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Title: Etiological features of low respiratory tract infections in the department of pulmonology

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Body: The purpose of work was to reveal the most typical pathogens of low respiratory tract infections (LRTI) in the department of pulmonology (DP) in Belgorod regional clinical hospital of St. Ioasaf. Material and methods. During 2012 sputum from patients with LRTI such as pneumonia, bronchitis and COPD has been analyzed. 498 samples of biomaterial have been taken and examined with a help of semi-automatic analyzer, growth mediums and tests in bacteriologic laboratory of our clinic. Results. In 97 (19.5%) cases the sputum was regarded as 'low-quality' (saliva and saprophytes were found in the samples). Among the rest of samples 326 were with positive microbial growth (81.3%) and 75 (18.7%) were without one. 360 strains of LRTI pathogens have been collected. 2 pathogens per sample of sputum were found in 34 cases. The main pathogens included as follows: *S. pneumoniae* (54 cases, 15 %) and other *Streptococcus* spp. (71, 19.7 %), *S. aureus* (56, 15.6 %) and *Staphylococcus* spp. (47, 13.1 %), *Enterobacteriaceae* (78, 21.7%), *P.aeruginosa* (5, 1.4 %), *Acinetobacter* (4, 1.1%), *Candida alb.* (71, 19.7%). The sensitivity of these microorganisms has been studied additionally. Conclusions. 1. LRTI pathogens most frequently found in the sputum in DP. were the following: *Streptococcus* spp., *Enterobacteriaceae*, and *Candida alb.* with high level of *S. pneumoniae* and *S. aureus*. 2. Samples without microbial growth collected in the research could be caused by the atypical microorganism or virus. Therefore the special methods of research should be applied and carried out. 3. The great number of low-quality samples have been revealed. Thus there is a necessity to increase the efficiency of sputum sampling in hospitals.