MICROSCOPIC EXAMINATION OF SPUTUM.

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Abstract. Phlegm (sputum) is a pathological secretion released from the respiratory tract by coughing. Examination of sputum helps to determine the nature of the pathological process in the respiratory organs and its etiology. Clinical examination of sputum includes examination, measurement of its quantity, study of its physical and chemical composition, microscopic, bacterioscopic and cytological examinations[1,2,3]. .Material collection rules: after rinsing the mouth, it is taken in the morning into a dry glass jar or Petri dish. Saprophytic flora increases in old sputum and destroys its shape elements. If necessary, sputum is stored in a cold place, but not for more than 2-3 hours. Sputum is always infected, so you should be careful when communicating with it.

Key words: Sputum, saprophytic flora, native preparation, epithelia, Kurshman spirals, mycobacteria

INTRODUCTION

Microscopic examination of sputum. Technique of preparation of native drug. Sputum is placed in a Petri dish and spread carefully with a spatula and needle until a translucent layer remains. The translucent layer of sputum is visible on white and black backgrounds, the difference in color, consistency, shape The parts to be used are separated[4,5]. The found derivatives are separated with a cutting characterizing instrument.

The separated material is transferred to the glass of the object, in which the dense ones according to consistency are closer to the center of the preparation, and the less dense ones are placed on the periphery. The material is covered with glass. The drug is viewed in a small (objective x5, eyepiece x7) volume for viewing Kurshman spirals and primary orientation, and in a large volume for separating its shaped elements. Epithelium and other cell elements. Flat epithelium is the epithelium of the mucous membrane of the oral cavity, nasopharynx, larynx and vocal cords[6,7,8,9]. It consists of flat thin cells with a small pycnotic nucleus and homogeneous cytoplasm. It can be determined in all sputum samples.

There is no main diagnostic value.

Cylindrical or prismatic squamous epithelium can be of different shapes, mainly poniform, less round, triangular, irregularly shaped, round or oval

nucleus mainly eccentric, It is located closer to the basal part of the cell. When the size of neutrophil granulocytes increases, they are rounded, sometimes irregular in shape, with a granular cytoplasm and nucleus with a diameter of 10-12 μm, consisting of several segments. It appears in various inflammatory processes of respiratory organs.

Eosinophil granulocytes are found in sputum in the form of individual cells, as well as groups and swarms. The cells are round, granular, of the same size and shape. To clearly identify eosinophils, the blood smear is stained according to Pappenheim (8-10 minutes). A large amount of eosinophils in sputum in allergic conditions (bronchial asthma, eosinophilic bronchitis) in helminthosis (pulmonary echinococcosis).

Erythrocytes in sputum are unchanged when lung tissue is damaged, in pneumonia, lung infarction, etc[10,11]. Alveolar macrophages are large round-shaped cells, 10 to 25 μm in size, derived from reticuloendothelial cells.

Elastic fibers are connective tissue elements that appear in sputum when lung tissue is destroyed: pulmonary tuberculosis, cancer, abscess, gangrene and echinococcosis. Coral fibers are elastic fibers coated with fatty acid salts. These fibers are called sputum. detection in am indicates the presence of tuberculous cavern[12,13,14]. Calcareous elastic fibers are rough, rod-like formations saturated with calcium salts. Tuberculosis is detected in sputum when the focus is broken.

Fibrin consists of parallel thin fibers arranged in a mesh. Fibrins are often observed in sputum during inflammatory processes (fibrinous bronchitis, tuberculosis, actinomycosis, croupous pneumonia).

Curshman spirals are mucus formations of various sizes. Kurshman's spirals are composed of leukocytes and Sharko-Leyden crystals, which are microscopic mucous spirals. Kurshman's spirals are often observed in bronchial asthma and other pathological processes (various bronchitis, pneumonia, abscess, lung cancer). Crystal derivatives[15]. Sharko-Leyden crystals of various sizes are colorless, octahedral in shape, reminiscent of a compass arrow. These crystals are characteristic of bronchial asthma, eosinophilic bronchitis, lung damage by helminths. . These sharp-pointed rhomboid crystals are yellow in color. In an abscess, it is sometimes found in sputum in lung gangrene. Cholesterol crystals are colorless, rectangular in shape, formed as a result of the breakdown of fat in closed spaces[16,17,18] (abscess, tuberculosis, echinococcosis) Fatty acid crystals - occur as a result of sputum retention in cavities (tuberculosis, abscess, bronchiectasis). Fungi, bacteria and parasites.

Actinomycetes are macroscopically small, dense, yellow grains. A structure with filaments radiating from the central set, with ends that are widened like a flask.

When stained by the Gram method, the filaments are purple, and the bumps are pink. Yeast fungi belonging to the genus Candida are budded cells and pseudomycelial fibers with short buds[19,20]. They are found during long-term treatment with antibiotics in very weak patients.

Echinococcus elements in the sputum of the lungs echinococcosis is determined. During examination, small bubbles, parts of the bubble chitin layer, as well as echinococcal hooks are detected[21].

Ascarid larvae, pneumocyst eggs, trichomonads can also be detected in the sputum. Bacteria are detected in the stained smear: tuberculosis mycobacteria, pneumococci, streptococci, staphylococci, Friedlander's diplobacilli.

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