

Acute inflammation

Acute inflammation is a fast defensive body response to tissue damage or the presence of microorganisms or other extraneous agents. This response depends on the localization, duration and type of the agent causing the inflammation. Includes these principles:

Alteration

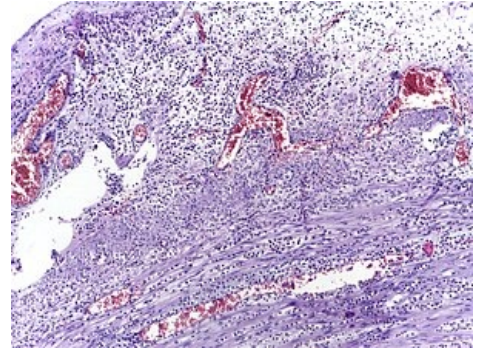
Alteration is a process of tissue-damaging. It includes all the changes in the organ or tissue. Can come out as necrosis.

Vascular changes, peristaltic hyperemia

At first, comes vasodilation and rise of the permeability of the wall - in order to increase the concentration of the required substances in the place of the injury.

Changes in blood vessels

1. Temporary vasoconstriction - response to the irritation.
2. Vasodilation of the precapillary arterioles - the reason for the blush, increased temperature and increased blood stream in the vessel.
3. Increased permeability of the capillary vessels and venules - causes the edema.
4. Margination of the neutrophils - for the future reparation.



Acute inflammation

Response of the lymphatic vessels and lymph nodes

Lymphatic vessels are important in the immune response and tissue drainage.

Exudation

Exsudation increases the permeability of the vessels for water and further proteins. The exudate can be serous, fibrinous and purulent. Its composition can serve for the identification of the origin of the inflammation.

Infiltration

Penetration of the blood cell elements to the damaged tissue.

Molecular mediators of inflammation

Can be produced locally or come with blood plasma. They regulate the whole process of inflammation.

Are divided into:

1. Plasma mediators: Hageman factor 12, Complement system, kinins.
2. Cell mediators:
 - * Vasoactive amins – Histamin, Serotonin, Arachidonic acid.
 - * Cytokines (TNF, IL), Chemokines.
 - * Reactive oxygen species (ROS).

Links

Related articles

- Inflammation
- Acute prostatitis
- Acute pancreatitis
- Acute phase reactants

Bibliography

- POVÝŠIL, Ctibor – ŠTEINER, Ivo, et al. *Obecná patologie*. 1. edition. Praha : Galén, 2011. 290 pp. ISBN 978-80-7262-773-8.

