



Re-Emergence of Congo Virus in Pakistan: Call for Preparedness

Tauseef Ahmad^{*1}, Muhammad Khan², Saqib Malik³

¹Department of Microbiology, Hazara University Mansehra 21300, Khyber Pakhtunkhwa, Islamic Republic of Pakistan

²Centre for Human Genetics, Hazara University Mansehra 21300, Khyber Pakhtunkhwa, Islamic Republic of Pakistan

³Department of Medicine, Unit-A, Ayub Medical College, Khyber Pakhtunkhwa, Islamic Republic of Pakistan

*Corresponding author: Tauseef.ahmad@hu.edu.pk; hamdardmicrobiologist@gmail.com

Received: 08 Aug 2016/ **Accepted:** 27 Aug 2016 / **Published online:** 30 Aug 2016

©The Author(s) 2016. This article is published with open access by **BioMedPress (BMP)**

Abstract— Crimean-congo hemorrhagic fever (CCHF) once again re-emerged in Pakistan. In July 2016, 2 CCHF cases were reported from Lodhran and Bahawalpur districts of Pakistan. Later on the CCHF virus was also reported from other region of the country including Balochistan, Karachi and Khyber Pakhtunkhwa. Till 22 August 2016, a total of 20 deaths were reported of which 12 from Balochistan, 5 from Karachi, 2 from Bahawalpur and 1 from Khyber Pakhtunkhwa. Precautionary measurements and awareness is necessary to protect the normal individuals away from this fatal disease. The media, health department and government need to play their active role to stop the spread of CCHF in the country.

Keywords: Crimean-congo hemorrhagic fever; Pakistan; Balochistan

Crimean-congo hemorrhagic fever (CCHF) is a tick born viral zoonotic disease. The virus belongs to genus *Nairovirus* and family *Bunyaviridae* (Hoogstraal, 1979; Nichol, 2001). After dengue, CCHFV is the second most widespread arbovirus (Ergönül, 2006). In 1960, CCHFV was isolated from ticks in Changa-Manga forest near Lahore (Begum et al., 1970). In Pakistan the CCHF is endemic, the first case was reported from Rawalpindi in 1976 (Alam et al., 2013). The disease was reported from different region of the world i.e. Africa, Southeastern Europe, Middle East and Asia. A significant increase in the CCHFV incidence was observed in the last decade especially in the South-eastern Europe (Bente et al., 2013).

In 1944, the first case of CCHF was reported from former Soviet Union (Casals et al., 1970; Leshchinskaya, 1965). After that, many outbreaks have been reported from different countries including United Arab Emirates (Suleiman et al., 1980), Iraq and Pakistan (Al-Tikriti et al., 1981), Kuwait (Al-Nakib et al., 1984), Bulgaria and Saudi Arabia (Scrimgeour, 1995). In the last few years, many CCHF outbreaks

were reported from Pakistan and also from the neighboring countries including Afghanistan, India and Iran (Athar et al., 2005; Izadi et al., 2006). Izadi et al. (2006) reported 248 cases of CCHF in Iran, of which 169 were from Sistan-va-Baluchestan province which has the border with Baluchestan-province of Pakistan.

In July 2016, two CCHF cases were reported from Lodhran and Bahawalpur districts of Pakistan (The Express Tribune, 2016. 01 August). In the recent cases the CCHF virus transferred dramatically. A student nurse was admitted to hospital having abdominal pain. After the surgery CCHF virus was detected. Later on the patient was died. The surgeon who operated the infected individual got sick, and later CCHF was diagnosed and treatment was started but he didnot recover. The staff that treated this surgeon also got some symptoms of CCHF. The authorities realized the situation and medical emergency was imposed. WHO team also visited the places and collected the samples to verify the CCHF.

Till August 22, 2016, a total of 20 deaths have been reported from Pakistan. High number of deaths were reported from Balochistan sharing border with Iran and Afghanistan, followed by Karachi as shown in **figure 1** (Outbreak News Today, 2016. 22 August).

The latest death shows traveling history of the virus from Afghanistan to Pakistan. A lady from Afghanistan was admitted for treatment at Fatima Jinnah TB Sanatorium Hospital in Quetta, which was died later on (The Nation, 2016. 22 August.).

