

CLINICAL APPROACH TO THE PATIENT WITH ABDOMINAL PAIN

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Abstract: Abdominal pain represents one of the most important diagnostic challenges for every physician, and its proper interpretation and treatment requires a systematic, often empirical clinical approach, and sometimes urgent action. The evaluation of a patient with abdominal pain requires the physician to have a comprehensive view, because this symptom, besides gastrointestinal causes, can be a consequence of diseases of other organ systems. For the evaluation and treatment of patients with abdominal pain, a thorough history and detailed clinical examination are crucial, guiding us in further procedures in the treatment of such a patient. The cause of abdominal pain is in most cases of a benign nature. Although it often remains undetermined in most such cases, the pain subsides spontaneously. When abdominal pain persists and despite extensive diagnostics and symptomatic treatment, we cannot identify an organic cause, we speak of functional abdominal pain syndrome. The paper defines types of pain according to pathophysiological basis, time course, and cause of occurrence. The procedure for the evaluation and treatment of patients with abdominal pain is described.

Keywords: abdominal pain; differential diagnosis; clinical examination; diagnostics; treatment

Introduction

Abdominal pain is one of the most common symptoms of various diseases of the abdominal cavity or diseases outside of it. It represents a great diagnostic challenge for both primary healthcare physicians and clinical specialists. The cause is very often completely benign, but it can also be a life-threatening condition that must be recognized early and appropriate measures taken. A precise history and detailed clinical examination are key and indispensable parts of the diagnostic process, as they determine the level of urgency and the scope of further consideration. We must be particularly cautious in the treatment of the elderly, women of reproductive age, and immunocompromised individuals, because the clinical picture of otherwise common diseases can be atypical, and at the same time we must also consider rarer and specific causes of abdominal pain. In these groups, abdominal pain can be acute, subacute, or chronic. The cause can be organic, but when the cause cannot be identified despite extensive diagnostics, we speak of functional abdominal pain syndrome. Depending on pathophysiological mechanisms, we distinguish visceral, somatic, and referred pain. Due to the specificity of treatment, a special entity is the so-called acute abdomen,

which is a life-threatening condition and requires urgent treatment.

Abdominal pain is classified as acute or chronic based on an arbitrary time frame of approximately 12 weeks. Establishing a differential diagnosis is very complex and requires a thorough history and comprehensive physical examination. However, the cause remains unknown in 30% of cases [1].

It is necessary to analyze abdominal pain with special emphasis on six characteristics: onset, progression, migration, character, intensity, and localization. The onset of pain

The onset of pain can be: sudden, rapid, and gradual. Sudden pain occurs in a second; typical for perforation of a peptic ulcer, rupture of an ectopic pregnancy, mesenteric infarction, aneurysm rupture. Rapid onset of pain – develops over several minutes; seen in cholecystitis, pancreatitis, obstruction, appendicitis, ureteral stone. Gradual onset is characterized by intensification of pain over hours or days; more common in tumors, chronic inflammation, and colon obstruction

Progression

It is important whether the pain intensifies, decreases, or transitions from intermittent to constant. For example, a perforated ulcer can give severe initial pain that

decreases if the perforation closes, while intermittent pain that becomes constant indicates obstruction with a risk of necrosis.

Migration of pain

Movement of pain from the site of origin is typical, for example, for acute appendicitis (from the epigastrium or periumbilical area, pain later moves to the right lower quadrant).

Character of pain

Abdominal pain can be characterized as crampy, dull, or sharp and as constant or intermittent. Crampy pain (colic) follows a pattern of waves that repeat at intervals — it suddenly intensifies to an unbearable peak, then subsides or completely disappears for a time. The most typical examples of colic in medical practice are renal colic and biliary colic. Colicky pain is also associated with mechanical obstruction of the small intestine and, when clearly present, is highly suggestive of that condition. Constant dull or sharp abdominal pain is usually caused by stretching or edema of the wall of a hollow organ. When a hollow organ, such as the gallbladder, becomes distended, which is most often the case due to obstruction of the cystic duct, constant, dull pain occurs. When the gallbladder contracts due to obstruction, the stretching of the gallbladder wall suddenly intensifies, creating crescendo pain (biliary colic), in addition to the already present constant dull pain.

