PROCTOLOGIC DISEASES DEMANDING EMERGENCY SURGICAL INTERVENTION

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A patient with acute anorectal complaints who visits a hospital emergency room often presents a diagnostic challenge because the surgeon on duty is not always experienced in the treatment of anorectal disorders. The article presents the most common anorectal disorders which may be encountered by a surgeon on duty in the hospital emergency room. The leading anal symptoms making the patient visit a surgical emergency room are anal pain and fresh blood bleeding from the anal canal.

Patients with anal pain

A patient who visits the hospital emergency room with acute pain in the anus requires rapid proctological diagnostics. The diagnosis of the cause of pain is based on the interview, general and proctological physical examination and diagnostic tests (1). The conditions of work in the emergency room are not always favourable for conversing with the patient and discussing the embarrassing complaints which often involve the sex life sphere. Therefore, whenever possible, the patient should be invited to a room where there are no third parties, to be able to talk freely about the anorectal complaints. The patient should be asked the following important questions:

- where did the pain start and what its exact location (outside the anus, in the anal canal, shallow, deep) is;
- is the pain paroxysmal or constant, and if constant, then how often does it occur; is it present during the day or at night, is it associated by an urge to defecate;
- is the pain related to bowel movements; Pain on defecation occurs in patients with an anal fissure, cryptitis, anal papilla hypertrophy and anal canal thrombosis. The most common diseases associated with pain not related to defecation are thrombosis in marginal perianal veins and subcutaneous anal abscess;
- is it related to a change in body position? (lesions of the lumbosacral spine);
- does the patient have elevated temperature (anal abscess, inflammatory infiltration);
- does the patient have other diseases (psychiatric, gynaecologist, urological, dermatological) or take any medicines;
- has the patient experienced anal or rectal trauma;
- what are the patient’s profession and lifestyle;
- are there any risk factors of cancer (i.e. weight loss, family history or defecation pattern abnormalities).

A patient with pain in the anus should undergo a proctological examination including anal area inspection, digital rectal examination and scopy.

Certain anorectal disorders may be diagnosed already by anal area inspection. Visible lesions accompanied by oedema of perianal
tissues are prolapsed thrombotic haemorrhoids, perianal vein thrombosis, perianal abscesses. Lesions without oedema include viral herpes infection. In herpes patients, pain is present at the beginning of the disease, even before cutaneous lesions appear.

Some acute anorectal disorders can be diagnosed by digital rectal examination. Lesions detectable in this manner include high suprasphincteric abscesses, deep fissures and faecal stones in the rectum. Faecal stones commonly cause severe pain in the anus in elderly persons and often require manual evacuation. If pain is very severe, the patient should be examined under anaesthesia. It is preferable to conduct this examination in operating theatre conditions to be able to intervene if a lesion that requires surgery is diagnosed (e.g. a high anal abscess can be immediately incised).

The following practical guidelines should be observed while performing the digital rectal examination:
- in a patient with anal pain, finger pressure should be directed to the healthy side, to enable painless performance of the examination;
- when looking for the cause of pain, three levels should be evaluated, passing the finger from up to down, palpating consecutively the coccyx (coccygodynia), then puborectalis loop (proctalgia fugax), and finally the anal canal (cryptitis, fissure). Moreover, potential fluctuation sign should be noted. All soft resistances palpable outside the rectal wall may indicate the presence of a high anal abscess.

The most common causes of anal pain with which the patient reports to the hospital emergency room are fissure, abscess, thrombosis of perianal veins, grade IV prolapsed thrombotic haemorrhoids (2, 3). The principles of management of these disease entities are briefly presented below.

Anal fissure

A patient with an anal fissure does not require emergency hospital admission. Such a patient should receive conservative treatment and be referred to a surgical or proctological outpatient clinic. The treatment includes constipation preventing diet, stool softening medicines, warm sitz baths and topical medicines causing relaxation of the internal sphincter. The author uses ointments based on calcium channel blockers and anti-inflammatory and diastolic suppositories, applied topically into the anal canal. Only inefficacy of conservative treatment used for 8-12 weeks indicates the need for surgical treatment of anal fissure. Differentiating an acute anal fissure and intersphincteric abscess may pose a diagnostic challenge. The initial symptoms: pain and increased tension of the sphincters, and the resulting difficulties with examination performance, suggest a fissure. Presence of pus in the anal canal on digital examination is a clue towards the diagnosis of an intersphincteric abscess.

