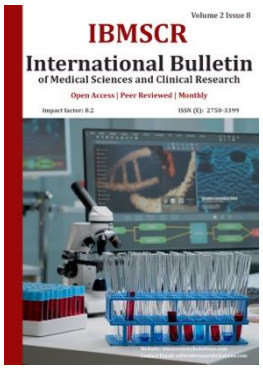

PURULENT-INFLAMMATORY DISEASES OF THE RETROPERITONEAL SPACE: DIVERSITY AND METHODS OF SURGICAL TREATMENT

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A retroperitoneal abscess is a limited accumulation of pus located between the posterior leaf of the peritoneum and the intraperitoneal fascia. Ulcers can be single, reaching significant amounts at the same time, or multiple. Diagnosis of the latter is difficult due to the small size of the formations and the erased clinical picture [3]. Abscesses can form as a result of injuries, surgical intervention, perforation of the organ canopy and metastasis of infection from neighboring structures. Ulcers appear in 0.8% of cases after elective abdominal surgery, and in 1.5% after emergency surgery. The disease occurs mainly in people aged 20-40 years [4,7].

Taking into account the severity of the injury, the high risk of abdominal sepsis, currently there are several methods of treating retroperitoneal phlegmon and preventing intestinal suture failure, including physical methods - UV irradiation of blood, NILI, ozone therapy (rinsing of the abdomen with zoned saline solution, intravenous administration of zoned saline solution), ultrasound examination of the phlegmon area, administration of enzyme, cytostatic drugs both parenterally and and directly into the pathological focus [1,16, 31].

At the present stage, approaches to the choice of methods and means of treatment of retroperitoneal phlegmon are clearly undefined, no uniform provisions on step-by-step treatment depending on the severity of the pathological process have been formulated [9, 15, 27].

The pathogenic flora involved in the formation of the purulent process is represented by anaerobic and aerobic bacteria (staphylococci, streptococci, E. coli, clostridia, etc.) [5,11,29]. The factors contributing to the formation of an abscess can be divided into 2 groups:

• Primary. Open contaminated abdominal wounds and inadequate surgical treatment of the wound lead to the formation of a limited puterd cavity. Closed injuries, accompanied by damage to the retroperitoneal part of the intestine, can contribute to the development of a purulent process and the formation of an abscess.

• Secondary. They occur due to hematogenic or lymphogenic (in 70% of cases) spread of infection from nearby organs. Retroperitoneal abscess can occur due to purulent pancreatitis, paranephritis, lymphadenitis, and kidney abscesses. The formation of a pustular cavity can be a complication of operations on retroperitoneal organs (ureters, duodenum, colon, etc.). In this case, the infection develops with insufficient sanitation of a purulent lesion, violation of the rules of asepsis and antiseptics, irrational AB therapy and improper care in the postoperative period.

Classification

Depending on the localization of the purulent process in the retroperitoneal space, abdominal surgery is distinguished [10, 16, 22, 35].:

1. Abscesses of the anterior retroperitoneal space. It is located between the parietal peritoneum and the prefrontal fascia. These include:

* Pancreatic abscesses. They are formed as a result of destructive pancreatitis, pancreatic necrosis.

* Prenatal processes. They are formed as a result of perforation of the duodenum, ascending and descending parts of the colon as a result of ulcers, wounds or tumors. An abscess is formed with a retroperitoneal arrangement of the vermiform process and the outflow of pus into the fetal intestine (paracolon) with the development of peritonitis.

2. Abscesses of the posterior retroperitoneal space. They are located between the anterior renal fascia and the transverse fascia, which lines the back of the abdominal cavity. Turn on:

* Amniotic fluid abscesses. They are located on both sides between the anterior and posterior leaves of the renal fascia. They are formed when the paranephron (parotid tissue) is damaged, renal ulcers break through (pionephrosis), and destructive retrocephalic appendicitis.

* Subdiaphragmatic processes. They are formed directly in the fiber under the diaphragm. Negative pressure under the dome of the diaphragm creates a suction effect and contributes to the accumulation of purulent contents under the diaphragm in appendicitis, peritonitis, open and closed abdominal wounds.

Separately, the lumbar muscle can be distinguished - an abscess formed with limited purulent inflammation of the lumbar muscle. The formation of the Puterd cavity occurs due to hematogenous transmission of infection in osteomyelitis of the spine. Ulcers can reach large sizes and cause muscle meltdown.