Sharp (stabbing) pain is usually well localized (the patient can point with a finger where it hurts). It is usually sudden and very intense. It often indicates irritation of the peritoneum; it occurs in the late phase of appendicitis in the lower right part of the abdomen when every movement, cough, or pressure on that spot causes "stabbing." Sharp pain like a "knife stab" is also characteristic of ulcer perforation. Dull pain is more difficult to precisely locate. Patients describe it as a feeling of pressure, heaviness, or "squeezing" in the stomach. It usually comes from internal organs, most often as a result of irritation of the capsule of an enlarged liver or spleen, which patients describe as persistent, nagging, dull pain below the right or left rib arch.

Intensity of pain

The intensity of pain in an individual patient can often be assessed by the way the patient physically reacts to it. In somatic pain due to peritonitis, the patient is still, lies motionless with legs bent. In visceral pain, for example in

cholecystolithiasis or nephrolithiasis, the patient is restless, changes positions, tries to alleviate the symptoms himself.

Localization

Localization can indicate the origin and pathological basis of pain. Visceral pain is generally poorly localized, in the middle zones of the abdomen; often accompanied by nausea, vomiting, pallor, sweating. Somatic pain is well localized, intensifies with pressure, breathing, and movement; usually without vegetative symptoms [2].

Epidemiology

Abdominal pain is the cause of 5-10% of all visits to emergency medicine clinics.

From 50 to 75% of people older than 65 years with acute abdominal pain require hospitalization, and 1/3 of them require surgical intervention. In patients older than 65 years, compared to younger patients, mortality is 6 to 8 times higher. In 25% of patients who leave the emergency medicine clinic and even 35-41% of patients hospitalized due to abdominal pain, the cause remains undetermined. In 80% of patients with unexplained cause of abdominal pain, the pain usually subsides spontaneously within two weeks from the onset [3].

Pathophysiology

Based on origin, pain can be: nociceptive - tissue damage, neuropathic - nerve damage, and psychogenic - predominantly psychological. Given the multitude of diseases that can manifest with this symptom, accurate interpretation of abdominal pain represents a great challenge for the physician, requiring not only theoretical knowledge but also extensive practical experience. Depending on pathophysiological mechanisms, abdominal pain can be divided into visceral, somatic (parietal), and referred [4]. Sensory pain receptors or nociceptors are located in the mucosa, muscle layers of hollow organs of the gastrointestinal tract (GIT), and mesentery. Nociceptors are peripheral endings of myelinated A delta nerve fibers and unmyelinated C fibers.

Visceral pain arises from stimulation of free nerve endings in visceral organs and is transmitted by slow C fibers originating from the wall of hollow organs, mesentery, and capsule of solid organs. The fibers enter the spinal cord bilaterally and at several levels, so visceral pain is poorly circumscribed. The pain can be dull, sharp, or crampy in character. It does not depend on breathing or body position, but can

be characterized by radiation to adjacent parts of the body and the presence of other visceral symptoms such as nausea, vomiting, and loss of appetite. Visceral pain is caused by ischemia, inflammation, or stretching of hollow organs or the capsule of solid organs. The most characteristic visceral pain is colic, which arises from excessive contraction of the muscle of a hollow organ during obstruction (e.g., colic due to stone in the urinary or biliary tract). The moment when dull, diffuse pain transitions into clearly localized pain marks the spread of the pathological process from the visceral to the parietal peritoneum.

Somatic pain is transmitted by fast A fibers to the dorsal ganglia of the spinal cord on the side of the source of the painful stimulus and the corresponding dermatome, so this pain is well circumscribed. By nature, it is sharp and constant, depends on breathing and body position.

It is characteristic that muscle defense and skin hyperesthesia above the affected part of the peritoneum can occur. This is the result of direct irritation of the parietal peritoneum due to ischemia, inflammation, or stretching [5]. Table 1 shows the characteristics of visceral and somatic pain.

