

## IMPROVED METHODS FOR THE DISCOVERY OF NEW MICROORGANISMS – INFECTIOUS DISEASES

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**Introduction.** Improved methods of taxonomy of microorganisms and their practical implementation was accompanied by the opening of new infectious diseases that are separate species and even families. In nearly every known group of microorganisms have been described new species agents. At the present time genus *Escherichia*, except for species *Escherichia coli*, including other types of *E. fergusonii*, *E. hermannii*, *E. vulneris*, which are able to cause inflammatory diseases in humans.

The **aim** of the study is to clarify improvement of methods of discovering new microorganisms - infectious diseases.

**Methods:** a comparative and systematic.

**Results and discussion.** In the early 90 years through a combination of several molecular genetic technology was established methods of detection and identification of pathogens refractory immune new (unknown) infectious diseases. Successfully combined molecular genetic technology PCR and sequens analysis of 16S rRNA ensured success at the opening of a number of human diseases, pathogens, disease *Vipera* - *Tropheryma whippelii*, bacillary anhiomatoza - *Bartonella henselae*, numerous lesions caused mikoplazmopodibnymy organisms. Researchers hope that this is the methodological approach will accelerate the search for etiologic agents of idiopathic disease with a chronic course as sarcoidosis, rheumatoid arthritis, systemic lupus erythematosus.

Extremely productive is a promising method for detecting pathogens are immune refractory method "hybridization in situ». The advantage of in situ hybridization method is examined specific nucleic acid sequences can be localized microscopic methods directly in the cell. The above methodological approaches for the detection and study of new immune refractory etiologic role of infectious agents causing R. Koch postulates an audit due to the inability to allocate a pure culture in vitro on nutrient media and play in the experiment infectious process with subsequent confirmation of its specificity by re abjection of the originator.

**Conclusions.** The use of modern molecular genetic technologies to prove the specific etiology of new infections remains active only the first postulate, complete "confirmation of a specific connection rule" when testing samples of clinical material from patients with clinical investigational disease, patients with other diseases and of healthy people.