Clinical symptoms of retroperitoneal abscess

The clinical picture of the disease depends on the size and location of the abscess, the duration of inflammation and the etiology of the pathological process. At the beginning of the disease, with small abscess sizes, symptoms may be absent. As the purulent formation increases, the symptoms of poisoning increase: chills, fever, malaise, nausea. The nature of the pain is due to the localization of the inflammatory process and is predominantly diffuse. Painful feelings often arise on the side of defeat. Pain can be felt in the shoulder blade, thoracic spine, buttocks and rectum, hip joint [6, 18, 25, 36].

Unpleasant sensations occur first during movement (when walking, when trying to sit down, stand up, roll onto your side), and then at rest. With retroperitoneal abscesses, the rounded formation of the abdomen is sometimes palpated in front. With amniotic fluid ulcers, pain radiates to the back, spine and increases when trying to bend the leg in the hip joint. There is a violation of urination (dysuria). The prolonged nature of the disease leads to atrophy of the muscles of the lumbar spine and gluteal region. Patients develop scoliosis, contracture, and internal rotation of the hip from the side of the abscess [14, 27].

Complications

A prolonged course of retroperitoneal abscess can lead to a breakthrough of the abscess into the pleural and abdominal cavities. This contributes to the development of pleural empyema and diffuse purulent peritonitis. The generalization of the purulent process with the appearance of sepsis poses a threat to the patient's life. Mortality from retroperitoneal abscesses ranges from 10 to 30% [11, 23, 31].

The diagnosis of retroperitoneal abscess is performed by an abdominal surgeon, which presents significant difficulties due to the absence of a clearly defined localization of pain and specific signs of the disease. Assuming that there is limited purulent formation of the retroperitoneal region, the following studies will be conducted:

* Examination by a surgeon. The specialist will conduct a thorough medical examination and collect a life story. The presence of concomitant somatic pathology and surgical interventions in the past is of great importance. If a purulent process is suspected in the retroperitoneal cavity, the doctor prescribes an additional examination.

Ultrasound examination of the abdominal cavity and retroperitoneal space. This indicates inflammatory processes in the pancreas, kidneys, retroperitoneal tissue and abdominal cavity. With a large size, the process can be visualized in a video circular hypoechoic shadow.

* Radiography of the abdominal cavity. It allows you to recognize roundness by the liquid level.

* Computed tomography of the retroperitoneal space. This is the most modern and effective research method. It allows you to determine the localization, size of the abscess and identify the cause of its formation.

* Laboratory analyses. The UAC reveals signs of bacterial infection (leukocytosis, increased ESR, shift of the leukocyte formula to the left). When the pancreas is affected, the content of enzymes (amylase, lipase) increases in the biochemical analysis of blood. In diseases of the urinary system, leukocyturia and pyuria are noted. To identify the pathogen, a blood or urine test is performed for sterility.

Localization of retroperitoneal abscess is important for differential diagnosis. The initial stages of the disease are similar to the course of infectious diseases of various etiologies (typhoid fever, influenza, malaria). With an abscess of the anterior retroperitoneal space, a differential diagnosis is made with pancreatic necrosis, acute pancreatitis, duodenal ulcer of the 12th department of the duodenum. Abscesses of fruits should be distinguished from paranenephritis, acute pyelonephritis [2, 14, 26, 33].

Methods of treatment of retroperitoneal abscess

The treatment strategy depends on the size and location of the abscess. With small single abscesses, percutaneous drainage is performed and antibacterial drugs are injected into the cavity using a catheter. The manipulation is performed under the supervision of ultrasound or computed tomography. With incomplete emptying of the Puterd cavity, a recurrence of the disease is possible. In case of multiple, large single abscesses, surgical intervention is indicated. The operation consists in opening the abscess, draining, clearing the inflammation site and reconstructing the retroperitoneal space. The choice of the access method depends on the location of the abscess [20, 32].

The perinephrine abscess is opened through posterior or posteromedial access. If there are indications for nephrectomy, the removal of the kidney is carried out at the second stage (after the cessation of the purulent process). In subdiaphragmatic abscesses, extraperitoneal or transperitoneal access is used, in perinatal abscesses, perinatal access is used. The opening of the lumbar abscess occurs from an extraperitonal access (an incision above the inguinal ligament along the iliac crest). In osteomyelitis of the ileum, sequestration is removed [1, 30].

In case of retroperitoneal abscess of unknown localization, the retroperitoneal space is opened with an oblique lumbar incision according to Pirogov, Israel, Shevkunenko. In all cases, antibacterial therapy is prescribed before and after surgery, taking into account the

causative agent of the infection. Detoxification, anti-inflammatory and analgesic therapy will be indicated after surgery.

