The method of objectifying the results of the ART method "IMEDIS-TEST" in infectious practice

L.V. Chernetsova
(GOU VPO "Izhevsk State Medical Academy", Izhevsk, Russia)

Thanks to advances in diagnostics, in recent years, the arsenal of laboratory methods for determining the etiology of most infectious diseases has expanded significantly: from traditional bacteriological, immunoassay to molecular genetic studies.

In this regard, for a specific laboratory diagnostics hemorrhagic fever with renal syndrome (HFRS) today, the method of choice is the indirect immunofluorescence reaction (NRIF) and the antibody fluorescence method (MFA). The latter method is simple to set up and highly informative, the serological confirmation of the clinical diagnosis reaches 96–98%. However, the need to use paired sera significantly postpones the time of laboratory diagnosis. This, in turn, hinders the early implementation of measures for the treatment of the disease and the prevention of complications (Fazlyeva R.M., 1995; Magazov R.Sh.,

2006). Other approaches for early diagnosis of HFRS are based on the definition JgM to the virus (Dzagurova T.K. et al., 1999; Lundkvist A. et al. 1999; Hujakka H. et al., 2002, 2003) andusing a single serum taken at the time of admission of the patient Hedman K. et al. (1991)for assessing the avidity of specific JgG. Methods of diagnostics based on the hemagglutination inhibition reaction (RTGA) with antibodies specific to the virus have been proposed, since many strains of hantaviruses have the ability to glue erythrocytes. Significant progress in the laboratory diagnosis of HFRS has been outlined after the introduction of various variants of enzyme-linked immunosorbent assay (ELISA) with the definitionJg class M (Veseloe S.Yu. et al., 2003;Wang H. et al., 1993; Schubert J. et al., 2001; Serola H. et al., 2004; Li G. et al., 2006).To achieve the maximum sensitivity of this assay, a full-length recombinant NKB (maximally purified) strain typical for a given region is used to exclude false positive reactions (Garanina S.B., 2005; Li L.I., 2005).

The purpose of our work was to identify the diagnostic capabilities of new energy-information technologies in the conditions of inpatient and polyclinic service of medical and preventive institutions (MPI) of an infectious profile.

To verify the diagnosis (HFRS), the method of vegetative resonance test (ART) "IMEDIS-TEST" was used, which allows
integral assessment of the state of the organism (Gotovsky Yu.V., Kosareva LB, Perov Yu.F., 2003). The undoubted advantage and merit of this method lies in its non-invasiveness and the possibility of a differentiated assessment of the body's response to the presence of any potential pathogen (more than 400 species of bacteria, viruses, mycoses, protozoa, helminths) in a short time (within 15-30 minutes).

However, to confirm the diagnostic capabilities of the methods used in infectious practice, the concept of sensitivity was introduced,

specificity, reliability, which is determined by the following calculations:

a - the number of positive sera from persons with a known positively confirmed by all other means (positive) diagnosis of this infection;

b is the number of positive sera from persons with a knowingly rejected (negative) diagnosis, i.e. false positive;

c - the number of negative sera from persons with a known confirmed (positive) diagnosis, i.e. false negative;

d is the number of negative sera from persons with a knowingly rejected (negative) diagnosis, i.e. true negative, and at the same time

H = a / a + bx100%; reaction sensitivity: the proportion of those who have been diagnosed with the total number of those who have actually been ill (patients);

C = d / d + bx100%; specificity of the reaction: the proportion of non-sick people detected in the total number of non-sick people;

D + = a / a + cx100%; reliability of positive results: the proportion of reliably positive results from the total number of positive reaction results;

D— = d / d + cx100%; reliability of negative results: the proportion of reliably negative results from the total number of negative reaction results.

The implementation of the developed diagnostic algorithm in patients with HFRS was carried out in the admission ward and in the conditions of the RCIB hospital (Izhevsk), according to the previously developed algorithm for HFRS.

The results of testing by the ART method "IMEDIS-TEST" with specific indicators of HFRS in 108 patients admitted with preliminary diagnoses of influenza, acute respiratory viral infections, viral hepatitis, meningitis and fever of unknown origin of other etiology turned out to be negative, i.e. (d),
false positive - 19 (c), false negative - 4 (b), positive
- 212 (a). When comparing the results of 235 parallel studies
The traditional method of laboratory diagnostics (according to the MFA test) and ART "IMEDIS-TEST" in patients with HFRS using the calculations proposed by the method (Glikman, 1978) revealed a high degree of sensitivity and specificity, and the latter, respectively, 91.8% and 96.4 %.

The presence of a high degree of reliability - 92.3% of the ART method "IMEDISTEST" in our study puts it in a row of competitive with the generally accepted methods of serological diagnostics. This method can also be used as a preventive and differential diagnosis at the preclinical stage, as well as express control over the effectiveness of the therapy.

L.V. Chernetsova Method of objectifying the results of the ART method "IMEDIS-TEST" in infectious practice // XIV
"- M .:" IMEDIS ", 2008, vol. 1 -
S.99-102