CLINICAL STRAINS OF M. TUBERCULOSIS AND ANTI-TUBERCULOSIS DRUGS

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Introduction: In 1995 Ukraine declared an epidemic of tuberculosis (TB), and since 1995 the morbility rate of TB has almost doubled and when the highest level of this indicator was registered (2005), it amounted to - 84.1 cases per 100 thousand population. However, in comparison to the gradual stabilization of the epidemic process in 2006, the spread of MDR TB (MRTB) is a thread nowadays.

Objective: The intention of our study was to analyze the changes in the sensitivity of clinical strains of *M. tuberculosis*, isolated in the Regional Clinical TB Dispensary, to anti-TB drugs of 2009 to 2015 years.

Materials and Methods: The changes in the sensitivity of clinical strains of *M. tuberculosis*, isolated in the Regional Clinical TB Dispensary, to anti-TB drugs of 2009 to 2015 years is the subject of the study. Research methods: statistical analysis.

The results and their discussion: All schemes of medical treatment are developed on the basis of representative data on drug resistance in various categories of patients in the absence of individual data on drug susceptibility test (DST). However, when TB is suspected it is obligatory to conduct DST for particular patient. The standard regimen of chemotherapy (CT) is 8 pyrazinamide (Z) capreomycin (Cm), levofloxacin (Lfx) protionamid (Pt) (Ethionamidum (Et)) cycloserine (Cs) (± para-aminosalicylic acid (PAS)) / 12 Z Lfx Pt (Et) Cs (± PAS). But it does not mean that it is not allowed to go beyond this schemes. The sensitivity of each strain to antimicrobials is individual and depends on many factors. DST has been conducted since 2009 to such drugs: rifampicin (R), kanamycin (Km), ciprofloxacin (Cip), moxifloxacin (Mxf), tseftyzoksymu (Zox), ceftriaxone (Cro), cefoperazone (Cfp) and clofazimine (Cfz); after 2012 the method of standard discs to determine the sensitivity to R, Km, Cip Com and has not been held. DST has not been performed to amoxicillin/clavulanic acid (Amx/Clv) and gatifloxacin (Gfx) since 2013, and since 2014 - To Mxf, Resistance to Lfx and Cro has been systematically determined since 2009. Strains of *Mycobacterium tuberculosis* retained sensitivity or even strengthen to the Km, Cro and Lfx and zone of the growth retardation increased from 15 mm to 20 mm or more, indicating the rational use of these drugs (their correct selection, dosage and combination). Regarding Amx/Clv, Cip, Gfx, Mxf, R and Cfz, clinical strains have formed tendency of increasing resistance to this drugs (areas with stunted growth less than about 10 mm in average) for the study period, which is an evidence of its wrong combination and dosage. It is obvious that among the drugs, that DST was conducted to, there are those which for various reasons were excluded from the study. For example, lack of disks or a change to the molecular genetic method of determination the sensitivity leaded to the exclusion. However the main reason was the loss of an expediency in the conduction, because the drug is being used anyway or was excluded of the treatment schemes.

Conclusions: Thus, having considered the DST data of clinical strains of *Mycobacterium tuberculosis* we can evaluate the tendencies of stabilization or straightening the sensitivity to kanamycin, ceftriaxone and levofloxacin, and noted the possibility of loss amoxicillin/clavulanic acid, ciprofloxacin, gatifloxacin, moxifloxacin, cefoperazone, rifampicin and clofazimine as medications. Each antimicrobial sensibility test (AST) provides data on individual characteristic of microorganisms, so due to analysis of changes, in population of MBT localized in a particular ecological unit, and dynamics of sensitivity changes to anti-TB drugs we can evaluate the rationality of its usage in the clinical treatment.