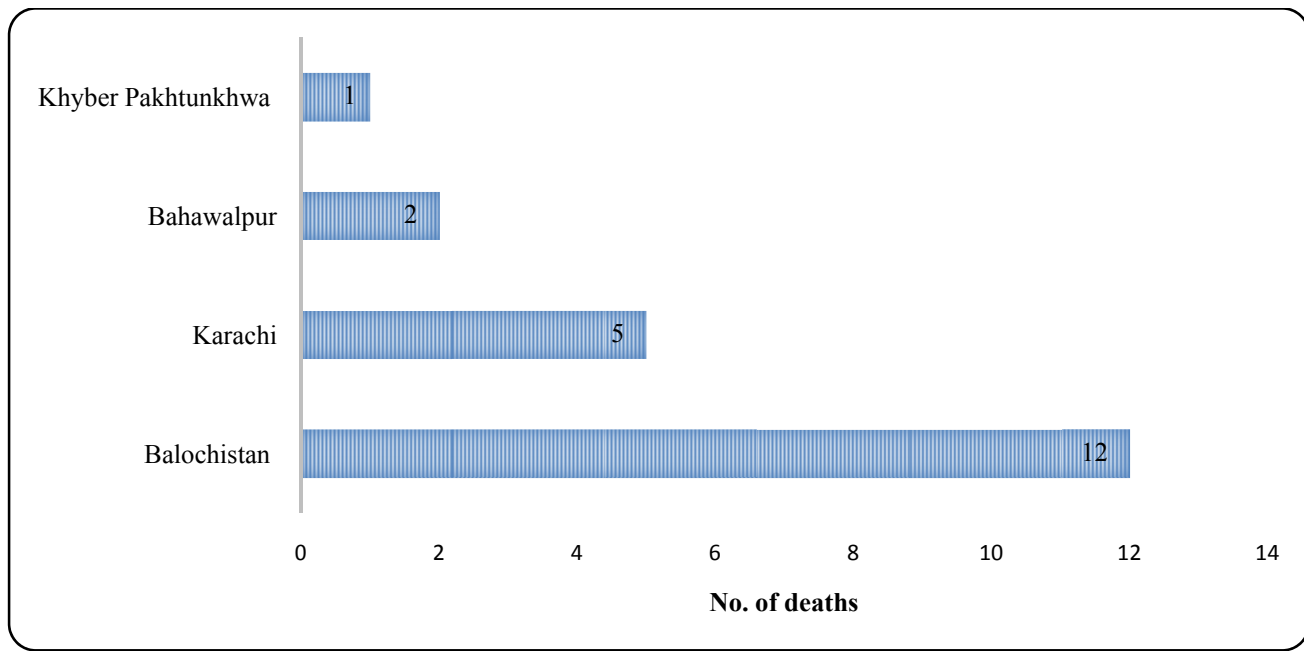


Figure 1. Overview of deaths by CCHF in different areas of Pakistan.

The previous data shows that, from the neighboring countries of Pakistan many outbreaks of CCHF were reported. There is no proper check in and check out system on Pak-Afghan and Pak-Iran borders. The CCHF is a zoonotic born disease, therefore due to lack of proper monitoring of animal especially sacrificial animals during Eid-ul-Adha (Annual sacrificial celebration of Muslims) imported and exported among these countries. The preventive measurement for CCHF is not easy, acaricides is use to control and reduce the spread of causative agents. Protective clothing and gloves should be used while handling animals to reduce the risk of transmission of virus from animal to human.

After the diagnosis of Crimean-congo, isolation of patient is very important. The doctors and paramedics staff has to wear special dress with gloves, glasses and special gown. Congo virus spread through secretions of patients so we should not get in contact with its blood, urine, feaces or other secretions. All the

utensils, bed sheets, syringes and pillow of patient should be properly disposed off otherwise that will be source of spread of virus. Area where Congo suspected must be sprayed with proper anti ticks spray. If the doctors or paramedics get by chance contact with patients they should immediately get antiviral rebavirin tablets. For treatment of CCHF, Ribavirin along with hematological support is recommended.

CONCLUSION

Precautions and awareness is necessary to protect the healthy individuals away from this fatal disease. If the local communities are not informed and trained adequately, it may cause more fatalities. The media, health department and government need to play their role to stop the spread of CCHF in the country.

Competing Interests

The authors declare they have no competing interests.