Table 1. Comparative characteristics of visceral and somatic pain

Characteristic	Visceral pain	Somatic (parietal) pain
Onset of pain	Gradual, often unclear onset	Sudden or clear moment of onset
Progression	Slow intensification, wave-like worsening	Quickly becomes intense and stable
Migration of pain	Frequent migration (e.g., periumbilical → right lower in appendicitis)	No true migration – remains fixed
Character of pain	Dull, pressure, burning, cramping (colic)	Sharp, "stabbing," "cutting," piercing
Intensity	Usually moderate to severe, but difficult to assess	Often very severe and precisely assessable
Localization	Poorly localized, diffuse	Precisely localized
Effect of movement	Movement does not significantly intensify pain	Movement, cough, and breathing worsen it
Muscle defense	Mostly absent	Present
Vegetative symptoms	Frequent: nausea, sweating, pallor	Rarer
Mechanism of occurrence	Irritation of internal organs (stretching, ischemia)	Irritation of parietal peritoneum, muscles, bones
Sensory innervation	Autonomic nervous system	Somatic nerves
Examples	Biliary colic, renal colic, early appendicitis	Peritonitis, late appendicitis, fracture

Referred pain is well-localized pain that is distant from the affected organ. It is felt in the skin dermatomes of somatic afferent nerves that enter the spinal cord at the same level as the visceral afferent fibers of the affected organ. It is pain felt at a site that is not the actual source of pain. It arises due to shared nerve innervation of the internal organ and the skin.

Practically, the brain "mislocalizes" the pain. Sometimes referred pain can be triggered or intensified by palpation of the affected organ. Pressure on the skin at the site where referred pain is felt usually does not change the intensity of pain [6]. The referral of pain from abdominal organs to other regions is so characteristic that from this referral one can conclude which organ is affected (Table 2).

Table 2. Correlation of localization of referred pain, potential source, and typical diseases

REGION WHERE PATIENT FEELS PAIN	MOST LIKELY ORGAN (SOURCE)	TYPICAL DISEASE
Right scapula	Gallbladder	Cholecystitis, gallstone
Right shoulder	Gallbladder, diaphragm	Cholecystitis, subphrenic abscess
Left scapula / left shoulder	Spleen	Splenic rupture (Kehr's sign)
Between shoulder blades	Esophagus, pancreas	Esophagitis, pancreatitis
Back in a "belt" (Th8-Th11)	Pancreas	Acute pancreatitis
Epigastrium	Stomach, duodenum, pancreas	Gastritis, ulcer, pancreatitis
Around umbilicus	Small intestine, early appendicitis	Enteritis, early appendicitis
Flank → groin → testis/labia	Ureter (left or right)	Ureteral calculosis
Sacrum / Perineum	Bladder, prostate, rectum	Cystitis, prostatitis, rectal tumor

Left side of chest	Spleen, stomach	Splenic rupture, ulcer
Right side of chest on breathing	Diaphragm - abdominal source	Subphrenic abscess
Suprapubic	Bladder	Cystitis, urinary retention
Lower abdomen + shoulder (women)	Fallopian tube	Ectopic pregnancy
Anterior thigh	Ureter	Ureterolithiasis
Testis without local finding	Kidney / ureter	Renal colic

DURATION OF PAIN

Depending on the time course, we distinguish acute, subacute, and chronic pain.

Acute abdominal pain can appear suddenly or develop over days or even weeks (subacute pain). It is usually constant, less often intermittent, with possible worsenings and improvements. It is one of the most common gastrointestinal symptoms and accounts for 5% of all emergency room visits. In 25-50% of patients, the cause of acute abdominal pain cannot be found. The most commonly identified causes are acute appendicitis, intestinal obstruction, diseases of the gallbladder and biliary tract, diseases of the urinary tract, intestinal diverticula, and acute pancreatitis. In women of reproductive age, we must always consider gynecological causes of abdominal pain [7].

