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HEMORRHAGIC FEVER WITH RENAL SYNDROME IN KIROV REGION

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Resume. Epidemiological and clinical features of hemorrhagic fever with renal syndrome in Kirov region at the present stage were analyzed. Intoxication syndrome, mild kidney damage, respiratory and gastrointestinal tract involvement in the pathological process are HFRS manifestations, this should be considered with the infection diagnosis in the endemic region.

Keywords: *hemorrhagic fever with renal syndrome (GFRS), incidence indicator, clinical and epidemiological features.*

Relevance. Hemorrhagic fever with renal syndrome (HFRS) is a serious public health problem in many countries including the Russian Federation. This is due to the wide spread of natural foci of infection, the severity of the disease and lack of disease specific prevention [3, 4]. It should be noted that in Russia HFRS infection rate is the highest among the natural focal infectious diseases [3]. HFRS manifests in a variety of clinical variations from febrile abortive to severe forms with hemorrhagic syndrome and persistent renal failure [8]. HFRS should be distinguished from leptospirosis, influenza and other acute respiratory viral infec-

tions, enterovirus infection, tick-borne encephalitis, acute pyelonephritis, acute glomerulonephritis, hemorrhagic vasculitis (Schönlein-Henoch disease) [5, 8]. Appropriate diagnosis and treatment of patients determine the disease prognosis.

Kirov region is an endemic area of hemorrhagic fever with renal syndrome. The incidence rate of this infection is above the average index in Russia in 1.5-2 times annually.

Objective: The purpose of our investigation is to analyze clinical and epidemiological features of HFRS in Kirov region at the present stage.

Tasks:

1. To assess the epidemiological history of patients with hemorrhagic fever with renal syndrome.

2. To study HFRS clinical manifestations.

Material and Methods. 96 patients aged from 18 to 69 (on an average 39.3±2.1 years old) were examined. They were treated in Kirov Infectious Teaching Hospital in 2014-2016. Among them there were 87 (90.6%) males and 9 (9.4%) females, 83.3% of the cases were of moderate severity, while 16.7% were severe.

The disease was diagnosed on the base of the epidemiological factors, clinical features and specific diagnosis (in all the patients the diagnosis was confirmed with positive Hantavirus IFA results).

Results: Epidemiological history showed that the disease was related to visits to forests, hunting, fishing, contact with rodents, the use of unboiled water, staying in the countryside and hay making (figure 1). The greatest number of cases was in the summer-autumn season. Similar results were obtained by other investigators [1, 5].

