

MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS

**Educational institution
"Gomel State Medical University"**

Department of Surgical Diseases № 2

Dundarov Z.A., Batiuk V.I., Waqar Anjum

**MANUAL
FOR STUDENTS OF
3 COURSE OF ALL FACULTIES OF THE "GENERAL SURGERY"**

Topic: FISTULAS AND TROPHIC ULCERS

2020

FISTULAS – Fistula is a pathological passage in tissues that connects an organ, a natural or pathological cavity with the external environment, or organs (cavities) with each other.

Classification:

I. By origin:

- pathological
- artificial

II. By direction:

- internal
- external

III. By integrity:

- complete,
- incomplete

IV. By the nature of the discharge:

- esophageal
- gastric
- intestinal
- urinary
- pancreatic
- biliary
- salivary
- ligature and etc.

V. By type:

- formed
- unformed
- lip-shaped

VI. By origin:

- congenital
- acquired

Factors that disturb normal growth, the development of granulations in the fistulous course and, therefore, interfere with its healing, are:

- Permanent discharge through the fistula,
- Accumulation of pathological discharge in the cavity of the pathological focus,
- The destructive effect of secretion on granulation,
- Destruction of granulations with bacterial toxins.

CLINICAL FEATURES

The appearance of fistulas and their discharge are different in different fistulas. The congenital median fistula of the neck has a small opening and mucous discharge, whereas intestinal labial fistula is often wide, with large amount of discharge of intestinal contents. The nature of the discharge from the fistula determines the condition of the surrounding skin. A significant area of dermatitis is often formed around the gastric or duodenal fistula due to the irritating effect of the digestive juices; firm edema of the surrounding skin with subsequent development of elephantiasis is often observed with urinary fistulas.

Fistulas can cause significant issue in the general condition: in purulent fistulas intoxication occurs, intensifying with difficulty in outflow; in fistulas of the stomach and small intestine due to a large loss of digestive juices, a significant disturbance of the water-electrolyte balance and impairment of protein metabolism can occur.

Epithelized and lip-shaped fistulas do not spontaneously heal, granulating fistulas, in contrast to them, can heal independently if the body can handle with microflora, and necrotic tissues (sequestration of bone, soft tissues, foreign bodies) are isolated from the pathological focus.

In fistulas of a hollow organ, an important condition for independent closure is a decrease in the discharge of contents from this organ.

Fistula diagnosis is based on:

- Complaints, medical history,
- Clinical picture
- Instrumental examination data,
- Special examination methods

The fistulous course is usually lined with epithelium or granulations. In the case when the fistulous course communicates with the external environment, the fistula is called external, if it connects with internal organs or cavities - internal. Fistulas can be congenital and acquired, can be formed independently, due to the pathological process (fistulas in osteomyelitis, ligature fistulas, fistula between the gallbladder and intestine in case of a longstanding inflammatory disease, tumors during its germination), and can be created artificially (nutritious gastrostomy in case of esophagus burns, colostomy after elimination of intestinal obstruction, etc.).

TREATMENT.

In granular fistulas it is crucial to eliminate the focus of inflammation in the depths of the tissues with the mandatory removal of sequesters, foreign bodies, etc. that support inflammation, as well as the creation of a good outflow of discharge apart from the fistulous passage.

Granulating fistulas of the internal organs can be healed on their own when the outflow through them is ceased, however, a significant number of cases required surgical treatment. So, most of the bile fistulas, after providing an outflow to duodenum, heal by themselves, while granulating intestinal fistulas often have to be closed operatively.

The main in the surgical treatment of epithelial fistula, in addition to the elimination of the lesion, is the mandatory complete isolation and removal of the epithelial cover of the fistulous passage. Various methods (chemical, thermal, electrical) of the destruction of the epithelium of the fistulous passage are ineffective.

Lip-shaped fistulas can be cured only by a radical operation consisting in mobilizing of the walls of the hollow organ and suturing the hole in it or when pathological changes are present in the walls - a resection of its part.

Artificial fistula.

External stomas and inter organ anastomoses are distinguished. They are imposed to restore the function of the organ, divert the contents of the hollow organ, and improve the nutrition of the patient.

Depending on the reasons causing the need for stoma application, they are divided in to temporary (granulating) with the expectation of the possibility of self-closure after the need is over and permanent, when the reason that caused their application is unresolvable; in these cases they form a lip-shaped fistula that does not independently overgrow.

TROPHIC ULCERS.

An ulcer is a defect of the integument and deep-lying tissues that developed as a result of their necrosis in the absence or presence of weakly expressed regeneration processes.

Ulcers are a polyetiological disease that can develop as a result of the following causes:

- Circulatory and lymphatic disorders,
- Traumatic injuries,
- Infections,
- Metabolic disease,

- Impairment of nerve trophic,
- The disintegration of tumors.

Classification:

I. By etiology:

- atherosclerotic
- venous
- neurotrophic
- traumatic
- infectious
- trophic
- oncological

II. By complication:

- complicated
- non complicated

CLINICAL PICTURE.