We speak of chronic abdominal pain when it lasts at least 6 months. It can be constant or intermittent. Chronic abdominal pain is the reason for 25-50% of all visits to gastroenterology offices. The most common cause of chronic abdominal pain are functional gastrointestinal disorders such as irritable bowel syndrome, functional dyspepsia, and functional biliary pain. Chronic abdominal pain

resulting from organic diseases is most often caused by chronic inflammatory bowel diseases, peptic ulcers of the stomach and duodenum, celiac disease, adhesions, chronic inflammation of the pancreas, and neoplasms. Chronic pain associated with defecation occurs in irritable bowel syndrome, chronic postprandial pain in functional dyspepsia and chronic mesenteric ischemia, and chronic pain associated with the menstrual cycle in endometriosis and other gynecological diseases [8].

Functional abdominal pain syndrome belongs to the group of functional gastrointestinal disorders, which are diagnostically defined by the Rome criteria (Roma IV: CAPS - centrally mediated abdominal pain syndrome). Despite extensive

Acute abdomen is a synonym for sudden diseases of abdominal organs, characterized by severe abdominal pain, nausea with or without vomiting, signs of peritoneal irritation, and more or less pronounced general impairment. Due to the urgency of the condition, often only a rough definition of the disease is possible, but not a reliable and final diagnosis. The necessity of therapeutic action thus prevails over a more precise diagnosis. Causes of acute abdominal pain can be surgical or non-surgical (Table 3)

Table 3: Surgical and non-surgical causes of acute abdomen

SURGICAL CAUSES	NON-SURGICAL CAUSES
Acute inflammations of surgical organs (acute appendicitis, acute cholecystitis...)	Endocrine and metabolic disorders (uremic, diabetic, and Addisonian crisis, acute intermittent porphyria...)
Perforations of hollow organs (perforation of gastric or duodenal ulcer, iatrogenic perforations...)	Hematological diseases (crisis in sickle cell anemia, acute leukemia...)
Disorders of intestinal patency (ileus, intussusception, volvulus...)	Poisonings (lead, heavy metals, crises due to opioid withdrawal...)
Bleeding into GIT (bleeding from peptic ulcer, bleeding from varices...)	Heart and lung diseases (pneumonia, pleuritis, myocardial infarction, pericarditis...)
Bleeding into the abdominal cavity (rupture of aortic aneurysm, aortic dissection...)	Neurological diseases (tabes dorsalis, syringomyelia...)
Disorders of blood supply to abdominal organs (mesenteric ischemia...)	Other (hematoma of the rectus abdominis muscle fascia, herpes zoster...)

In the initial assessment of a patient with abdominal pain, it is particularly important

to timely recognize potentially life-threatening conditions, as shown in Table 4..

Table 4. Five potentially life-threatening causes of abdominal pain

isease / condition	Clinical warning signs	First-choice diagnostic procedure
Rupture or dissection of abdominal aortic aneurysm	Sudden severe pain in abdomen or back, hypotension, pulsatile abdominal mass	Emergency ultrasound of abdomen or CT angiography
Acute mesenteric ischemia	Severe pain disproportionate to palpation findings, nausea, vomiting, metabolic acidosis	CT angiography of mesenteric arteries
Perforation of hollow organ	Sudden pain, signs of peritoneal irritation, "board-like" abdomen	Abdominal X-ray (free air), CT abdomen
Acute pancreatitis (severe form)	Intense epigastric pain radiating to back, nausea, vomiting	Serum amylase/lipase, CT abdomen
Ectopic pregnancy	Lower abdominal pain in woman of reproductive age, amenorrhea, vaginal bleeding	β -hCG and transvaginal ultrasound

EVALUATION OF THE PATIENT WITH ABDOMINAL PAIN

History

A thorough history and systematic clinical examination represent the foundation of the diagnostic approach to a patient with abdominal pain and determine the rational choice of laboratory and imaging tests. In a significant number of patients, the diagnosis can be made based on clinical assessment alone, while in a smaller proportion of patients the cause remains unclear despite extensive diagnostics.

Although abdominal pain is most often a consequence of gastrointestinal diseases, extra-abdominal causes (cardiovascular, respiratory, metabolic, urological, and gynecological) should always be considered in the differential diagnosis. Early recognition of life-threatening conditions has particular priority, because the time interval from the appearance of symptoms to adequate therapeutic intervention is directly related to the treatment outcome.

