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Incarcerated Femoral Hernia

Joseph L. Ponka, M.D.*

Careful analysis of 12 complicated cases of incarcerated femoral hernia gives clues toward the correct diagnosis of this problem. Knowledge of the symptoms can prevent dangerous delays in undertaking urgently-needed surgical repair. The unique anatomy involved requires careful clinical examination but surgery should not await x-ray studies.

Femoral hernias are being seen at this hospital with increasing frequency. Although diagnosis in the average patient is simple, there are instances in which diagnostic errors have been made. Such mistakes lead to serious delay in treatment and, occasionally, to less than ideal management. The object of this paper is twofold: (1) to review the records of those patients having complicated femoral hernias who were seen at Henry Ford Hospital from 1960 to 1965 inclusive; and (2) to present an instructive analysis of selected patients who were seriously ill. In most instances incarceration and/or strangulation were present.

During the six years included in this study, 210 patients were operated upon for femoral hernia. Twelve patients were found to have an irreducible mass in the femoral area, which, at operation, proved to be small intestine. This study is specifically focused upon patients in whom the intestine was caught in the femoral ring because of the serious nature of this complication. A brief review is presented of relevant historical details, physical findings, laboratory data, x-ray studies, operative findings and results obtained in each patient. At the end of each patient’s abstract, appropriate instructive comments will be made. Through a careful analysis of these complicated cases, we may improve our knowledge and hence treatment of complicated femoral herniations.

Patient Number 1:

Eight years before the present admission this patient was treated for left direct, indirect and femoral hernia. No particular reference could be found in the operative

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note as to the method employed to repair the femoral hernia, although the direct and indirect inguinal hernias were successfully repaired.

Three hours prior to admission this 66-year-old man noted a painful swelling in the left groin. He stated that although he had noted a recurrence of the hernia for the past three years, there was no associated pain. On physical examination there was a tender, irreducible mass diagnosed as an incarcerated femoral hernia. The leukocyte count was 4,900.

Anesthesia consisted of local infiltration with 1% Nesacaine, supplemented with cyclopropane general anesthesia. Resection of the necrotic segment of ileum was necessary. A McVay repair of the femoral hernia was accomplished. His recovery was uneventful and he was discharged on the thirteenth postoperative day.

Comment: The opportunity to prevent this patient's second operation was missed eight years before when a femoral hernia was identified during operation for direct and indirect inguinal hernia. Based on the operative note, no attempt had been made at that time to close the femoral ring. What eventually developed into a complicated femoral hernia could have been prevented.

Gangrene of the ileum developed rapidly after the intestine became incarcerated in the hernia sac. Operation should be done promptly on patients with incarcerated or potentially strangulated hernias, if resections are to be avoided.

Patient Number 2:

One month earlier, this 49-year-old white woman was told she had a left femoral hernia. Three hours prior to admission she developed sharp pain in the left groin. There was no vomiting. The clinical diagnosis was incarcerated left indirect inguinal, or femoral hernia. The leukocyte count was 10,100.

Bassini repair of the incarcerated femoral hernia was performed under spinal anesthesia. The incarcerated ileum was easily reduced. Although some color changes occurred in the intestine, these were reversible. Resection was unnecessary. Recovery was uneventful and the patient was discharged on the sixth postoperative day, without complications.

Comment: Prompt diagnosis and proper treatment gave an excellent result.

Patient Number 3:

This 63-year-old woman was known to have adenoid cystic carcinoma of the left submaxillary gland. She had been operated on elsewhere for this tumor two years before. She was admitted to the hospital for treatment of metastases to the lungs and local recurrence of the malignancy.

For many years she was aware that she had a hernia in the right groin. However, on September 22, 1961 she developed in the right inguinal area, a painful, tender mass
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which was not reducible. During this episode she was treated for metastatic disease
with 5 FU. Her leucocyte count was 10,600.

She was operated upon under local anesthesia. Incarcerated omentum and small
intestine were present in the sac. There was no gangrene. A McVay repair was per­
formed. This patient died 24 hours later. An autopsy showed metastatic carcinoma
in the lungs and locally in the tongue and neck.

Comment: The patient failed to seek treatment for her hernia, even though she
was aware of its presence for many years. Ordinarily, hernias should be repaired before
complications develop. This was the only death in the total series of 210 patients. At
autopsy carcinomatosis was found to be the cause of death.

