement, and the extravasation of beginning strangulation."

The most recent case was reported by Professor Hoche-negg,⁸ of Vienna, in March, 1900.

The patient, a man forty-one years old, had been suddenly seized two days before with severe abdominal pains, nausea, vomiting, and a chill lasting half an hour. An enema resulted in a stool, but gave no relief. The following morning there was less pain, vomiting had ceased, and some flatus had been passed; the temperature was 101° F. The next day the condition was worse. The patient was restless, the pulse rose to 100, the abdomen was distended, and singultus set in. The patient had been born a right-sided cryptorchid. During his youth the testicle descended outside of the inguinal ring and a hernia followed it.

A truss had been worn, but the hernia increased to more than the size of a goose's egg. As the scrotum on that side was undeveloped, the hernia lay under the skin in the inguinal region; it was always reducible. With the exception of the hernia, the patient was well and strong until two years ago. At that time gastric disturbances set in, with sensations as if the stomach were being pulled aside by a heavy weight. Various "cures" were ineffectual, and since then the patient's stomach has been sensitive; in consequence he was depressed and has not felt entirely well. Twenty-four hours before his acute symptoms set in, *i.e.*, three days ago, while in a bath, the hernia suddenly became larger, and could only be reduced with the greatest difficulty after considerable forcible manipulation. The truss was then applied, and everything seemed normal until twenty-four hours later, when the above-mentioned serious symptoms began to manifest themselves. Examination showed an apathetic man, with a small pulse, superficial and rapid respiration, and an occasional singultus. The evening temperature was $101\frac{1}{2}^{\circ}$. The patient was anxious not to move, kept the right thigh flexed, and would only slowly and carefully extend it. The whole abdomen was distended and tense; the inguinal hernia could only be retained with the truss. The hernial sac as well as the inguinal canal were empty. On introducing the finger into the canal, an impulse could be obtained on coughing. From this examination it was concluded that the hernia was not the origin of the trouble. On examination the whole abdomen was found distended. In the right inguinal region, about a hand-breadth above Poupart's ligament and extending outward into the flank, a distinct mass could be felt extremely tender and dull on percussion. No peristalsis could be observed. The diagnosis was then made of appendicitis with a localized exudate. Operation was postponed to observe the development of the case. During the night morphine was given for the pain. The next morning the temperature was subnormal (97.6° F.), the pulse was small (96), there was decided icterus, the abdomen was more distended, and the tender resistant mass on the right side had increased to the size of a man's head. The point of greatest tenderness was now over the gall-bladder. There was no vomiting, but frequent singultus. The examination of the hernial sac (the truss had been taken off) showed it to be distended, distinctly

fluctuating, and extremely compressible; on relaxing the compression it immediately refilled. From this it was deduced that there was a peritoneal exudate which was forced into the hernial sac by intra-abdominal pressure. An incision was then made in the right mammillary line over the greatest convexity of the tumor. On opening the peritoneal cavity a large amount of bloody serum flowed out (about two litres); then a bluish-black tumor with dilated veins, which was recognized as omentum, appeared. The tumor was of the size of a man's head and was nowhere adherent. On the tumor, deposits of fibrin and grayish-white discolorations, especially on the peripheral portions of the omentum, were noticed. To enable it to be accommodated, the enormously swollen omentum was to a certain extent doubled on itself and tucked in above, and the whole mass was fixed together by loose adhesions. As the cause for this peculiar change in the omentum, Hochenegg suspected a torsion. On inspecting the upper portion of the omental mass, he found a slender pedicle twisted upon itself three times from right to left; above this strand, which formed the only connection of the tumor, the omentum was perfectly normal.

Hochenegg regards his case as unique. He attempts to explain the torsion by the fact that the hernia was congenital, and that omentum frequently descended into the hernial sac. By this dragging down of the omentum, a portion became thinner, drawn out; in other words, a pedicle was formed. The lower portions of the omentum, *i.e.*, those that often prolapsed into the hernia, became thickened and clumpy, just as we often see in old omental hernias. These heavy omental masses pulled and tugged on the pedicle which joined them to the rest of the omentum until there was finally only a thin pedicle, and the free non-adherent tumor composed of the omentum and the portion in the hernial sac. Two prime factors in bringing about a torsion were then present,—the long pedicle, and the free non-adherent tumor composed of the hypertrophic omentum. The next factor in the production of the torsion we find in the history. The hernia suddenly became larger, and the patient had to use violent efforts of various kinds—pulling, pushing, twisting—before he could

reduce it. These manipulations probably caused the first twist in the pedicle. The successive twists were due, as is usual in intra-abdominal free tumors, to the changing pressure of surrounding organs, to the progressive swelling and œdema occasioned by the partly twisted pedicle, to the jolting in walking and pressing, and to the various other causes first accurately described by Rokitansky in connection with ovarian tumors. After the torsion had taken place, the same symptoms followed as in torsion of other organs,—the initial chill, the initial vomiting (reflex irritation of the peritoneum), the continually increasing tension of the abdomen, the collapse, and the disturbed general condition. The most striking symptom was the transformation of the former contents of the hernial sac into an enormous tumor. This rapid increase in volume was due to congestion and œdema, just as we see an ovarian cyst, under similar circumstances, increase in size. The bloody peritoneal exudate was also due to the circulatory disturbance. The extreme rarity of the disease Hochenegg pleads as an excuse for the wrong diagnosis.