Demographic data (age and sex), comorbidities, previous surgeries and hospitalizations, current therapy, allergies, lifestyle habits, and family history significantly guide differential-diagnostic reasoning.

Analysis of pain must be systematic and include: localization, onset, progression, duration, intensity, character, migration, and irradiation, as well as factors that provoke or alleviate the pain. It is necessary to actively inquire about accompanying symptoms: nausea, vomiting, diarrhea or constipation, weight loss, fever, jaundice, dyspnea, chest pain, palpitations, as well as urogenital complaints. In patients with abdominal pain, it is important to recognize the so-called "Red Flags," i.e., alarm symptoms, which indicate potentially life-threatening conditions and require urgent diagnostics [10]. The significance of alarm symptoms is shown in Table5.

Table 5. Alarm signs and clinical significance

Alarm sign	Clinical significance
Unintentional weight loss	Suspicion of malignancy or chronic systemic disease
Dysphagia / odynophagia	Possible obstructive or inflammatory pathology of the esophagus
Melena / hematemesis	Bleeding from upper GIT
Persistent vomiting	Obstruction, metabolic disorder, intracranial pathology
Palpable abdominal mass	Tumor, abscess, aneurysm
Anemia	Chronic or acute bleeding
Persistent or progressive pain (> 2 weeks)	Need to exclude malignancy or chronic inflammation

Special categories of patients require increased clinical caution:

Elderly patients – often have an atypical, sparse, or masked clinical picture.

Women of reproductive age – pregnancy and its complications must be excluded.

Immunocompromised – increased risk of opportunistic infections and malignancies.

Clinical examination

Assessment begins already at the first contact with the patient – general appearance, body position, level of consciousness, and orientation often indicate the severity of the condition. Vital parameters (blood pressure, pulse, respiratory rate, temperature, oxygen saturation) enable rapid assessment of hemodynamic and respiratory stability. In patients with vomiting, diarrhea, fever, or bleeding, assessment of hydration status is necessary.

Abdominal examination includes:

Inspection - Assessment of the shape and symmetry of the abdomen, distension, postoperative scars, skin changes, and visible masses.

Palpation - Performed systematically, starting away from the site of greatest tenderness. Superficial palpation is performed first, then deep palpation. The following are assessed:

local tenderness

muscle defense

rebound tenderness

presence of palpable masses

Muscle defense represents a sign of irritation of the parietal peritoneum and is most pronounced in perforations of gastroduodenal ulcer (chemical peritonitis). It is milder in inflammatory processes, while in intraperitoneal bleeding it may be discrete. In bleeding into the lumen of the digestive tract, defense is absent.

Percussion - Used to assess free fluid and pneumoperitoneum.

Auscultation - Assessment of peristalsis and possible vascular murmurs.

Rectal examination is an integral part of the evaluation. Gynecological or urological examination is performed as indicated [2].

Typical clinical signs that help in establishing the diagnosis are shown in Table 6, and the localization of the most common causes of abdominal pain in Table 7.

Table 6. Typical clinical signs that help in establishing the diagnosis

NAME OF SIGN	DESCRIPTION AND MEANING
Murphy's sign	Sign of acute inflammation of the gallbladder. We place the left hand under the right rib arch, while the thumb gently presses on the gallbladder. When the patient inhales, a positive sign is sudden interruption of inspiration due to pain.
McBurney's sign	Sign of acute appendicitis. Pain on direct pressure at the midpoint between the umbilicus and the right anterior superior iliac spine.
Rovsing's sign	Sign of appendicitis. We press with both hands on the descending colon. Due to the movement of gases in the direction of the cecum, its stretching occurs, which causes pain in the area of inflammation of the cecum.
Blumberg's sign	We press deeply with the hand in the left iliac region. We then suddenly lift the hand. The wave of abdominal wall causes pain at the site of inflammation upon sudden release of pressure.
Psoas sign	Patient lies on the left side. He can extend the right leg and thereby cause pain in the inflamed retrocecal appendix.
Obturator sign	Positive if there is pelvic localization of the appendix, due to internal rotation of the bent leg, pain is provoked in the abdomen.
Carnett's sign	Indicates the source of pain in the abdominal wall (e.g., hematoma of the rectus abdominis muscle). The sign is positive if the patient lies on his back, the pain intensifies when he lifts his head and shoulders off the surface. A negative sign means that during the same maneuver the intensity of pain decreases.
Kehr's sign	Pain at the tip of the left shoulder that occurs due to irritation of the diaphragm, most often indicates rupture of the spleen, and may manifest itself in the heart and liver after colonoscopy or as a complication.
Howship-Romberg sign	Irritation of the obturator nerve in the obturator canal, usually causes referred pain in the obturator nerve, causes pain in the medial part of the thigh down to the knee.
Closed eyes sign	In acute abdominal pain, examinees usually have their eyes wide open during the examination, because they are frightened and watch where the doctor is pressing. When it comes to functional pain, during the examination they often tend to keep their eyes closed.

