

MINISTRY OF HEALTH OF UKRAINE
POLTAVA STATE MEDICAL UNIVERSITY
DEPARTMENT OF THE GENERAL SURGERY WITH PATIENT'S CARE

NECROSIS, GANGRENES, BEDSORES, ULCERS AND FISTULAS

Lecture for general surgery

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Necroses of tissues is a serious surgical pathology which can bring to lethal complications. Knowledge of their prophylaxis and treatment are obligatory for doctors of any profile.

Classification of necrosis

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graph TD; A[Classification of necrosis] --> B[DIRECT]; A --> C[INDIRECT];
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DIRECT

INDIRECT

DIRECT (exogenous)
*as a result of influence of an
external damaging factor:*

- the mechanical;
- the thermal;
- the electric;
- the chemical;
- the radiation;
- the infectious and toxic;
- innervations' disturbance.

Indirect (endogenic) **as a result of** **circulatory disturbances of a** **circulation:**

- disturbances of cardiac activity;
- acute and chronic disturbances of arterial permeability;
- acute and chronic disturbances of venous outflow;
- microcirculation disturbance;
- disturbance of a flow of lymph;
- disturbance of a systemic hemodynamic;
- spastic stricture and obliteration of arteries;
- disturbances of coagulability of a blood (clottages and embolisms).

Factors which influence depth and rate of development of necroses

Anatomical-physiological features of the organism of the patient:

- general state of the patient, existence of chronic intoxications, attrition, avitaminoses, anemia, metabolism disturbance;
- features of a local circulation (the main or loose type), condition of a vascular wall.

Degree of a infections of soft tissues in a necrosis zone (a myocardial infarction – the aseptic current), gangrene of lungs, a gall bladder, an appendix – have is purulent-destructive current.

Ecological factors (the cold provokes a vascular spastic stricture, heat – intensifying of a metabolism of tissues, X-radiation – pervert vascular and tissues reactions).

Definition of terminology

Gangrene is a necrosis which has such signs: lesion of an organ or its most part and characteristic appearance of tissues (black or gray-green), caused by hemoglobin decomposing at contact to air.

Classification of gangrenes

On an etiology (as a result):

- wounds and ligation of vessels;
- prelums of vessels;
- thromboses and embolisms;
- thermal and chemical trauma;
- disturbances of a trophicity of tissues;
- development of a surgical infection;
- obliterating endarteritis;
- obliterating atherosclerosis;
- diabetic angiopathy;
- specific infection (lues).

nonspecific

Specific

Cont..

On lesion depth:

the superficial;
the deep;
the total.

On a clinical current:

dry gangrenes;
wet gangrenes.

On anatomic localization:

skin (dermatoses);
extremities;
internal.

Causes of gangrenes

Dry gangrene can be at:

chronic obliterating diseases of the lower extremities;

the deep not infected thermal combustions.

Wet (moist) gangrene can be at:

deep thromboses (blue and "white" phlegmasias);

deep combustions alkalis;

the infected combustions and freezing injuries;

necrotic forms of a surgical infection;

pyoinflammatory processes in an internal organs.

Causes of gangrenes

Dry gangrene	Wet (moist) gangrene
gradual drying of tissues (mumification) happens to decrease of their volume on the background of chronic disturbance of a circulation.	On the background acute disturbance of a circulation tissues don't manage to dry, there is an edema.
Accurate demarcation from healthy tissues.	There is no demarcation from healthy tissues.
Absence of an infection.	Connection of Infections.
Symptoms of intoxication aren't present.	Expressed intoxication.
Histologically in tissues the coagulative necrosis prevails.	Histologically in tissues the colliquative necrosis prevails.

Complications of gangrenes

At gangrenes of external localization:

intoxication;
secondary lesions of parenchymatous organs;
death from septico-toxic shock;
paresis, paralyzes, contractures of extremities;
epidermolysis and ichorization of soft tissues.

At gangrenes in an internal:

erosive bleedings;
perforations of hollow organs;
infection generalization on anatomic serous cavities which carries away life of patients.

Pressure Ulcer Contributing Factors

Friction/Shear

Poor Nutrition

Incontinence

Moisture

Co-existing Medical Conditions

Stage I Treatment

Off-load pressure

Transparent film dressing

Hydrocolloid dressing

Moisture barrier

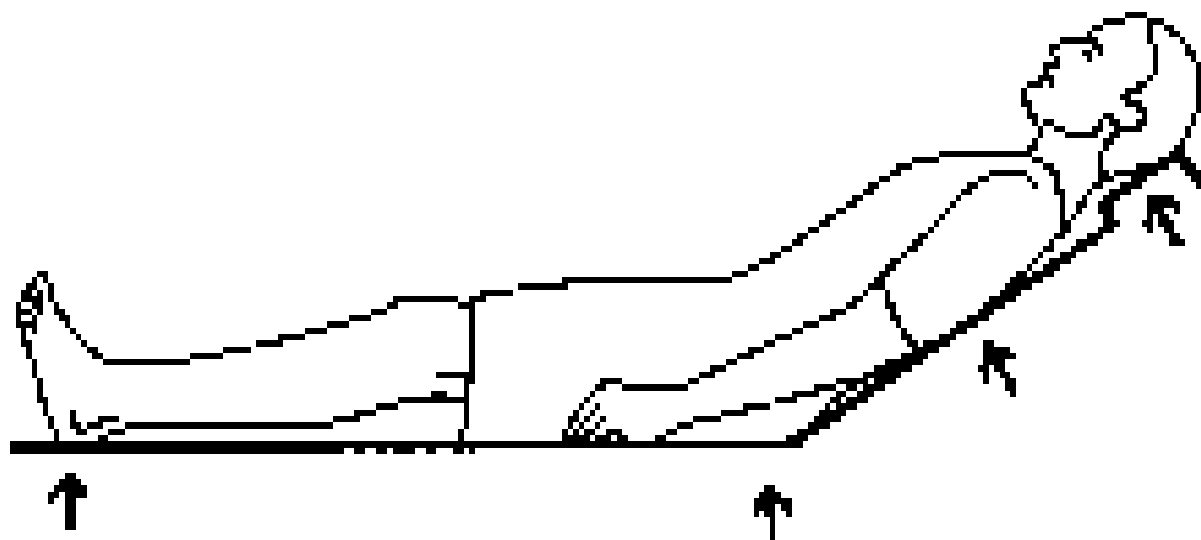


Figure 1