The cases that I have reported above are all that I have been able to find in the literature. Only four of them (Bayer's, Baracz's, Peck's, and Hochenegg's) are cases of intra-abdominal omental torsion, and in only one case, Peck's, was the phenomenon not the result of a pre-existing hernia. But in Peck's case the tip of the omentum lay in contact with an adherent right tube and ovary.

My own case was the following:

A. L., seventy-nine years old, entered Mt. Sinai Hospital, March 7, 1900. He was referred to the hospital by his physician, Dr. M. R. Richard, with the diagnosis of an abscess following appendicitis. The patient, in spite of his advanced age, had always been active and enjoyed good health. On July 3, 1899, he was knocked down by an electric car. He fell face downward and had his chin cut open. He was unconscious one hour, but, so far as he knows, sustained no internal injury. There was a right-sided inguinal hernia of thirty years' standing; it was always reducible, never painful, and never larger than a small

fist. About four weeks ago, without discoverable cause, patient was suddenly seized with severe pain in the right iliac region. This attack lasted twenty-four hours, and then subsided. Following the attack, the patient was perfectly well and able to attend to his affairs. Four days before the operation the man was again suddenly seized with severe pain in the right iliac region; the pain was cramp-like in character, and was not accompanied by vomiting or by fever. The pain continued at intervals until he entered the hospital. The bowels had moved regularly. Examination showed a well-nourished, rather fat old man. The lungs were the seat of emphysema and bronchitis, the heart of a myocarditis. The liver and spleen were normal. The abdomen was soft and not tympanitic. About midway between the anterior superior spine of the ilium on the right side and the free border of the ribs, extending from the axillary to the mammillary line, a rounded tumor of the size of an orange was readily felt. It was tender to the touch, of a doughy consistency, and dull on percussion. The rest of the abdomen was free from pain. The sac of the inguinal hernia on the right side was empty. Temperature, 101.4° F.; pulse, 100; respiration, 24. I made a diagnosis of an intra-abdominal abscess. Owing to the condition of the man's heart and lungs, I operated under nitrous oxide anæsthesia. A vertical incision was made over the tumor, the centre of the incision being at the level of the umbilicus. The incision was deepened through the oblique muscles and the peritoneal cavity opened. At the site of the tumor that had been felt, a piece of omentum as large as the palm of the hand was found. It was very much infiltrated and dark-blue in color. Its distal portion was adherent to an appendix epiploica on the ascending colon; its proximal portion was continuous with the remainder of the omentum by a narrow pedicle, which was twisted upon itself five or six times, causing strangulation of the portion of the omentum affected. The strangulated portion of the omentum, besides being adherent to the ascending colon near the hepatic flexure, was adherent to the abdominal wall (local peritonitis). Some of the adhesions were broken down, others tied off, and the pedicle above the strangulated portion carefully ligated. The strangulated mass was then cut away. A small drain was introduced and the wound closed with through and

through sutures. The temperature remained normal and primary union resulted.

The case is of considerable interest not only on account of its extreme rarity, but also from an etiological stand-point. As stated above, I have been able to find but one case of omental torsion not associated with a hernia; and in that one case the omentum was in contact with an old inflamed tube and ovary. As a case of intra-abdominal omental torsion not associated with the pelvic organs or with a hernia, my case is, I believe, unique. It is true that my patient had a hernia on the right side, but it was always small and always reducible. And, moreover, the strangulated portion of the omentum was located high up in the abdomen, so that it is very doubtful if that portion had ever been located in the hernial sac. If it was never inside the sac, how was the pedicle formed? Was the accident of eight months previous an etiological factor in the formation of the pedicle? Even granted we can explain the formation of the pedicle, it is difficult to account for the strangulation. As Bayer and Baracz pointed out in reporting their cases, we expect to have two points of support around which the omentum can revolve in order to produce the strangulation. The one point of support in our case was the pedicle of the omentum, and the other point the adhesion between the tip of the strangulated portion of the omentum and an appendix epiploica on the ascending colon. I believe that this adhesion was formed during the attack of pain which the patient had four weeks before his entrance to the hospital. What caused this attack I am unable to say. There may have been an inflammatory process going on in the patient's colon at that time which was the cause of it. We now have two of the requisites for the production of a torsion,—a pedicle which acted as one point of support, an adhesion to the colon which acted as a second, and between these two points the mass of omentum which was to become strangulated. Now, finally, what caused the torsion that resulted in the strangulation? There was no violent coughing, no accident, no manipulation at reduction as seen in the hernia cases; in short, no etiological factors

whatever. It is possible that peristalsis of the colon, after the omentum became adherent to it, contributed to the twisting of the pedicle. Once the torsion had taken place, it is easy to account for the swelling, œdema, and local peritonitis which caused the omentum to become adherent to the abdominal wall. It is also easy to see how the pathological process would have continued and resulted in gangrene of the affected omentum and general peritoneal infection.