Table 7. Most common causes of abdominal pain by localization

Localization of pain	Most common causes
Epigastrium	Peptic ulcer of stomach or duodenum, gastritis, functional dyspepsia, acute pancreatitis, myocardial infarction (lower wall), abdominal aortic aneurysm
Right upper quadrant	Cholelithiasis, acute cholecystitis, gastritis, hepatitis, abscesses, liver tumors, lower lobe pneumonia
Left upper quadrant	Spleen lesions (rupture, infarct), gastritis, pancreatitis, subphrenic abscess
Periumbilical region	Early appendicitis, enteritis, small bowel obstruction, mesenteric ischemia
Right lower quadrant	Acute appendicitis, ileitis (Crohn's disease), mesenteric lymphadenitis, ectopic pregnancy, ovarian torsion

Left lower quadrant	Diverticulitis of the sigmoid colon, colitis, colon obstruction, gynecological diseases
Suprapubic region	Cystitis, urinary retention, gynecological diseases (endometriosis, pelvic inflammatory disease), prostatitis
Flank (lumbar region)	Renal colic, pyelonephritis, perinephric abscess
Diffuse pain in the whole abdomen	Peritonitis, ileus, mesenteric ischemia, metabolic disorders

Laboratory diagnostics

The basic laboratory panel includes:
complete blood count with differential
electrolytes and kidney function
glycemia

liver function tests

amylase and lipase

inflammation parameters

urinalysis

Based on clinical indication, the following are determined:

troponin (suspicion of acute coronary syndrome)

D-dimer (suspicion of pulmonary embolism)

blood gases and lactate (suspicion of ischemia or sepsis)

pregnancy test is mandatory for women of reproductive age

Tumor markers have no role in the initial diagnosis of abdominal pain due to insufficient sensitivity and specificity, but serve for monitoring already diagnosed malignant disease [3].

Imaging diagnostics

The choice of method depends on the clinical suspicion:

Native abdominal X-ray – pneumoperitoneum, ileus.

Abdominal ultrasound – pathology of the gallbladder, urinary tract, gynecological diseases, assessment of the abdominal aorta.

CT abdomen with contrast – perforations, abscesses, malignancies, complicated inflammatory diseases.

In case of suspicion of thoracic etiology, a chest X-ray or echocardiography is indicated.

Endoscopic procedures have a diagnostic, and often therapeutic role.

TREATMENT OF PATIENTS WITH ABDOMINAL PAIN

The Latin saying "Dolorem sedare, medici divinum opus est" emphasizes the basic principle of medical practice – alleviating pain represents not only a therapeutic but also an ethical obligation of the physician.

The therapeutic approach to a patient with acute abdominal pain can be:

Causal (etiological) – directed at the underlying disease.

Symptomatic (supportive) – directed at stabilizing vital functions and controlling symptoms.

In urgent conditions, initial stabilization of the patient has priority (principles of the ABC approach), in parallel with diagnostic evaluation.

Supportive treatment

Supportive measures include:

fluid and electrolyte replacement (oral or parenteral)

hemodynamic support (vasopressors and inotropes as indicated)

analgesic therapy

antiemetic therapy

oxygen therapy

correction of metabolic disorders

In case of suspicion of an acute surgical condition, timely consultation with an abdominal surgeon is necessary [11].