Stage IV haemorrhoidal disease with haemorrhoid thrombosis

A patient with haemorrhoid thrombosis should be hospitalised. Treatment involves administration of an antibiotic, low molecular weight heparin and topical anti-inflammatory and analgesic agents. Also topical anti-oedematous treatment is important – concentrated 10% NaCl or sodium bicarbonate solution in the form of poultices. When oedema resolves, after 2-3 days of hospitalisation, the patient may undergo surgery. According to some authors, patients with haemorrhoid thrombosis should undergo surgery immediately after hospital admission (4). According to the author, it is preferable to operate upon the patient when oedema resolves, because anatomical borders of a haemorrhoid are more visible then, which contributes to sparing the so-called transitional zone, rich in sensory receptors, during the operation. Both approaches are correct. In such cases, the preferred surgical method is the Milligan-Morgan technique, during which wounds are left open.

Marginal thrombosis

Marginal thrombosis in perianal veins is a common acute anorectal disorder, misdiagnosed by both physicians and patients as prolapsed haemorrhoids. A painful blue nodule appears at the anus. Thrombosis of perianal veins may also be extensive, involving the whole anal circumference. Patients with mar-
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Ginal thrombosis of the anus usually do not require hospitalisation. Thrombosis treatment may be surgical or conservative. A single fresh (up to 2-3 days) thrombosis may be incised and drained under local anaesthesia. It is a simple procedure making the complaints almost instantaneously disappear. It is important to make the incision over the thrombosis radially from the anal lumen. If thrombosis formed a few days or weeks earlier or is extensive and affects the whole anal circumference, conservative treatment is used, because thrombosis is usually fibrotic and difficult to remove. Oral flavonoid products and topical anti-inflammatory drugs in the form of suppositories and ointments are administered. Warm sitz baths and wet dressings soaked in warm bicarbonate solution may be used. They reduce tissue oedema and relax the internal sphincter, and thus alleviate pain. In the cases of very extensive thrombosis associated with severe pain, the patient should be hospitalised. Antibiotics and low molecular weight heparins are administered. Sometimes, large thromboses are drained in the operating theatre.

Fig. 1. Prolapsed thrombotic haemorrhoids

Anal abscess

Perianal abscesses with a shallow subcutaneous location are easily diagnosed. The patient complains of pain, oedema and skin redness in the anal area, the fluctuation sign is present, along with general symptoms such as elevated body temperature, chills, elevated leucocytosis. Small subcutaneous perianal abscesses may be drained under local anaesthesia in the hospital emergency room. Patients with abscesses of higher location, especially supralelevator ones, should be hospitalised and operated upon as soon as possible. Patients with high supralelevator abscesses present a difficult diagnostic challenge. In this case, pain is not precisely located, the urge sensation predominates. Because the diagnosis is often delayed, these patients are often in poor clinical condition. Especially in the cases of diagnostic uncertainty, ultrasonographic transrectal examination plays an invaluable role in recognising these high abscesses. However, in most hospitals it is not possible to perform it in the emergency room (5). A helpful examination in the diagnostics and localisation of anal abscesses, which is generally available, also in hospital emergency rooms, is transperineal ultrasound with the use of a linear head, which may be performed by a physician who does not have to be experienced in ultrasonography. This examination helps not only to confirm the diagnosis in the case of deep abscesses but also facilitates the assessment of abscess size and location in relation to pelvic floor muscles (e.g. hourglass abscess) (6). In unclear cases, the patient is found eligible for an examination under anaesthesia. After proper drainage of abscesses, the patients do not require antibiotic treatment (7).

An algorithm of diagnostic and therapeutic management of patients with anal pain is presented below.

Fournier’s syndrome

Patients with Fournier’s syndrome do not come to the hospital by themselves, they are brought by an ambulance, because they are in a very poor clinical condition due to septic shock.