Patient Number 4:

This 48-year-old woman came to the Emergency Room of the Henry Ford
Hospital because of generalized cramping pain which increased in severity. Vomiting
began and was repeated seven or eight times. The vomitus was a foul-smelling, brownish-
yellow fluid. Some distension of the abdomen was noted. There was no passage of
stool or flatus. In a review of her medical history it was noted that in the past she
had had a cholecystectomy, appendectomy and vaginal hysterectomy.

Marked distension was described on examination of the abdomen. Gas-filled loops
of intestine were appreciated on physical examination. No ventral hernia, no guarding,
no inguinal or femoral hernia were described. Results of examination of the groins
were not recorded. Leucocyte count was 10,500, with 88% neutrophils.

Clinical diagnosis was acute small bowel obstruction, secondary to adhesions.
Miller-Abbott tube decompression was instituted. Parenteral fluids were given. Eight
days after admission she was operated upon to release the suspected adhesions. Under
spinal anesthesia a transverse skin incision was made inferior to the umbilicus. A small
Richter’s hernia was found. The small area of ileum incarcerated in the femoral ring
was simply oversewn. Repair of the hernia was accomplished retroperitoneally by
suturing the inguinal ligament to Cooper’s ligament. Postoperatively, ileus was a minor
complication. She improved gradually and was discharged 22 days after her operation.

Comment: The basic error was failure to think of and to examine the patient for
a femoral hernia. Since the incarcerated femoral was overlooked, there was delay in
treatment of the obstruction. Furthermore, the transverse abdominal incision indicates
that the femoral hernia had been overlooked by the surgeon prior to operation. Because
the patient developed ileus and a minor wound complication, prolonged hospitalization
was necessary.

Patient Number 5:

This was an 81-year-old woman, who had been ill for two days with lower abdo­
minal pain, nausea and vomiting. A self-administered enema gave some relief from pain.
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She was described as "an elderly lady in no apparent distress." Her abdomen was slightly distended. Mild hyperactivity of bowel sounds was noted on auscultation. No masses were palpable. Leucocyte count was 8,850.

Flat films of the abdomen revealed distended air-filled loops in the lower abdomen. A small air density was seen overlying the left pubic ramus, suggesting the presence of a left inguinal hernia. Before getting the report, the patient left to go to her daughter's home. When she returned to the Emergency Room the next day, a surgical consultation was requested. The vomiting continued and cramping abdominal pain became generalized. Bowel movements ceased. The abdomen was described as distended, tympanitic. On auscultation of the abdomen, hyperactive sounds were heard. A description of the groins was lacking.

The clinical impression was intestinal obstruction, secondary to either hernia, carcinoma, or some other mass in the gastrointestinal tract. An accurate examination of the left groin was made and a 5 x 5 cm. incarcerated mass was described. The patient was given parenteral fluids and taken to the operating room.

A Moschcowitz repair of a left femoral hernia was completed under local anesthesia. The ileum incarcerated in the sac was released, and after application of warm packs, the normal pink color returned. Normal peristaltic waves passed over the involved intestine and resection was unnecessary.

Postoperatively, the patient developed atelectasis and urinary retention. Mental confusion after operation was a minor problem. Tracheal suction was utilized to clear the respiratory tract. A Foley catheter was used to decompress the bladder and she was given penicillin and chloromycetin. Her recovery was satisfactory and she was sent home on the tenth postoperative day.

Comment: Careful examination of the abdomen and groins in this elderly lady would have resulted in the correct diagnosis earlier. She was permitted to go home, only to return a day later. X-ray films of the abdomen revealed the obstruction, but proper clinical diagnosis would have made this study redundant.

Patient Number 6:

A 48-year-old white woman, who developed a sudden onset of cramping abdominal pain, nausea and vomiting, was seen in the Emergency Room 12 hours after the onset of her illness. On physical examination she was found to have a small, tender, non-reducible mass in the right inguinal area. Leucocyte count was 10,750. X-rays of the abdomen revealed evidence of small bowel obstruction.

A diagnosis of incarcerated right femoral hernia was made. Operation was performed promptly under spinal anesthesia. The small intestine incarcerated in the sac reduced itself after spinal anesthesia was achieved. A Lotheissen-McVay repair was accomplished. A minor postoperative wound infection complicated the recovery, but the patient was discharged on the eighth postoperative day.
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Comment: This patient was managed promptly and skillfully. Nevertheless, incarceration and strangulation predispose to complications. In this patient only a minor postoperative wound infection delayed healing.