Analgesic therapy

Modern data indicate that the use of opioid analgesics in acute abdominal pain does not reduce the diagnostic value of the clinical examination, nor does it negatively affect the treatment outcome. Therefore, adequate analgesia should not be delayed for fear of "masking" the clinical picture.

The choice of analgesic depends on the intensity of pain and the general condition of the patient and may include:

nonsteroidal anti-inflammatory drugs

opioids

spasmolytics

Long-term use of opioids in chronic or functional abdominal pain is not recommended due to the risk of dependence and opioid-induced hyperalgesia.

Treatment of functional pain

In situations where, after adequate diagnostic evaluation, no organic cause of pain is established, a functional or centrally conditioned etiology is considered. In such cases, the following may be indicated:

psychological or psychiatric evaluation
 use of tricyclic antidepressants (TCA)
 selective serotonin reuptake inhibitors (SSRI)
 serotonin and norepinephrine reuptake
 inhibitors (SNRI)

These drugs act through modulation of central
 pain perception, independent of their
 antidepressant effect [12].

Rational use of antibiotics

Empirical use of antibiotics in patients with
 abdominal pain must be clearly indicated and
 based on clinical suspicion of bacterial infection
 or intra-abdominal inflammatory process.
 Routine use of antibiotics in undifferentiated
 abdominal pain is not justified.

Antibiotic therapy is indicated in:
 suspicion of intra-abdominal infection (e.g.,
 perforation of hollow organ, abscess,
 complicated diverticulitis)
 acute cholangitis
 peritonitis
 septic condition of unclear abdominal origin
 severe forms of pancreatitis with evidence of
 infection
 immunocompromised patients with a clinical
 picture of infection

The choice of antibiotic should cover the most
 common causes of intra-abdominal infections
 (Gram-negative enterobacteria, anaerobes),
 taking into account local resistance patterns and
 individual risk factors.

Therapy should be:
 timely (especially in case of septic shock),
 adequately dosed,
 time-limited in accordance with clinical
 response.

Prolonged or inadequate use of antibiotics
 increases the risk of developing resistance,
Clostridioides difficile infection, and other
 complications, so regular re-evaluation of the
 need for continued therapy is recommended
 [13].

Patients at increased risk of unfavorable
 outcome
 Increased morbidity and mortality are expected
 in:

patients older than 65 years
 immunocompromised
 polymorbid patients
 patients after abdominal operations or recent
 endoscopic procedures
 pregnant women (especially in the first
 trimester)
 patients with sudden onset of severe, constant
 pain
 patients with signs of peritonitis or
 hemodynamic instability

Indications for hospitalization

Hospital treatment is indicated in patients with:
 suspicion of peritonitis
 obstruction or perforation of the intestine
 acute intra-abdominal or gastrointestinal
 bleeding
 hemodynamic instability
 uncontrolled pain despite adequate oral therapy
 need for parenteral therapy or invasive
 supportive measures [14]

CONCLUSION

A patient with abdominal pain
 represents a diagnostic challenge that requires a
 systematic, rational, and time-efficient approach
 due to the extensive differential diagnosis, which
 includes both harmless pathological processes
 and many that threaten life. The foundation of
 the evaluation is a carefully taken history and a
 detailed clinical examination, which guide
 further laboratory and imaging diagnostics.
 Early recognition of life-threatening conditions,
 adequate risk assessment, and timely
 consultation with a surgeon or attending
 physician are of crucial importance for the
 treatment outcome.

Monitoring and treatment of patients
 with functional gastrointestinal diseases today
 represents an increasing challenge. Supportive
 measures and analgesia should not be delayed,
 while etiological therapy is carried out
 purposefully, in accordance with the established
 and probable diagnosis.

Rational use of antibiotics and
 avoidance of unnecessary therapy represent an
 important part of modern clinical practice. By
 integrating clinical experience, diagnostic tools,
 and a multidisciplinary approach, it is possible
 to optimize the management of patients and
 reduce morbidity and mortality associated with
 abdominal pain..

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