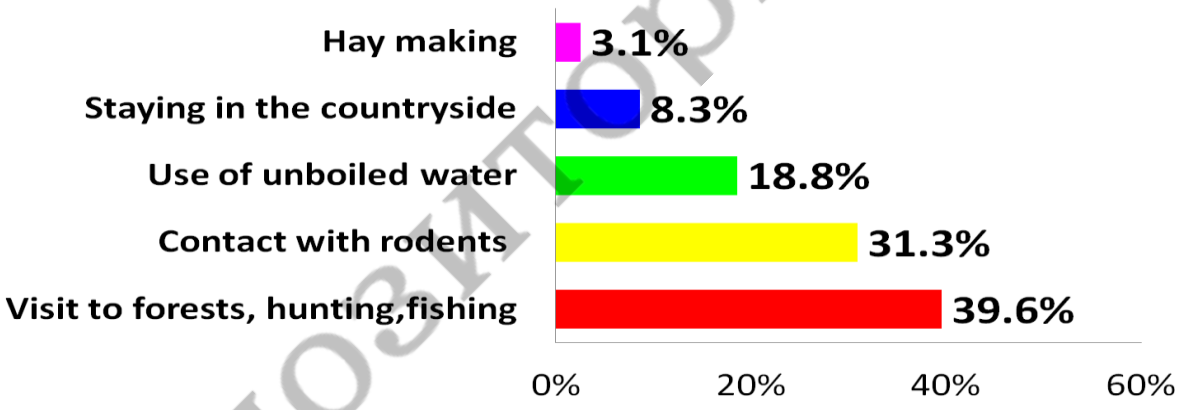

Figure 1 – Epidemiological features

The disease started acutely. All the patients had intoxication. They complained of weakness, malaise, fatigue, headache and temperature on an average 38.8±0.4^{0}C. Myalgia was determined in 50.0% of the cases, redness and puffiness of the face - in 61.5%, injection of the sclera's vascular - in 64.6%, pharyngitis - in 87.5%, blurred vision - in 41.7%. The symptoms of the disease in Kirov region don't differ from those in other regions of the Volga Federal district [1, 6]. The signs of kidney damage were registered. They were backache, oliguria, polyuria, increased protein and erythrocytes in the urine, izohypostenuria, increased levels of urea and creatinine in the blood (figure 2). Other investigators have noted more frequent azotemia development in HFRS [1, 4]. These facts prove that the course of HFRS in Kirov region is more favorable.

In general urine test proteinuria was registered in 68.8% of patients, erythrocyteuria - in 67.7%, leucocyteuria - in 58.3%, cylinderuria - in 28.1%. It should be noted that only 70% of the patients had clinical symptoms of kidney damage и changes in the general urine test.

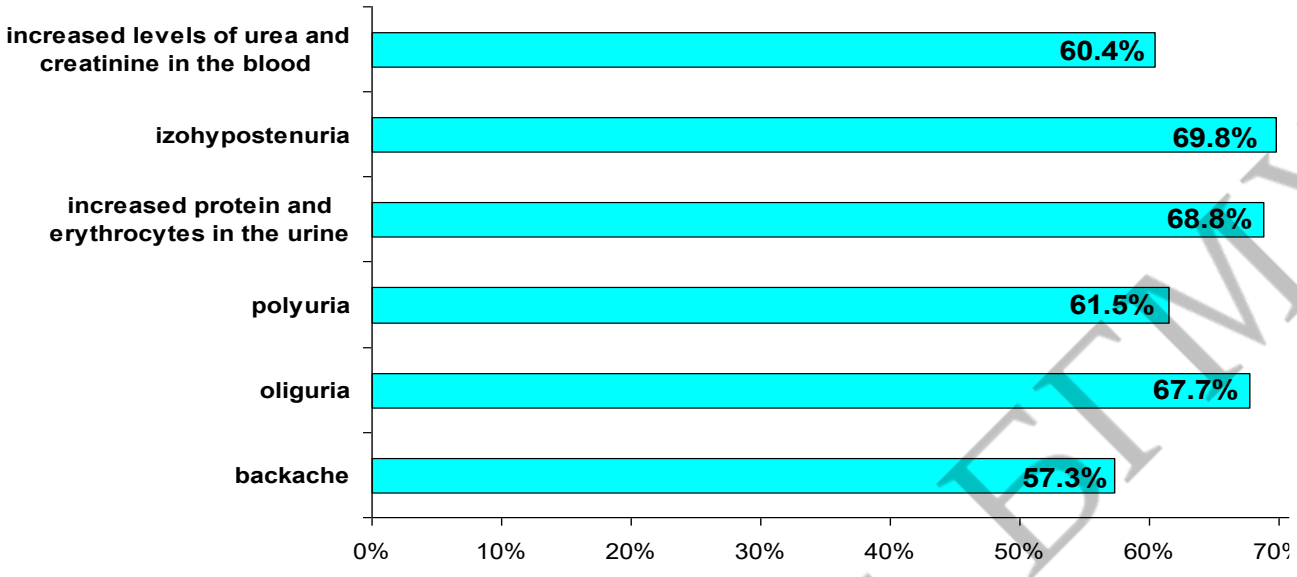

Figure 2 – Clinical features of kidney damage

Some patients had hemorrhagic syndrome. Petechiae on the palate were seen in 22.9% of them. In 22.9% petechiae appeared on the skin of axillary folds and chest wall. In 15.6% of the patients subconjunctival hemorrhages were registered. In other regions the frequency of hemorrhagic syndrome was higher [1, 6, 8].

The patients suffered gastrointestinal tract dysfunction. 17.7% of the people complained of abdominal pain, 28.1% - diarrhea 3-4 times a day. Hepatomegaly was determined in 38.5% of the cases. Mild cytolysis syndrome was registered in half of the patients. The average ALT level was 84.7±6.5 U/l and AST - 76.9±5.3 U/l. Only 7% of patients had increased bilirubin level up to 23.1±2.4 umol/l (figure 3).