Patient Number 7:

This 70-year-old man had known of a hernia in the right groin for at least three years. Three days prior to admission he developed sudden onset of lower abdominal pain which radiated into the perineum and rectum. Nausea and vomiting followed and continued until admission. There had been no bowel movements for the past two days.

A mass was palpable in the right groin. The clinical diagnosis was incarcerated right inguinal hernia. Leucocyte count was 17,500.

Under local Nesacaine anesthesia an incision was made in the right groin. A Richter type of incarcerated hernia was found. The condition of the intestinal wall was questionable, requiring resection. A Moschcowitz repair of the hernia defect was performed. Postoperatively the patient ran a febrile course. Wound infection became apparent and required drainage. Wound culture revealed the presence of proteus, streptococci and Clostridium perfringens. Chloromycetin was given intravenously and intra-muscularly with excellent results. He was discharged 20 days after operation, with no evidence of recurrence of the hernia.

Comment: Here is another patient with a known hernia for at least three years who eventually developed serious complications. The radiation of pain into the rectum and perineum in this man was unusual. Wound infection complicated the recovery and resulted in a prolonged hospital stay. Antibiotics made a significant contribution towards this patient's recovery. Note that the wound culture yielded proteus, streptococci and Clostridium perfringens organisms!

Patient Number 8:

This 55-year-old woman presented herself in the Emergency Room with an unusual history. Fourteen months before, she had consulted a local physician about a lump in her right groin. The presumptive diagnosis was “pelvic infection.” She was given local injections of cortisone as well as penicillin by mouth.

In the Emergency Room of Henry Ford Hospital she stated that she had severe lower abdominal cramping pain, as well as nausea and vomiting. On physical examination a tender 1 x 1 cm. nodule was discovered in the right groin, beneath and inferior to the inguinal ligament. Auscultation of the abdomen revealed the presence of bowel sounds. The clinical diagnosis was incarcerated femoral hernia. The leucocyte count was significantly elevated to 15,700, with a differential count of 81% neutrophils.

The operation was performed under spinal anesthesia. Bloody fluid was seen when the peritoneum was opened. A portion of the wall of the ileum was found incarcerated and strangulated, necessitating resection of the ileal segment. This is a Richter's type
of hernia. The patient was treated with gastric suction to avoid distension. Intravenous fluids were given for 48 hours, then dietary intake was gradually increased from a liquid to a full diet. Her recovery was uncomplicated and she was discharged nine days after her operation.

Comment: In this instance, the patient called the attention of the physician to a lump in her groin. A missed diagnosis led to erroneous treatment. Once the correct diagnosis was made, proper treatment followed. Incidentally, the practice of injecting undiagnosed masses is dangerous and must be frowned upon.

Patient Number 9:

A 67-year-old woman was seen in the Emergency Room with a history of poor bowel function for three weeks. One week prior to admission she noted a “lump” in the right groin. She had been vomiting for two days. On physical examination she was seen to be dehydrated and somewhat mentally confused. There was a tender mass in the right groin. The leucocyte count was 10,550. The clinical diagnosis was incarcerated right femoral hernia.

Spinal anesthesia was administered and an incision made in the right groin. A femoral hernia was found to contain necrotic omentum and a gangrenous ileum. Resection was necessary. A McVay repair was carried out. Postoperatively she ran a febrile course. A moderately large collection of sanguino-purulent fluid was drained from the wound. Culture of the material yielded coliform organisms. Treatment with penicillin and streptomycin resulted in rapid improvement. Nevertheless, 23 days were spent in the hospital before the patient could return to her home.

Comment: Prolonged delay on the part of the patient in seeking treatment led to strangulation of the ileum. Wound infection followed resection of gangrenous omentum and intestine, and resulted in prolonged hospitalization.

Patient Number 10:

This 72-year-old man was known to have a reducible right groin hernia for two years. Four days prior to admission the hernia became incarcerated and remained irreducible. Cramping generalized abdominal pain followed, with nausea and vomiting. There had been no bowel movements for the previous three days.

