

Aspiration pneumonia

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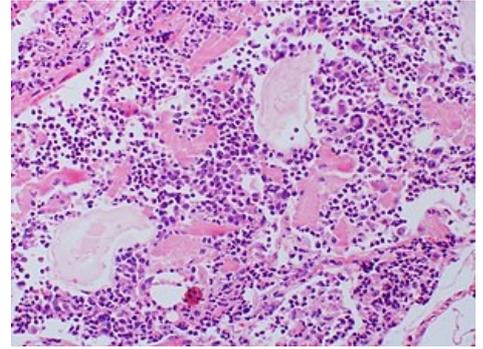
Aspiration pneumonia is an inflammation response caused by the aspiration of gastric contents after alcoholic intoxication, unconsciousness, during some therapeutic procedures, for example tracheostomy, gastric lavage, intubation, etc. Other cause of aspiration of gastric content could be gastroesophageal reflux (Mendelson syndrome). Highly susceptible populations include pre-term newborns, children with cleft palate, neurologic patients and bedridden elderly patients.

It is possible to aspirate:

- chemical and other substances (gastric content, lipids)
- internal material (fluids, solid parts)
- infectious material from oropharynx (gram-negative bacteria)

If an aspiration of gastric content occurs, the inflammation is caused by the acidity of gastric juice, bacterial activity and irritative effect of food.

In this cases, infectious pneumonia is established which is commonly located in the lower lobe of the right lung. The volume and the pH of aspirate determinates how much the damage will be serious. A pH < 2,5. indicates poor prognosis.



Histopathology of pneumonia due to food aspiration

Clinical presentation

Aspiration pneumonia manifests itself by sudden onset of dyspnea with cyanosis or with high temperature. Sometimes it can be accompanied by productive or irritative coughs. In tough cases, the ARDS (Acute Respiratory Distress Syndrome), abscess, fistulas or empyema. The most common pathogens are Staphylococcus aureus and Haemophilus influenzae.

An x-ray examination

On the X-ray image we can see diffuse homogenic infiltration often with clearance. In ARDS the image will resemble pulmonary edema.

Diferencial diagnosis

- pulmonary edema,
- embolisation
- bacterial pneumonia.

Treatment

- oxygenotherapy
- securing the vital functions - intubation with mechanical ventilation, stabilization of hemodynamics
- broad-spectrum antibiotics for prophylaxis
- mucous suctioning using bronchoscopy

The improvement of the patients state is expected within 24 hours.

Other aspiration pneumonia

Foreign body aspiration

The presentation of foreign body aspiration depends on its size, shape, structure etc.

- big body → asphyxiation
- small body → lung inflammation after the stenosis, they can raise suspicion for malignant process

Therapy: removing the foreign body by bronchoscopy, ATB administration

Water aspiration

The progression of pneumonia depends of the water quality which was inhaled

- freshwater - hypoosmolar, leads to hypervolemia → hemodilution + hemolysis → low hematocrit level → CNS

- and heart hypoxemia
- seawater - hyperosmolar, leads to pulmonary embolism

Oil aspiration

The so-called Lipoid pneumonia can occur when aspirating mineral, vegetable or animal oils (laxatives, nasal drops). There is a risk of localized pulmonary fibrosis, the X-ray imitates the image of the tumor process. In addition to the usual therapy, corticosteroid treatment is included.

Fire breather's pneumonia

It develops during involuntary aspiration of liquid paraffin in fire breathers. The findings resemble lipoid pneumonia.

Links

Related articles

- Pneumonie
- Aspirace
- Aspirace cizího tělesa

Literature

- KLENER, Pavel, et al. *Vnitřní lékařství*. 4. vydání. Praha : Galén: Karolinum, 2011. 1174 s. ISBN 978-80-7262-705-9.
- ČEŠKA, Richard, et al. *Interna*. 1. vydání. Praha : Triton, 2010. 855 s. ISBN 978-80-7387-423-0.
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