

**TWO CASES OF CRIMEAN-CONGO HEMORRHAGIC FEVER IN GJINAJ, KUKES,
ALBANI**

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Abstract

Introduction: Crimean-Congo Haemorrhagic Fever (CCHF) is a viral hemorrhagic fever caused by RNA virus (Nairovirus family: Bunyaviridae). CCHF can cause severe infection in humans with a fatality rate of 25%-30%. Typically signs are a headache, agitation, high fever, mood instability, muscular pain, thrombocytopenia, leukopenia or leukocytosis, nosebleeds and black stools with 1-7 days' incubation period. Albania represents an endemic country for CCHF, with an important incidence of morbidity and mortality. During the last three years, we have also evidenced family outbreaks, which have been characterized in different clinical manifestation, laboratory data, and prognosis.

Case Presentation: This study reports about two human Crimean-Congo fever cases in Gjinaj - Kukësi city in Albania MARCH 2017.

During the March 2017, two cases of Crimean-Congo hemorrhagic fever (CCHF) were observed in Kukësi district. The first blood sample using reverse transcriptase polymerase chain reaction (PCR) test was sent looking for HF, CCHF and HFRS, and leptospirosis. HFRS and leptospirosis resulted in negative. The repeated serology for CCHF came strongly positive after five days from the initial negative test, and accordingly, patients started on ribavirin and are responded to it.

Conclusions: The main reasons for the transfer of CCHF in this cases, contact with the animal, deal with livestock, the lack of sufficient monitoring of herds, lack of inspection of livestock and Insufficient education and awareness of the dangers diseases are zoonotic. Public education, respect for individual health issues and prevention of vector-borne diseases, can help to eliminate diseases such as CCHF.

Keywords: Crimean-Congo hemorrhagic fever, Kukësi, PCR.

Introduction

Crimean-Congo Hemorrhagic Fever (CCHF) is a viral disease caused by RNA

virus (Nairovirus-family: *Bunyaviridae*). CCHF can cause severe infection in humans with a fatality rate of up to 25%-30% [1].

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CCHF is a zoonosis (by wild and domestic animals) and widespread tick-borne (genus *Hyalomma* - family: *Ixodidae*). Due to vertical or trans-ovarian transmission of hereditary has been preserved in the life cycle ticks, which helps keep to the viral reservoir in arthropods [2]. CCHF can cause severe infection in humans with a fatality rate of up to 25%-30%. Typically signs are vomiting, headache, agitation, high fever, mood instability, muscular pain, thrombocytopenia, leukopenia, leukocytosis, mood instability, mental confusion, throat petechiae, nosebleeds and black stools with 1-7 days' incubation period [1,3-5]. The infection has been reported in endemic areas such as Asia, Africa, and Eastern Europe. Recently, cases of human infection with CCHF have increased, and have been reported from endemic countries: Senegal, Kenya, Mauritania, South Africa, Kosovo, Albania, Bulgaria, Greece, Georgia, Russia, Tajikistan, Turkey, Pakistan, Afghanistan and Iran [2,4,6-12]. Probably, genus *Hyalomma* tick plays as vector role in transmitting the virus from domestic and wild animals to humans. Meanwhile, several CCHF viral infections were detected in northern Albania as seropositive animals or human patients were recognized. The initial report of a clinical CCHF infection in Albania occurred in 1986. However, it has

been repeatedly reported from various northern districts This study report two human Crimean-Congo fever cases in Kukesi city in Albania MARCH 2017. Both reported cases belonged to the same family, a phenomenon reported for the third time during a short period.

Case Presentation

During March 2017, Tow patients were admitted to Infectious Disease Hospital in Tirana. The cases have been reported in the following:

Case 1

A 74-year-old, the man was admitted to the Infectious Disease Hospitals “Mother Theresa” in Tirana with clinical symptoms including sudden onset of symptoms, fever, headache, nausea, muscular and articular pain, asthenia. The objective examination revealed petechial rash and a cutaneous lesion in the right arm (which suggested a probable puncture). The laboratory data evidenced leucopenia and thrombocytopenia. He was referred to the hospital three days after the onset of symptoms. Based on the clinical and laboratory data, a presumptive diagnosis of the disease was made and Ribavirin was administered for 10 days. Clinical and demographic patient data, recorded in the Has, Kukesi, endemic zone. Hematology tests of all three listed in Table1

Table1. Hematology test of two cases when admitted to hospitals

Blood parametres	WBC (ml)	Hb (mg/dl)	PT (x1000 nl)	PTT	INR	ALT (U/L)	AST (U/L)	Creatinine (mg/dl)
Case 1	1.100	10.7	87	22.9s	2.1	23	51	1.2
Case 2	3.900	11.2	134	30.1s	1.4	32	47	1.0

Case 2

A 17-year-old young female was admitted to the Mother Theresa Hospital in Tirana with clinical signs such as: high fever (38–39°C), fever, headache, nausea,

muscular pain, abdominal pain, The objective examination evidenced measles-like rash, petechiae, conjunctival hyperemia, and laboratory data showed thrombocytopenia, increased liver enzymes,

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and total bilirubin. After clinical trials in hospitals as well as serologic tests at the Institute of Public Health Tirana, a final diagnosis was announced CCHF.

Conclusion

CCHF is a viral hemorrhagic fever caused by Nairovirus and Ticks vectors in human and animals. Although most cases of the CCHF disease can be seen in domestic and wild animals, for some reason, sometimes sporadic and outbreaks of infection occurred in humans. CCHF represents a threat and fulmination to public health because of its possible epidemic outbreaks, high rates of mortality, the potential for originating of hospital outbreaks, and also difficulties in treatment and prevention of this infection [13]. The geographical distribution of the Nairovirus, in association to its tick vector, is cosmopolitan; Of course, except the 50 degrees north latitude, which the *Hyalomma* tick vectors are not found. The CCHF is endemic in northern regions in cases of human infection to form of sporadic and outbreaks occur in some regions as Kukesi, Has, or Tropoja livestock workers (with contact to livestock in an endemic area). Vllahen Has is one of the most infected regions with 5 cases in 2003 of which 1 case led to death. Gjinaj region is located in Has, Kukesi prefecture at the high-risk area and this was an important factor for becoming infected these people. All two cases were infected with contact with vectors hyaloma, the lack of sufficient monitoring of herds, lack of inspection of livestock and insufficient education and awareness of the dangers diseases are zoonotic. Public education, respect for individual health issues and prevention against vector-borne diseases, can help to eliminate diseases such as CCHF.

Treatment for CCHF is primarily supportive and pharmaceutical options for CCHF treatment are limited (2, 3, 7). CCHF patients need careful attention to the fluid and electrolyte balance, ventilation support

for enough oxygenation, mild sedation and hemodynamic support depending upon the situation at the early stages of the disease in the early stage of the disease presentation. Delay in the diagnosis and supportive care decreases the efficacy of treatment and aggravates the outcome of the disease.

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