On physical examination the patient was seen to be acutely ill and dehydrated. A large, tender mass was found in the right inguinal area. The clinical diagnosis was strangulated inguinal or femoral hernia. The leucocyte count was 7,600. The blood urea nitrogen was elevated to 85 mg/100 ml. Blood chlorides were depressed to 72 mEq/1, while the CO₂ combining power was slightly elevated to 38.6 mEq/1. Flat films of the abdomen were reported as compatible with mechanical obstruction of the lower small intestine.

The patient was given parenteral Lactate Ringer’s solution. After preparation catheter epidural spinal anesthesia was administered and repair of the incarcerated
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right femoral hernia accomplished. Although the sac contained small intestine, there was no strangulation. Infarction of omentum caught in the femoral hernia sac required resection. Repair was achieved by suturing Poupart's ligament to Cooper's ligament, (Moschcowitz). Recovery was uneventful, except for development of a small seroma, and the patient was discharged on the seventh postoperative day.

Comment: The prolonged delay of four days in emergency treatment led to vomiting. This resulted in dehydration and hypochloremic alkalosis. Prompt and correct management produced an excellent result in this elderly man. Fluid replacement therapy included administration of sodium chloride and Lactate Ringer's solution.

Patient Number 11:

An 84-year-old woman was seen in consultation as an emergency because of loss of appetite, nausea, vomiting and obstipation. There was a warm, tender mass in the right groin. The leucocyte count was 19,050, with a neutrophil count of 98%. X-ray studies of the abdomen had the appearance of incomplete small bowel obstruction.

An operation was performed under local anesthesia. The patient was found to have a strangulated femoral hernia, requiring resection of the necrotic ileum. A McVay repair of the femoral hernia was carried out. Also the bladder wall was incarcerated in the sac.

This elderly woman had a complicated postoperative course. Arteriosclerotic heart disease and auricular fibrillation required digitalization. She developed a postoperative wound infection which required drainage. Culture of the exudate disclosed the presence of staphylococcus aureus, coagulase positive. A chronic urinary tract infection, due to coliform organisms, was an added problem. A variety of antibiotics were required to control the problem of infection. Chloromycetin, furadantin, streptomycin and methicillin were used at one time or another. The patient eventually recovered and was sent home 42 days after surgery.

Comment: Patients in the geriatric age group should always be checked for femoral hernia in the presence of obscure obstructive symptoms. These hernias should be repaired before incarceration and strangulation develop. Postoperative complications, such as seen in this patient, are serious and result in prolonged hospitalization.

Patient Number 12:

This 82-year-old white woman appeared in the Emergency Room with a three-day history of intermittent abdominal pain, distension and vomiting. Her daughter had treated her with enemas. There had been no spontaneous bowel movements for the preceding two days.

The patient was acutely ill, vomiting every few minutes. The abdomen was tympanic. Auscultation of the abdomen revealed occasional tinkling bowel sounds. The first impression was partial intestinal obstruction, possibly secondary to carcinoma.
Surgical consultation was requested and the incarcerated, obstructing femoral hernia discovered. Leucocyte count was 24,000.

Pre-operatively she was found to have arteriosclerotic heart disease and atrial fibrillation. Digitalization was accomplished before surgery was commenced. Spinal anesthesia was given and the incision made in the right groin. Upon entry into the peritoneal cavity, the incarcerated ileum was found to be necrotic. Resection of a segment of ileum was performed.

Postoperatively oliguria and distension were problems. A Levine tube was inserted and intravenous fluid therapy instituted. Mannitol was given to improve the urinary output. Ileus was apparent clinically and on x-ray study of the abdomen. Coliform organisms were cultured from the urine, requiring treatment with chloromycetin. She was discharged on the twelfth postoperative day in reasonably good condition.

Comment: Again, delay in seeking treatment resulted in necrosis of the incarcerated ileum. The daughter, with her misguided efforts, treated the patient with enemas to no avail. The first impression was intestinal obstruction, possibly secondary to carcinoma. Surgical consultation was obtained and the cause of the obstruction correctly diagnosed. Complications of postoperative ileus and oliguria required particular attention. This elderly patient made a satisfactory recovery.

Summary of Clinical Cases

It is of interest that although inguinal and femoral herniations are found more frequently in men, in this group of complicated femoral hernias, the ratio of female to male patients was 3:1, or nine women to three men.

Incarceration and strangulation are seen more often in the elderly individual. The oldest patient in this series was 84. Other patients were aged, 82, 81, 78, and 70. Only one was as young as 30. The next youngest was 49.