Prognosis and prevention

The prognosis of the disease depends on the neglect of the purulent process, the general condition of the patient. With proper diagnosis and comprehensive treatment of retroperitoneal abscess, the prognosis is favorable. When the abscess ruptures, life-threatening conditions (sepsis, peritonitis) may occur. Disease prevention is aimed at the rational treatment and postoperative care of patients with acute surgical pathology. Timely detection and drainage of the abscess plays an important role. Patients are advised to consult a surgeon at the first symptoms of the disease.

Retroperitoneal phlegmon

Retroperitoneal phlegmon is a diffuse purulent process localized in the fiber of the retroperitoneal space. The disease is manifested by fever, malaise, moderate or intense pain in the lower back and abdomen, which worsen when the body position changes. To confirm the diagnosis, a surgical examination, retroperitoneal ultrasound, radiography of the abdominal cavity and a blood test are performed. Conservative treatment involves the appointment of antibiotics. During the phlegmon operation, the retroperitoneal space is opened and drained.

Retroperitoneal phlegmon is an acute purulent lesion of postperitoneal adipose tissue. A feature of retroperitoneal phlegmon is the absence of tissue enamel boundaries and a tendency to rapid spread of the inflammatory process to nearby structures (fascia, muscles, neighboring organs). The loose structure of retroperitoneal tissue contributes to the rapid spread of putrefactive infection, intoxication, more pronounced than with limited suppuration (abscess). The disease is mainly common among young and middle-aged people (25-45 years old), it is equally observed in both men and women [5, 31].

The phlegmonous process in retroperitoneal tissue is more often secondary and occurs in conditions of infection that occurs in the body (pyelonephritis, paracolitis, etc.). The pathogenic flora contributing to the development of the purulent process is mainly represented by staphylococci, E. coli, green streptococci, etc. In abdominal surgery, there are two groups of causes of retroperitoneal phlegmon formation:

• Primary. Phlegmon can occur as a result of violation of the principles of asepsis and antiseptics during surgical manipulation of the pelvic organs and abdominal cavity or infection of retroperitoneal tissue with open abdominal wounds.

• Secondary. In these cases, retroperitoneal phlegmon develops as a result of hematogenous, lymphogenic spread of infection from the primary inflammatory site in pyonephrosis, purulent pancreatitis, phlegmon appendicitis, osteomyelitis of the pelvic bones, etc. Pathology can occur when a retroperitoneal process breaks through and a purulent substance enters the fiber, which leads to suppuration of retroperitoneal hematomas with closed lesions and wounds of large vessels with a transition. inflammation of the retroperitoneal region.

The probability of developing retroperitoneal phlegmon increases with a decrease in the body's resistance (after viral, bacterial infections, chemotherapy, radiation therapy), severe chronic diseases (heart failure, bronchial asthma, diabetes, etc.), vitamin deficiency, in elderly and senile patients.

Pathogenesis of the disease

Under the influence of toxins released by pathogenic microorganisms, serous edema develops, inflammatory infiltration of fiber, followed by the formation of purulent exudate and melting of adipose tissue. The structural features of the retroperitoneal space determine the rapid transition of inflammation into the surrounding anatomical area. The spread of infection occurs through natural cracks in the fascia, which promote the penetration of purulent exudate from one space to another [5, 17, 25, 31].

There are acute and chronic retroperitoneal phlegmon. Acute phlegmon develops suddenly and is accompanied by severe pain and poisoning. The chronic course occurs against the background of a decrease in the virulence of the pathogenic flora and rapid activation of the body's defenses, manifested in periods of exacerbation and remission with mild symptoms. According to the nature of the exudate, abdominal surgeons distinguish serous, purulent, necrotic and putrefactive forms of the disease. Based on the localization of the purulent process in the retroperitoneal space, the following types of phlegmon are distinguished:

* Lumbar spine. The most common variant of the disease. With this localization, the phlegmon located above the hedgehog crest spreads from the lumbar spine along the outer edge of the lumbar muscle to the edge of the long muscles of the back.

• Iliac bone. The infiltration is localized in the middle and upper parts of the iliac fossa, begins near the body of the pubic bone, passes along the outer edge of the lumbar muscle and reaches the anterior superior process of the ilium. The upper edge of the phlegmon is usually well defined when palpating the abdominal cavity.

• Groin area. This type of retroperitoneal phlegmon is rare. The infiltrate is localized in the postperitoneal tissue in the projection of the external iliac artery and vein.