Fournier’s syndrome is extensive necrosis of perineal tissues with gangrene. In men it commonly coexists with scrotal necrosis and often affects immunocompromised patients (diabetes, alcoholism, steroid treatment and chemotherapy, AIDS). Scrotal necrosis is caused by bacterial emboli in vessels. Septic shock treatment must be initiated immediately and conducted in intensive care units. The patient is administered antibiotics (potent wide spectrum agents until microbial culture results are obtained), intravenous infusions, anticoagulant treatment (low molecular weight heparins) along with the management of meta-
Hypoglycemic disorders (diabetes treatment). Hyperalimentation plays an important role. The usefulness of steroids is disputable. In selected cases, it is indicated to supplement treatment by therapy in a hyperbaric chamber (8). Necrotic tissues should be removed as soon as possible, until healthy bleeding is obtained. In patients with this severe complication, perineal tissues are grey, “as if boiled”, not bleeding. During debridement, sparing sphincters and maintaining continence is of secondary importance. If necrosis involves sphincters, they also have to be removed, because complete necrosectomy may save the patient’s life. In men, amputation of necrotic testicles is sometimes necessary. Otherwise, when testicles are still healthy but scrotal skin is necrotic, they may be fixated with a vascular peduncle under the abdominal or thigh skin. Wounds should be left open for healing by granulation, profusely rinsed with hydrogen peroxide and antibiotic solutions. Debridement is often performed repeatedly. If infection crossed the pelvic peritoneal barrier, diagnostic laparotomy may be necessary. In such cases, creating a decompression stoma is necessary. If the patient survives, plastic reconstruction of perineal tissues is usually necessary at a later time. Due to a massive bacterial infection, patients with Fournier’s syndrome should be separated from other patients for epidemiological reasons. In an average Polish hospital, it is often impossible to meet both these conditions at the same time (9).

Anal bleeding

Anal bleeding is always an alarming symptom. It is important to differentiate if bleeding is chronic or acute.

The most common causes of mild anal bleeding are haemorrhoids, a fissure, proctitis, tumours and spontaneous evacuation of a perianal haematoma.

Potential causes of severe rectal bleeding include diverticulitis, non-specific rectocolitis, vascular malformations, hemorrhoids, polyps and, less commonly, cancer (10).

If bleeding is minor and its cause is visible in the anal canal, the patient does not require emergency surgery. For instance, if bleeding haemorrhoids are present, the patient is first prescribed conservative treatment and surgery must be performed on an elective basis, with follow-up colonoscopy.

The patient may receive systemic anti-inflammatory medicines (e.g. diosmin derivatives) and topical treatment (anti-inflammatory suppositories and ointments), in an outpatient setting. In favourable circumstances, haemorrhagic bleeding can be stopped by the Baron method (Rubber band...

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**Algorithm 1. Algorithm of diagnostic and therapeutic management of patients with anal pain**

- **Lead symptom**
  - Pain

- **Accompanying symptoms**
  - Bright red blood bleeding on defecation, constricted anus sensation
  - Increased passive sphincter tone. Anoscopy: spindle-like defect of mucosa, often with a polyp at the top
  - Increased passive sphincter tone, pain and purulent discharge from the anus
  - Increased passive sphincter tone, purulent discharge from the anus
  - Anal fissure
  - Intersphincteric abscess
  - Haemorrhoid anal canal, grade IV
  - Marginal thrombosis
  - Anal abscess

- **Results of proposed examinations**
  - DRE: increased passive sphincter tone, anal stenosis, constricted anus
  - Anoscopy: spindle-like defect of mucosa, often with a polyp at the top
  - Intersphincteric abscess
  - Haemorrhoid anal canal, grade IV
  - Anal abscess

- **Fig. 2. Necrotic lesions of perineal tissues in Fournier’s syndrome**
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ligation). This technique, however, has an important limitation – the equipment is usually used at the hospital outpatient clinic and is not always available in the hospital emergency room. In the case of massive anal bleeding, the patient is always hospitalised. In most of the cases, bleeding from the lower gastrointestinal tract is treated conservatively (blood, fluids, strict diet) and it resolves spontaneously in 85% of the patients (11). Colonoscopy to determine the bleeding location should be performed as soon as possible. Surgery is a measure of last resort, especially if the bleeding site cannot be identified on preoperative colonoscopy, since also during the operation determination of the bleeding source is likely to prove difficult.

A proposed algorithm of diagnostic and therapeutic management of patients with anal bleeding is presented below.

There are more and more cases of patients who are admitted to surgical emergency rooms after proctological procedures performed outside the hospital: in private surgeries or in one-day surgery clinics. A dangerous and life-threatening complication is the so-called delayed bleeding after haemorrhoidectomy, which occurs at 8 – 9 days after the procedure and is associated with demarcation of a ligated haemorrhoid artery. In this period, the patient is already home, bleeding is severe, may lead to a shock and should be managed as soon as possible in the operating theatre conditions (12, 13).

