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MICROBIAL LANDSCAPE OF SPUTUM IN PATIENTS WITH BRONCHIECTASIS

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The airways of patients with bronchiectasis, even in the absence of cystic fibrosis become chronically infected by bacteria. Aim of the study was to determine microbiological pathogens in sputum of patients with bronchiectasis without signs of cystic fibrosis in stable phase in the industrial region.

MATERIALS AND METHODS

We examined 13 women suffering from bronchiectasis. In all patients the presence of bronchiectasis was confirmed by computed tomography. Isolation and identification of pathogens was carried out by classical bacteriological methods of inoculation on nutrient media, sensitivity to drugs was determined using disco-diffusion method according to CLSI guidelines.

RESULTS

The average age of patients was 48.0±3.0 years. 13 samples of sputum were obtained, which were distributed by nature in purulent 3 (23.1%), mucopurulent – 7 (53.8%), mucosalivary – 3 (23.1%). In 12 (92.3%) samples the pathogen was detected. The combination of pathogens was in 2 (16.7%) patients. The most common pathogen was *P. aeruginosa* – 12

(100%) strains and its combination with *M. catarrhalis* and with *A. fumigatus* 1 (8.3%) sample. *P. aeruginosa* susceptibility profile was as follows: colistimethate sodium – 12 (100%) strains were sensitive; ceftazidime: sensitive – 10 (83.3%), resistant – 2 (16.7%); ciprofloxacin: sensitive – 2 (33.3%), medium sensitive – 4 (66.7%), resistant – 1 (8.3%); meropenem – sensitive 12 (100%) strains; piperacillin/tazobactam: sensitive – 10 (83.3%) resistant – 2 (16.7%); tobramycin: sensitive 12 (100%) strains. There were 2 (16.7%) strains that were resistant to more than one group of drugs (piperacillin/tazobactam, ceftazidime and ciprofloxacin) and 3 pathogens (25.0%) showed resistance to only one drug (ciprofloxacin).

CONCLUSIONS

The most common pathogen among patients with bronchiectasis in the stable phase is *P. aeruginosa*. 58.3% isolated strains were sensitive to all groups of drugs that have been studied. 100% sensitivity to colistimethate sodium was recorded. Almost 42 % of the strains have showed resistance to variety of antibiotics. Resistance to ciprofloxacin was observed the most frequently.