The condition of tissues is of great importance for the formation of ulcers; especially favorable conditions are created in tissues with impaired innervation, blood circulation or metabolism. In these cases, even a small, invisible to normal tissue injury is enough to cause necrosis and an ulcer. Therefore, for example, an ulcer on the foot in patients with damage to the sciatic nerve may form due to a minor injury, which under normal conditions passes without a trace. The processes of tissue metabolism in paralyzed limbs are reduced, under these conditions scuffs and ulcerations are formed, which usually do not heal after the elimination of traumatic agents.

Chronic foot ulcers are developed in the place of long-acting pressure in a deformed limb like bedsores, i.e. under these conditions; the pressure itself is an injury sufficient to form an ulcer.

Impairment of the blood flow in chronic venous insufficiency caused by thrombophlebitis, varicose veins of the lower extremities, while maintaining the flow of arterial blood, leads to pronounced blood stasis, hypoxia of limb tissues and severe tissue metabolism, which can result in necrosis of skin tissue and ulceration. In such cases, minor damage (bruising, abrasion, etc.) is sufficient for the development of an ulcer, although in some patients it is possible to establish even without such a minor injury.

Given that in a trophic ulcer, as in a wound, there is a defect in the continuity of tissues, it is important to determine their differences from each other.

Trophic ulcer	Wound
Duration over 2 months	Duration less than 2 months
No tendency to heal	Healing according to the phases of the wound healing process
Occur at the center of trophic disorders	Surrounding normal tissue
Granulations are sluggish, grey-brown	Granulation is bright red, juicy
Covered with plaque of fibrin and necrotic tissues.	Necrotic tissue is usually absent.
Microflora is present on the surface.	The presence of microflora is not characteristic

A wound is characterized by a short lifetime and changes in accordance with the phases of the wound process. Usually, the healing process is completed in 6-8 weeks. If this does not happen, then the reparative processes slow down sharply, and starting from 2 months of existence, any defect is considered to be a trophic ulcer.

A trophic ulcer is always at the center of trophic disorders, covered with sluggish granulations, on the surface of which are fibrin, necrotic tissues and pathogenic microflora.

Treatment:

In order to treat trophic ulcers local and general treatment, conservative and surgical methods are used.

Local treatment:

- Combat infection: - dressings with antiseptics,
- Cleansing ulcers from necrotic tissue:
 - conservatively
 - (enzyme preparations),
 - (physiotherapy)
 - (sorbents, etc.)
 - operatively (necrectomy),
- Closure of the defect:
 - independently (due to marginal epithelization)
 - with drugs - Actovegin, Solcoseryl, Iruxol, etc.
 - occlusion therapy in CVI
 - dressing with Unna paste.
 - operative (free skin grafting, but to a greater extent – on feeding pedicle with exclusion of pathological granulation.

General treatment:

- Elimination of the cause (operatively or conservatively),
- Improving trophic (the use of drugs that improve microcirculation, tissue metabolism, oxygen deficiency, etc.),
- Antibacterial therapy,
- Immunocorrection.

MCQS FOR THE TOPIC

1. Due to the appearance of fistulas, they are divided into:
 - 1) congenital;
 - 2) traumatic;
 - 3) intermediate;
 - 4) final.
2. Acquired fistulas do not arise as a result of:
 - 1) tumors;
 - 2) injuries;
 - 3) malformations;
 - 4) inflammatory disease.
3. Epithelial fistulas require:
 - 1) surgical treatment;
 - 2) only conservative treatment.
4. Postthrombophlebic ulcers are localized in the area:
 - 1) the outer ankle;
 - 2) the inner ankle;
 - 3) sacral;
 - 4) patella.
5. Callous ulcers are characterized by:
 - 1) dense calloused edges;
 - 2) soft edges;
 - 3) bleeding;
 - 4) excessive granulation.
6. Epicystostomy is:
 - 1) external fistula;
 - 2) internal fistula.
7. Granular fistulas often require:
 - 1) surgical treatment;
 - 2) conservative treatment.
8. Atrophy of the skin around the ulcer is characteristic of:
 - 1) atherosclerotic ulcers;
 - 2) radiation ulcers;
 - 3) varicose trophic ulcers;
 - 4) ulceration of the tumor.
9. Is it true that after healing of the ulcer with granulations, ointment dressings and careful cauterization of granulations are shown?
 - 1) yes;
 - 2) no.
10. The external artificial fistula is:
 - 1) tracheoesophageal;
 - 2) gastrostomy;
 - 3) arteriovenous
 - 4) Urachus.

ЛИТЕРАТУРА

Основная.

1. Лекции по теме.
2. В.К.Гостищев "Общая хирургия",-М.:Медицина, 1996.
3. В.И. Стручков, Ю.В.Стручков "Общая хирургия", - М.: Медицина, 1988, с.42-78
4. С.В.Петров. "Общая хирургия", С.-Пт., 2000.

Дополнительная.

- 1.А.В.Григорян, В.К.Гостищев, П.И.Толстых. Трофические язвы. М., «Медицина», 1972.
2. Г.Н.Захарова. Облитерирующий эндартериит. Саратов, 1972.
3. П.Д.Колченогов. Наружные кишечные свищи и их лечение. М., «Медицина», 1964.
4. А.Т.Лидский. Важнейшие заболевания периферических сосудов. М., «Медгиз», 1958.
- 5.В.И.Стручков. Нарушения кровообращения. Некрозы, гангрены, язвы, свищи. Многотомное руководство по хирургии, М., 1964, Т.2, ч.III, с 397–412.