Open Access

This article is distributed under the terms of the Creative Commons Attribution License (CC-BY 4.0) which permits any use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

References

- Al-Nakib, W., Lloyd, G., El-Mekki, A., Platt, G., Beeson, A., and Southee, T. (1984). Preliminary report on arbovirus-antibody prevalence among patients in Kuwait: evidence of Congo/Crimean virus infection. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 78, 474-476.
- Al-Tikriti, S., Al-Ani, F., Jurji, F., Tantawi, H., Al-Moslih, M., Al-Janabi, N., Mahmud, M., Al-Bana, A., Habib, H., and Al-Munthri, H. (1981). Congo/Crimean haemorrhagic fever in Iraq. *Bulletin of the World Health Organization* 59, 85.
- Alam, M.M., Khurshid, A., Sharif, S., Shaukat, S., Rana, M.S., Angez, M., and Zaidi, S.S.Z. (2013). Genetic analysis and epidemiology of Crimean Congo hemorrhagic fever viruses in Baluchistan province of Pakistan. *BMC Infect Dis* 13.
- Athar, M.N., Khalid, M.A., Ahmad, A.M., Bashir, N., Baqai, H.Z., Ahmad, M., Balouch, A.H., and Bashir, K. (2005). Crimean-Congo hemorrhagic fever outbreak in Rawalpindi, Pakistan, February 2002: contact tracing and risk assessment. *The American journal of tropical medicine and hygiene* 72, 471-473.
- Begum, F., Wisseman, C., and Casals, J. (1970). Tick-borne viruses of west Pakistan IV. Viruses similar to, or identical with, crimean hemorrhagic fever (Congo-Semunya), Wad Medani and Pak Argas 461 isolated from ticks of the Changa Manga forest, Lahore district, and of Hunza, Gilgit agency, W. Pakistan. *American journal of epidemiology* 92, 197-202.
- Bente, D.A., Forrester, N.L., Watts, D.M., McAuley, A.J., Whitehouse, C.A., and Bray, M. (2013). Crimean-Congo hemorrhagic fever: History, epidemiology, pathogenesis, clinical syndrome and genetic diversity. *Antiviral Research* 100, 159-189.
- Casals, J., Henderson, B.E., Hoogstraal, H., Johnson, K.M., and Shelokov, A. (1970). A Review of Soviet Viral Hemorrhagic Fevers, 1969. *Journal of Infectious Diseases* 122, 437-453.
- Ergönül, Ö. (2006). Crimean-Congo haemorrhagic fever. *The Lancet Infectious Diseases* 6, 203-214.
- Hoogstraal, H. (1979). Review Article: The Epidemiology of Tick-Borne Crimean-Congo Hemorrhagic Fever in Asia, Europe, and Africa. *Journal of Medical Entomology* 15, 307-417.
- Izadi, S., Holakouie-Naieni, K., Majdzadeh, S.R., Chinikar, S., Nadim, A., Rakhshani, F., and Hooshmand, B. (2006). Seroprevalence of Crimean-Congo hemorrhagic fever in Sistan-baluchestan province of Iran. *Japanese journal of infectious diseases* 59, 326.
- Leshchinskaya, E. (1965). Crimean hemorrhagic fever. *Trudy Inst Polio Virus Entsef Akad Med Nauk SSSR* 7, 226-236.
- The Nation. (2016. 22 August.). Tick-borne Congo virus claims another life. Online <http://nation.com.pk/national/22-Aug-2016/tick-borne-congo-virus-claims-another-life>.
- Nichol, S. (2001). Bunyaviruses. *Fields virology* 2, 1603-1633.
- Scrimgeour, E. (1995). Communicable diseases in Saudi Arabia: an epidemiological review. *Trop Dis Bull* 92, R79-R95.
- Suleiman, M.N.E.H., Muscat-Baron, J., Harries, J., Satti, A.G.O., Platt, G., Bowen, E., and Simpson, D. (1980). Congo/Crimean haemorrhagic fever in Dubai: an outbreak at the Rashid Hospital. *The Lancet* 316, 939-941.
- Outbreak News Today. (2016. 22 August). Pakistan reports 20 Crimean-Congo Hemorrhagic fever deaths this year. Online <http://outbreaknewstoday.com/pakistan-reports-20-crimean-congo-hemorrhagic-fever-deaths-this-year-94057/>.
- The Express Tribune. (2016. 01 August). Public Health: Congo Virus Incidence to be Monitored after Two Cases. Online <http://tribune.com.pk/story/1152121/public-health-congo-virus-incidence-monitored-two-cases/>.

Cite this article as:

Ahmad, T., Khan, M., Malik, S. (2016) Re-Emergence of Congo Virus in Pakistan: Call for Preparedness, *Biomedical Research and Therapy*, 3(8):742-744.