Careful attention to the history will uncover the fact that patients with femoral hernias, in whom the intestine is incarcerated and/or strangulated, will present with typical and predictable symptoms. Generally, the patient will give a history of intermittent cramping abdominal pain, nausea and vomiting. Nine of 12 patients in this study had such symptoms. Three patients had distension, and interference with bowel function. Interference with the flow of intestinal contents by the obstruction explains these symptoms. One patient complained mainly of obstructive symptoms, whereas nine of 12 also complained of a tender mass in the groin.

In every instance, the physician or surgeon should be able to make the diagnosis of incarcerated or strangulated femoral hernia. This was actually done clinically and initially in seven instances. Incarcerated inguinal hernia was suspected in two patients. Adhesions and carcinoma of the colon were the clinical explanations for the obstruction in other patients. One woman was sent home, but returned the following day at
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which time the correct diagnosis was made. In another case, the diagnosis of incarcerated femoral hernia was missed completely. For several days this woman was treated for intestinal obstruction, secondary to adhesions. She gave a history of several abdominal operations performed over a 10-year period. The surgeon made a right transverse incision below the umbilicus, and, upon entry into the abdomen, made the observation that an incarcerated femoral hernia was present. Incidentally, a number of adhesions were present, but they were not the cause of the obstruction.

Eight of 12 patients had three positional x-ray studies of the abdomen. All of these showed gas distended loops. Three studies showed air-fluid levels as well. X-ray studies are hardly necessary for the proper diagnosis of incarcerated femoral hernia. Nevertheless, in two instances a small knuckle of ileum containing air was seen in the inguinal area over the pubis.

Resection of the intestine was necessary in six of our patients. In each patient resection was followed by anastomosis. Local anesthesia was used in five patients, spinal in six, and epidural in one. The Lotheissen-McVay technic was used in the repair of eight hernias, the Moschcowitz in three. The inguinal approach was employed in every instance except one. The Henry-Cheatle-Nyhus technic was used in a patient in whom a transverse infra-umbilical incision was made — on the suspicion that the patient had adhesions. Silk, catgut and wire were the suture materials generally employed.

The complications in this small, highly-selected series are worthy of careful scrutiny. It must be remembered that this group of patients was selected from 210 femoral hernias, 12 of which had been incarcerated and/or strangulated.

As a result of delay in surgical treatment, wound infection was a complication in four patients. Three of these had resection of the ileum at operation. Wound cultures revealed coliform, proteus and clostridium perfringens organisms. Staphylococci were isolated in one patient. These findings simply indicate that the intestinal tract is the source of the invading organisms. The damaged intestinal wall, due to strangulation, permits the organisms to gain access to the tissues in the area.

Other complications included ileus (4), genito-urinary tract infection (3), atelectasis (1), and mental confusion in two patients. In my experience, elderly patients tolerate barbiturates poorly. Fortunately they generally require only small doses of analgesics and sedatives.

The high incidence of wound infection, ileus, urinary tract infections and pulmonary complications emphasizes the need for operative repair of femoral hernias when they are first discovered. Too often hernias are discounted as minor problems and repair is postponed until serious complications develop requiring surgical correction. Subsequently complications are inordinately high.

One patient with adenocarcinoma of the parotid expired 24 hours after operation for an incarcerated femoral hernia under local anesthesia. This patient was gravely
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ill with carcinoma metastatic to the neck, mediastinum and lungs. She had undergone treatment with 5-Fluorouracil for her carcinomatosis. Autopsy revealed the extensive spread of her malignancy, with no other explanation for her death.

Discussion

In order to understand the problems created by femoral hernias, the unique anatomy involved in such hernias must be recalled. The orifice through which the intestine or other viscus may pass is quite small and is surrounded by structures of greater or less rigidity. Anteriorly lies the relatively inelastic iliopubic tract and immediately anterior to this structure is the inguinal ligament. Posteriorly the inflexible Cooper's ligament is intimately attached to the iliopectineal eminence. For many years it has been recorded in surgical anatomical texts that Gimbernat's ligament formed the medial margin of the femoral ring. Modern anatomists dispute this point and insist that the iliopubic tract, a derivative of the transversalis fascia, comprises the medial aspect of the ring (Condon)⁴, (McVay)⁷. The femoral vein lies laterally. Thus the intestine may become incarcerated in this small, tight, inflexible ring. The result is impairment of its blood supply. Clinicians must realize that a small portion of intestine may be caught tightly in the femoral ring with little physical evidence of such incarceration. Furthermore, when a tiny hernia happens to be present, particularly in an obese patient, physical examination may give little evidence that a serious problem exists. Only when the examining physician is aware of these significant anatomical facts, and the peculiarities of incarcerated femoral hernias, will he make certain that such hidden hernias will not be overlooked.