The following table comprises all the cases of omental torsion that have been reported; it includes those in which the torsion took place in a hernial sac, as well as those in which some part of the omentum was adherent to the hernial sac.

No. 1.—*Operator and date*, Max Oberst, of Volkmann's Klinik, 1882. Thirty-five years. Male. *Was hernia present, and how long?* right inguinal hernia, twelve years. *Was omentum in connection with the hernia?* yes. *Probable etiology*, forcible attempts at reduction. *Diagnosis made before operation*, irreducible inguinal hernia. *Duration of symptoms*, two days. *Pathological condition*. Turbid fluid in the sac; incarcerated omentum due to torsion, entirely within the hernial sac.

No. 2.—*Operator and date*, Julius Schnitzler, of Vienna, 1896. Thirty-five years. Male. *Was hernia present, and how long?* femoral hernia, several years. *Was omentum in connection with the hernia?* yes. *Probable etiology*, retrograde incarceration. *Diagnosis made before operation*, incarcerated femoral hernia. *Duration of symptoms*, twenty-four hours. *Pathological condition*. Beginning gangrene of omentum, adherent to anterior abdominal wall; no true omental torsion.

No. 3.—*Operator and date*, Carl Bayer, of Prague, 1898. Fifty-four years. Female. *Was hernia present, and how long?* left inguinal hernia, fifteen years. *Was omentum in connection with the hernia?* yes. *Probable etiology*, severe attack of coughing. *Diagnosis made before operation*, strangulated inguinal hernia. *Duration of symptoms*, two days. *Pathological condition*. Beginning gangrene of omentum; torsion and retrograde incarceration.

No. 4.—*Operator and date*, Baracz, of Lemberg, February, 1900. forty-two years. Male. *Was hernia present, and how long?* left inguinal hernia, several years. *Was omentum in connection with the hernia?* yes. *Probable etiology*, lifting heavy trunk and attempts at reduction of the hernia. *Diagnosis made before operation*, strangulated inguinal hernia. *Duration of symptoms*, three days. *Pathological condition*. Clear fluid in hernial sac; bloody serum in abdomen; tumor of strangulated omentum weighing one kilogramme.

No. 5.—*Operator and date*, C. H. Peck, of New York, February, 1900. Thirty-seven years. Female. *Was hernia present, and how long?* right inguinal hernia, twelve years. *Was omentum in connection with the*

hernia? no. *Probable etiology*, unknown. *Diagnosis made before operation*, abdominal tumor. *Duration of symptoms*, five days. *Pathological condition*. Strangulation of greater part of omentum in contact with adherent right tube and ovary.

No. 6.—*Operator and date*, Hochenegg, of Vienna, March, 1900. Forty-one years. Male. *Was hernia present, and how long?* right inguinal hernia, thirty years. *Was omentum in connection with the hernia?* yes. *Probable etiology*, attempts at reduction of the hernia. *Diagnosis made before operation*, appendicitis, with peritoneal exudate. *Duration of symptoms*, three days. *Pathological condition*. Strangulation of omentum; bloody serum in abdomen.

No. 7.—*Operator and date*, Joseph Wiener, Jr., of New York, March, 1900. Seventy-nine years. Male. *Was hernia present, and how long?* right inguinal hernia, thirty years. *Was omentum in connection with the hernia?* no. *Probable etiology*, unknown. *Diagnosis made before operation*, intraperitoneal abscess. *Duration of symptoms*, four days. *Pathological condition*. Strangulated omentum adherent to abdominal wall and to ascending colon.

From this table it will be seen that omental torsion occurs more often in males than in females (presumably on account of the more frequent occurrence of inguinal hernia in men), that it is not met with in youth, and that it is found only in persons who have a hernia; although the diseased omentum is not always found in relation with the hernia. The portion of omentum affected may be small, or may be composed of almost the entire omentum. The etiology of the cases in which the omentum is not connected with a hernia is very obscure. In the other cases the etiology can generally be traced to forcible attempts at reduction of the hernia. In not a single case was the diagnosis made before operation. The cause for this is not far to seek. Not only are omental tumors extremely rare, but they have no characteristic symptoms; the symptoms they call forth are those produced by an abdominal tumor through its mechanical action. When the torsion takes place in connection with a hernia, the diagnosis is naturally made of an incarcerated hernia. In all of the cases the urgency of the symptoms was recognized, and a prompt operation was performed. There is a practical point of some value. If we cut down on a hernia that produced the symptoms of strangulation and find only a strand of omentum in the inguinal canal,

we should always investigate the intra-abdominal portion of the omentum to make sure that there is no torsion present there.

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