**[The virus amongst us](https://nation.com.pk/16-Jan-2020/the-virus-amongst-us" \t "_new)**

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Few months ago, a 24-year-old came down with a throat infection. It got worse, she was admitted in a hospital where the doctors diagnosed it as a viral infection since no ‘known’ infections were found in her blood tests. She was finally discharged with a diagnosis of viral infection which had curiously also affected her liver. In Karachi a patient had similar symptoms and taken to the hospital where he had a heart attack and unfortunately did not survive. We are all familiar with cases where someone we know complains of low-grade fever along with other symptoms, no infection is detected in the blood tests and thus no antibiotic is given. Sometimes diagnosis leads to typhoid, pneumonia, or hepatitis.

Most likely you have never heard of Q-Fever, a deadly bacterial disease which maybe sickening and killing thousands of Pakistanis. This disease which if not diagnosed within the first few weeks of manifestation becomes chronic and the death rate is five times higher than for any other known bacterial disease. This deadly bacterium, once in your body, can strike weeks, months or even years after you contracted it and can attack your brain, heart, lungs, bones, nervous system also affecting your liver usually described as a mild hepatic dysfunction, or a fatty liver.

This bacterial infection is caused by the Coxiella Burnetii bacteria. Causing flu-like symptoms like high temperature, muscle pains and headaches which can be cyclical. Cattle carry the infection and the organisms occur in milk which, drinking raw, transmits the disease. Inhalation of dust containing the organism is also a common means of infection. If caught in the early stages it is treated as ‘Acute Q-fever’ and if not treated within the first month it becomes ‘Chronic Q-fever’.

C. burnetii is a highly infectious agent resistant to heat, drying, and many common disinfectants. It can be aerosolized, and inhalation is the primary route of infection for people. The infection results from inhalation of a spore-like small cell variant, and from contact with the milk, urine, feces or blood of infected animals. The designation Q-fever (from Query) was made in 1935 following an outbreak of a febrile illness in slaughterhouse workers in Queensland, Australia. The disease is a nationally reportable disease all over the world and its agent, C. burnetii, is a potential agent of bioterrorism. The severity and danger can be ascertained by the fact that this agent has been previously weaponized for use in biological warfare and is considered a potential terrorist threat by the World Health Organization.

So far this disease has been totally neglected in Pakistan, the tragedy being that in our country we don’t have the diagnostic facilities for this disease. Generally, our cattle, buffalos, goats and sheep are afflicted with this disease. According to Ismat Parveen Ahmed (Vertebrate Pest Control Laboratory, Karachi) in her paper “ A Serological Investigation of Q Fever in Pakistan” she notes that in Sindh and Baluchistan rodents from residential areas, city markets, godowns and semi-deserted area carry this disease. Areas like Ranikot (Dadu), Umer kot and Chhor (Tharparker) and Uthal (Lasbela) district tested positive and seem to be medically significant and indicate enzootic Q-fever. In this study 26.8% of humans with clinical diagnosis of Typhoid tested positive.

In Punjab, the Agricultural University of Faisalabad has done research in this field. A total of 2425 soil samples from nine districts of Punjab province were processed. It was detected in 47 samples originating from 35 villages, the highest prevalence was found in Attock, followed by Lahore, Sahiwal, Dera Ghazi Khan, Faisalabad and Sheikhupura. Dr. Huma Jalil of Faisalabad Agricultural University, has led research projects on this disease, according to her Coxiella burnetii is also prevalent in the environment (soil) and potential reservoirs (small ruminants) and significantly in sheep and buffalos at the livestock farms of Punjab. Future studies are needed to reveal further disease epidemiology and potential risk to direct-contact population.

This disease is also highly prevalent in Indian Punjab as well as Iran and Afghanistan. Scientific journals from India note that there is a high positivity for coxiellosis among cattle and farm workers and subsequently India has setup proper diagnostic facilities and as of January 1, 2009, Q-fever is a nationally notifiable condition in India.

In Saudi Arabia, in a study by King Saud University in 2018, it was discovered that 51% of their camels had this virus along with other farm animals and the conclusion was that the high seroprevalence of Q-fever indicates that the Kingdom is an endemic focus of Q-fever. In UAE cases of Q-fever in humans were reported as early as 1997.

Q-fever is also widespread all over Europe, the highest numbers of confirmed cases are reported by Germany and France. Historically, the large majority of Q-fever cases in the EU were domestically acquired. Only Greece, Hungary, the Netherlands, Norway, Poland, Sweden and the United Kingdom reported travel-associated cases which were acquired in other EU countries, including Spain and Turkey.

Considering that the dairy industry is a crucial part of the Australian economy all cattle farm workers are required to get Q-fever vaccination, they also closely monitor their domestic cattle for this disease. In Japan, 1999 saw a rise in the prevalence of Q-fever pneumonia among children with atypical pneumonia and this is when Japanese authorities took immediate measures to ensure the curtailment of this virus.

Presently, we don’t know how prevalent Q-fever is among our population and how many cases of Hepatitis, Cardiac Endocarditis and Pneumonia are actually being caused by this deadly bacterium. All around us we have this bacterium thriving in our animals and even in our soil while our medical authorities, hospitals and doctors are not knowledgeable about this disease. This can be attributed mainly to the sad fact that in our country we have inadequate diagnostic laboratory support for the identification of neglected and emerging infectious diseases like C. burnetii.

I urge the relevant authorities to look into this on a national level. We are highly dependent on our cattle farms for dairy and meat supplies. Resources and education is needed for our veterinary sciences to identify and treat this at the grass root level. We also need to educate our people. Good hygiene practices in premises dealing with animals – particularly with buffalos, cattle and goats – will help prevent transmission of Q-fever. Also, we need to issue warnings near and around our Bakra Eid season as that’s when our urban population is exposed to the blood of sacrificial animals. Our doctors need to be made aware of this deadly disease and above all our diagnostic facilities need to invest in equipping themselves to detect this virus amongst us.

Symptoms

It usually takes about 20 days after exposure to the bacteria for symptoms to occur.

Common symptoms of acute Q-fever may include:

Cough

Fever

Headache

Joint/Muscle pains

Extreme fatigue/weakness

Other symptoms may include:

Abdominal pain

Chest pain

Rash

Yellow skin (jaundice)

Mental fogginess

Unstable blood pressure

Night sweats

Lack of fever and yet all these symptoms

Patients also develop

Cardiac Endocarditis

Hepatitis

Pneumonia

Weakened nervous system