Symptoms of retroperitoneal phlegmon

Clinical manifestations at the initial stage do not have specific features. There are general signs of an inflammatory process: an increase in body temperature to febrile values, weakness, fatigue, chills, nausea, dizziness. As the pathology progresses, pain appears. Initially, painful sensations are periodic, pulsating in nature and are localized in the lumbar region, in the left and right half of the abdomen, depending on the localization of phlegmon [11, 29].

The pain gradually increases, becomes constant, intense and has no clear localization. The pain syndrome increases when trying to get up, sit down, turn on his side, which significantly worsens the patient's standard of living and prevents him from moving normally. Palpation of the back and abdomen causes severe pain in the lumbar region. In the lumbar spine, smoothing of contours in the affected half of the lower back may be noted, with deep palpation of the abdomen, thickening of the fiber in the area of inflammation is detected.

The spread of the purulent process to the surrounding tissues can lead to purulent peritonitis, pyelonephritis, pleural empyema. Infection in the bloodstream leads to the development of thrombophlebitis, lymphadenitis, arteritis. The lesion of Arteria can be complicated by melting and arterial bleeding. Generalization of the infectious process leads to sepsis, severe intoxication, up to septicemia, infectious and toxic shock and death.

Diagnosis of pathology often causes difficulties due to the absence of pathognomonic symptoms and a clear clinical picture. In some cases, the disease can be detected only at later stages with the development of complications. The following types of examinations are carried out to make a diagnosis:

* Examination by a surgeon. If the medical history fails, the specialist pays attention to injuries, surgeries and infectious diseases in the past. During physical examination, tension of the abdominal and back muscles on the affected side is noted, the presence of infiltrates of various localization, painful on palpation.

Ultrasound examination of the abdominal cavity and retroperitoneal space. It allows you to visualize pathological infiltration in the retroperitoneal region. In the presence of a primary infection site (in the kidneys, pancreas, intestines), changes in the organs and fluids of the abdominal cavity can be detected.

* Radiography of the abdominal cavity. X-rays show the disappearance of the contours of the lumbar muscle in the affected area. In the area of phlegmon in a limited area of the intestine, pronounced bloating is noted, which does not go away after the application of enemas.

• Blood test. Laboratory blood examination reveals the presence of a common infectious process in the body, in which the level of leukocytes increases, ESR accelerates, and a shift of the leukocyte formula to the left is observed. To confirm the causative agent of infection and prescribe competent antibacterial therapy, a blood test for sterility is performed.

In doubtful and difficult cases, computed tomography of the retroperitoneal space is prescribed. This study helps to determine with greater accuracy the etiology of the disease, the localization of phlegmon and changes caused by neighboring organs. The differential diagnosis of retroperitoneal phlegmon is performed with influenza infection, typhoid fever, paratyphoid, pyelonephritis, osteomyelitis of the pelvic bones. In the initial stages, the symptoms of the disease are often mistaken for manifestations of degenerative diseases of the spine (osteochondrosis of the lumbar spine, protrusion of the vertebral discs) [9, 15, 27, 34].

Treatment of retroperitoneal phlegmon

Treatment tactics depend on the location and size of the phlegmon, as well as the presence of complications. All patients with this disease should be hospitalized in the surgical department. Currently, there are two main approaches to the treatment of pathology:

• Conservative. It is used in the initial stages of the disease, with a slight phlegmon and no complications from other organs and systems. Etiotropic therapy is represented by antibacterial drugs with a wide spectrum of action. After the main treatment, detoxification therapy, anti-inflammatory and painkillers, vitamins and immunomodulators are prescribed.

• Surgical. In the absence of conservative therapy, extensive phlegmon and severe intoxication, surgical treatment is used. Suppuration is opened and the retroperitoneal space is cleaned, after which a drainage system is installed for active aspiration of purulent exudate from the retroperitoneal region. In lumbar localization, Simon's access is used, in paranephritis, posterior or medial access is used. In the absence of data on the exact location of the phlegmon, oblique lumbar incisions are performed on Israel, Pirogov, Shevkunenko. Antibacterial and anti-inflammatory therapy is prescribed before and after surgery.

The prognosis depends on the localization, the size of the phlegmon and the severity of the intoxication syndrome. With timely detection of the disease and adequate antibacterial therapy, the course is favorable. A later diagnosis, the development of peritonitis, infection of other organs can lead to serious consequences (shock, sepsis, etc.), up to a fatal outcome. The basis of disease prevention is strict adherence by medical personnel to the rules of asepsis during invasive procedures, rational use of antibiotics and competent postoperative monitoring of patients with surgical pathology. Early detection and treatment of chronic

diseases of the abdominal cavity and retroperitoneal space (pyelonephritis, colitis, etc.) plays an important role.

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