To complicate the picture further, the intestinal lumen may be only partially occluded as in a partial enterocele. Richter described a type of hernia in which a portion of the bowel wall becomes caught in the tight quarters of a femoral ring. The incarcerated bowel, usually the antimesenteric portion, may become gangrenous. In such cases the lumen of the intestine may be preserved with relatively little distension of the abdomen.

When dealing with inguinal or femoral hernias, the symptoms of cramping abdominal pain, vomiting, distension and decreasing bowel movements are strongly suggestive of incarceration and intestinal obstruction. Such symptoms demand that the physical examination be thorough. Abdominal examination should include thorough inspection and palpation of the groins. Other causes of intestinal obstruction should be considered as well.

Asymptomatic femoral hernias may be present for several years, or at least the patient relates no symptoms for a protrusion that may be seen below a line extending from the anterior superior iliac spine and the pubic tubercle.

Differential diagnosis of femoral hernia should include inguinal hernia, enlarged lymph nodes, saphenous varicosities, lipomata, neoplasms, and intestinal obstruction. Confusion of a femoral hernia with an inguinal hernia is hardly a serious error, since
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the treatment for both is the same. It should be recalled that after a femoral hernia protrusion passes down the femoral canal and through the fossa ovalis, it may take an upward course into the inguinal area and appear as a swelling in the usual location of an inguinal hernia. With the patient in the standing position a large saphenous varix at the fossa ovalis will give the appearance of a femoral hernia. The varix is soft, easily compressed, and will disappear when the patient lies down, only to reappear when the patient again assumes a vertical position.

The presence of a single, firm, well-circumscribed mass in the groin may give rise to problems in diagnosis. At times, enlarged isolated lymph nodes are difficult to differentiate from a femoral hernia. Nodularity suggests the presence of lymphadenitis. One should make a careful examination for foci of infection in the lower extremities, buttocks, genitals, low back or abdomen. Neoplasms in the inguinal region are generally firm to hard to palpation, with the exception of lipomata. Generally speaking, tumors in this area may arise from bone, periosteum or connective tissue. Rarely endometriosis may find its way into a femoral hernia sac. In young women the groin swelling becomes painful during menstruation. From time to time a patient is seen in whom the clinical diagnosis of partial intestinal obstruction is made. The explanation may be offered that adhesions or neoplasms are the underlying cause, without a thorough examination of the groins for a possible femoral hernia. In dealing with intestinal obstruction the specific cause must always be determined.

Conclusions

1. In a review of 210 femoral hernias seen at this hospital in a six year period, 12 were found to be incarcerated and/or strangulated. Resection of ileum was necessary in six patients.

2. A painful swelling in the groin, accompanied by cramping abdominal pain, vomiting and distension, should promptly lead to the correct diagnosis.

3. Incorrect diagnosis results from failure to consider the possibility of an incarcerated femoral hernia as being the cause of intestinal obstruction. Such an error is then compounded by a failure to examine the groins carefully. The anatomy involved in femoral hernia is not well understood by all clinicians.

4. The diagnosis of incarcerated femoral hernia is a clinical one. X-ray studies are not necessary in arriving at the proper diagnosis, and may delay the initiation of surgical treatment.

5. Incarcerated and strangulated femoral hernias are seen more frequently in elderly women than in men (ratio 3:1).

6. A leucocyte count above 10,000 strongly suggests the possibility of strangulation and gangrene.

7. Postoperative complications include wound infection, ileus, urinary retention and urinary tract infection, atelectasis and pneumonitis, and disorientation. The complication rate is much higher in patients who have had strangulation.

8. One death in 210 femoral hernia repairs occurred 24 hours after operation. This was a patient with extensive metastatic parotid gland malignancy. She had been treated with 5-Fluorouracil and her death was due to her neoplasm.
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REFERENCES


