Differential diagnosis of cough/ PGS (VPL)

Definition

Cough is a **symptom** – abrupt release of air from the airways against closed vocal cords. The most common causes are viral and bacterial infections. Cough can cause sleep disturbances, rhythm (increases pressure in the pulmonary circulation), headaches, syncope (transient hypoxemia), or broken ribs. It often occurs as the first symptom of airway obstruction.

Etiology

Upper respiratory tract and bronchi

- common infections,
- sinobronchial syndrome in sinusitis(in addition in the clinical picture and headaches, irritation of the posterior wall of the pharynx with mucus),
- chronic bronchitis,
- bronchitis (in bronchitis) - dry, irritating,
- influenza tracheitis,
- foreign body aspirations.

Pulmonary etiology

- pneumonia (in the clinical picture fever, green-yellow sputum),
- asthma bronchiale,
- so-called smoking cough,
- COPD,
- pleuritis (in the clinical picture of chest pain with cough and a deep breath),
- bronchiectasis (large smelly expectoration in the clinical picture, especially in the morning),
- tumors (in the clinical picture often dry cough for more than 3 weeks, weight loss),
- sarcoidosis
- exogenous allergic alveolitis,
- pulmonary embolism,
- TBC (in the clinical picture dry cough, weeks of persistent subfebrile),
- pneumothorax (in the clinical picture shortness of breath and pain).

Cardial etiology

- left-sided cardiac insufficiency (in the clinical picture of coughing with a small expectoration, exertional dyspnea),
- pulmonary edema.

Gastrointestinal etiology

- reflux disease (with aspiration).

Side effects of drugs

- ACE inhibitors (dry cough - disappears after discontinuation of ACEi),
- acetylsalicylic acid,
- barbiturates,
- sodium cromoglycate (by inhalation).

Psychogenic etiology – after excluding other causes (so-called diagnosis per exclusionem)

- "tick" after pertussis,
- crisis situations of adolescents,
- other mental disorders, especially neuroses.

Diagnostics

Anamnesis

Duration: a common banal infection is no longer likely in more than 3 weeks.

Time and circumstances of occurrence: is aspiration suspected? ("croaking").

Acute paroxysmal cough: in acute bronchitis, pneumonia, pneumothorax, foreign body aspiration, pulmonary embolism.

Chronic cough: in chronic bronchitis, bronchogenic carcinoma, bronchiectasis, TB, bronchial asthma, sarcoidosis, mucus from the throat irritates cough in chronic rhinitis.

Repeated bouts of cough: in asthma bronchiale, pertussis attacks especially at night, chronic bronchitis, exogenous allergic alveolitis.

With concomitant fever and coughing: in purulent bronchitis, bronchopneumonia, or pneumonia.

With hoarseness: in the larynx and/or vocal cords.

Chest pain: with pleura (pleurisy) or intercostal nerve injury.

History of smoking: at 10 cig/day in 25% it is "smoking cough", at 20 cig/day it is already in 50%.

Pharmacological history: side effects of ACEi, acetylsalicylic acid, barbiturates, cromoglycates.

Unproductive cough: persistent irritation after bronchitis, bronchial carcinoma, bronchial hyperresponsiveness, left-sided cardiac insufficiency, or psychogenic cough.

Physical examination

- **general condition examination**,
- **physical examination of the lungs**,
  - auscultation during productive cough is beneficial only after coughing up mucus from the airways - it will enable a better assessment of the finding.
- search for signs of **cardiac decompensation**,
- examination of the skin and mucous membranes, throat, nasal patency, and percussive sensitivity above the paranasal sinuses (especially susceptibility to sinusitis in sinobronchial syndrome),
- evaluation of **mental state** - crisis situations in adolescence ev. others (especially neuroses) - typically unproductive cough that does not disturb sleep,
- **laboratory examination** - FW, Blood picture (+ differential budget, Hb, hematocrit),
- **instrument diagnostics**,
  - ***pulmonary function*** - especially in bronchial asthma, COPD, restrictive pulmonary ventilation disorder;
  - ***chest X-RAY*** – in case of cough over 3 weeks always, also in case of auditory suspicion of pneumonia, cardiac decompensation, persistent cough, fever, a general alteration of the condition even in case of a negative auditory finding, suspicion of bronchial carcinoma or aspiration;
  - ***bronchoscopy*** if bronchial cancer or aspiration is suspected;
  - recommendation ***for examination by an internist or pneumologist*** *in a cough* ***over 3 weeks*** *(any cough over 3 weeks or recurrent must be further examined - and clarified, not just prescribed antitussives),* **for laryngoscopy on ENT** *on suspicion of laryngeal involvement, prolonged cervical lymphadenitis,*
  - recommend ***for hospitalization*** in case of general alterations, acute dyspnea, cyanosis, or suspected cardiac decompensation.

Sputum diagnostics

Sputum (mucus) is the secretion of the mucous membranes of the respiratory tract and paranasal sinuses.

Sputum Properties

- white/whitish - in case of viral infection;
- yellow/green - for bacterial bronchitis, bronchiectasis, cystic fibrosis, TB;
- purulent - in bacterial infection (bronchitis, pneumonia, larger amounts in bronchiectasis);
- purulent yellow - in eosinophilia (bronchial asthma) it can mimic purulent;
- bloody - it can be in acute or chronic bronchitis, especially in hypertension, if it occurs repeatedly we must rule out bronchogenic carcinoma, TB, or bronchiectasis, sometimes it occurs in pulmonary embolism;
- light yellow (saffron) - typical of the healing phase in pneumonia;
- brownish - for heavy smokers or working with coal;
- purulent-smelling - in lung abscess, disintegrating bronchogenic carcinoma;
- sometimes looks like bronchial casting in chronic bronchitis, bronchial asthma, bronchopulmonary aspergillosis.

Amount of sputum large in cystic fibrosis or bronchiectasis.

Sputum examination*...

Resources

Literature

- GESENHUES, S – ZIESCHÉ, R. *Vademecum lékaře.* 1. czech edition. Praha : Galén, 2006. ISBN 80-7262-444-X.