Foreign bodies in the anal and rectal canal

A patient with a foreign body in the rectum is a patient who requires a particularly deepened interview concerning the circumstances of introducing the object into the rectal ampulla. Foreign bodies are usually introduced in the course of erotic games, the patient is embarrassed to talk about the details of the trauma and therefore privacy should be provided for the interview. The patient often reports only two days after the trauma, for example due to alcohol intoxication when it occurred, and does not remember the circumstances of the event. If the patient does not feel severe anal pain, has no peritoneal symptoms and is in good clinical condition, the first proctological examination may take place without anaesthesia, with the patient in the left-side position, and sometimes the foreign body can already be extracted from the rectum at that time. We avoid extracting the foreign body with patient in the knee-elbow position, because then gravitational force pulls the object away from the anal margin. An abdominal X-ray should always be obtained as it markedly facilitates foreign body localisation. Subsequent attempts of foreign body

Algorithm 2. Algorithm of diagnostic and therapeutic management of patients with anal bleeding
extraction should take place under anaesthesia, in operating theatre conditions (14). In practice of the Proctology Ward of the Solec Hospital, the strangest objects were removed from the anal canal: light bulbs, bottles, deodorants, vibrators, fruits and vegetables. Sometimes, laparotomy is necessary. After foreign body removal, endoscopic assessment of rectal mucosa should always be performed. The patient should remain under hospital observation for at least 24 hours.

Anal canal traumas

The patient is always hospitalised and in most of the cases undergoes surgery. The best functional effects are obtained if muscles are sutured immediately after the trauma. However, the physicians should be aware that if the muscles are sutured inappropriately, this may be associated with permanent disability of the patient in the form of gas and faecal incontinence (15). If sphincter trauma is extensive, a stoma should be created. If the surgeon on duty has no experience in proctological procedures, they should create a stoma and refer the patient to a coloproctology reference centre. The following principles apply in sphincter suturing (15):

- the wound must be profusely irrigated with hydrogen peroxide solution, blood clots should be removed and thorough haemostasis should be performed;
- stumps of sphincters that have been cut through should be found. If it is uncertain whether the given tissue is a muscle, an electric stimulus may be used, which causes the muscle to contract;
- if there is only minor muscle damage (not through the whole width of the external sphincter) the muscle can be sutured with single mattress sutures without mobilising the edges. When the muscle is completely cut through, efforts should be made to mobilise the stumps of the ruptured muscle and sutured with one edge overlapping the other;
- anoderma and skin are sutured together over the sutured muscle, and the wound circumference is sutured without full closure so as to leave approximately 0.5 cm of non-sutured skin for wound drainage;
- after a rescue procedure of sphincter reconstruction, antibiotic treatment and strict diet for several days are required.

Rectal prolapse

A patient with reducible rectal prolapse without ischaemic or necrotic lesions in the mucosa of the prolapsed rectum has no indications for emergency surgery. After manual repositioning of the rectum (although its prolapse recurs almost always within a short time), the patient should be referred to a Surgical Clinic. Before determining eligibility for elective surgery, a number of specialist examinations must be performed which cannot be conducted on a hospital emergency basis. If rectal prolapse is accompanied by ischaemic lesions and the rectum cannot be manually repositioned, the patient should be hospitalised and an attempt at intestinal repositioning under general anaesthesia should be undertaken. Not infrequently intestinal blood supply improves after muscle relaxation and the patient can be prepared to elective surgery. If rectal wall necrosis is present, resection of the changed rectum (e.g. Altmeier’s procedure) is performed (16).

Summary

While examining a patient with anorectal complaints in a hospital emergency room, not only a decision must be made whether to initiate treatment in a hospital or outpatient setting but also, if the patient is sent home, the further diagnostic work-up must be defined. The cause of such proctological symptoms as

![Fig. 3. Sphincter trauma](image-url)
pain or bleeding may be a serious disease of the lower gastrointestinal tract such as cancer or non-specific enteritis. As shown by clinical practice, the work in a hospital emergency room not always makes it possible to thoroughly analyse each patient, and that is why using certain general diagnostic and therapeutic algorithms presented above may prove useful in everyday surgical practice to pose the initial diagnosis and plan further therapeutic management. Further detailed examinations (i.e. colonoscopy, gastroscopy or NMR), usually performed after patient preparation, are not included in the algorithm because they are not covered by the topic of this publication.

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