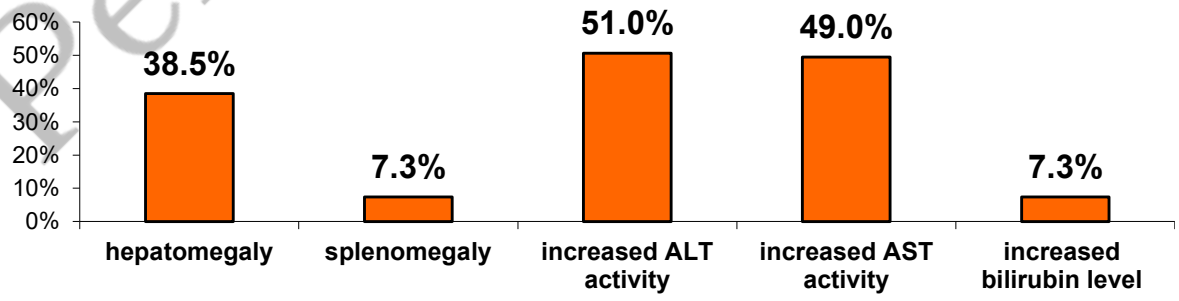

Figure 3 – Clinical features of liver damage

In our research clinical and radiological signs of pulmonary lesions were observed in 17% of the patients. There were dry cough, rough breath or diminished vesicular breath, moist or dry rales, shortness of breath. Chest X-ray showed increased pulmonary opacity (12.5%), bronchopneumonia (6.3%), interstitial pulmonary edema signs and pleural effusion (2.1%). Other authors also observe increased level of respiratory system pathology in HFRS [1, 2, 6, 7]. Patients with GFRS had changes in general blood test. They were leucocytosis in 41.7% of the cases, increased band cells level - in 42.7%, increased erythrocyte sedimentation rate - in 74.0%, thrombocytopenia - in 39.6% and anemia - in 22.9%.

Conclusion: HFRS in Kirov region is characterized by summer-autumn seasonality, possible contact with rodents in most cases and polymorphism of clinical manifestations. Renal syndrome is mild and occurs in some of the patients. The frequency of lung, gastrointestinal tract and liver lesions increases. It is associated with the expansion of serological diagnosis of the disease. It is necessary to do early serological test for HFRS, if the patient from the endemic region has these symptoms.

References

1. Fazlieva, R. M. Lung pathology in haemorrhagic fever with the renal syndrome / R. M. Fazlieva, G. A. Mukhetdinova // Kazan medical journal. – Kazan, 2011. – P. 237-239.

2. Hemorrhagic fever with renal syndrome / E. K. Alekhin, F. H. Kamilov, D. H. Hunafina and others // Bashkortostan Medical Bulletin. - 2013. – P. 25-27.

3. Hemorrhagic fever with renal syndrome in Russia – the XXI century problem / E. A. Tkachenko, T. K. Dzagurova, A. D. Bernstein [and others]. - Russian Academy Bulletin of natural Sciences, 2012. - 48-54 p.

4. Hemorrhagic fever with renal syndrome (literature review) / D. H. Khunafina, D. A. Valishin, L. R. Shaikhullina [and others]. - Medical science, 2014. - 14-17 p.

5. Kazantsev, A. P. Differential diagnosis of infectious diseases. A guide for physicians / A. P. Kazantsev, V. A. Kazantsev. - M.: OOO "Publishing house "MIA", 2013. - 496 p.

6. Kiselyova, L. M. Huntavius infection: clinical features in some regions of the Volga Federal district / L. M. Kiselyova, Y. P. Gruzintseva. - Infectious disease, 2010. - 143-144 p.

7. Lung damage in haemorrhagic fever with renal syndrome / E. G. Tikhomolova, S. V. Abbasova and others // Proceedings of the VI Annual Russian Congress on infectious diseases. - M, 2014. – P. 307-308.

8. Verkhoturova, V. I. Clinical and immunologic characteristics of haemocoagulation disorders and their significance in HFRS pathogenesis / V. I. Verkhoturova. – Vladivostok: Med. Sciences, 2013. - 22 p.