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Chagas Disease (CD) or American Trypanosomiasis: A Silent Killer: A Systematic Review

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Abstract

Chagas disease was named after Carlos Ribeiro Justiniano Chagas, a Brazilian physician and researcher who discovered the disease in 1909. Chagas (CHAH-gus) disease is an illness caused infection with the **parasite Trypanosoma cruzi**. The parasite is found in the feces of the triatomine bug. These bugs also are called reduviid. They may also be known as "kissing bugs" because they tend to bite people's faces. An **estimated 10,000 people die every year from clinical manifestations or complications of Chagas disease, and about 75 million people are at risk of acquiring the disease.** Chagas disease imposes a heavy and long burden on families, communities, health systems, economy, etc. To beat Chagas disease, it is crucial to achieve universal health coverage, starting at primary care level. Chagas disease is a complex socio-economic, environmental health problem and the lack of understanding Chagas as a multidimensional challenge led to fragmented approaches and contributed to its neglected condition. **In many countries, there are low detection rates (<10%, frequently <1%) and frequent barriers to access adequate healthcare.** Chagas disease is common in South America, Central America and Mexico. Rarely, Chagas disease has been found in the southern United States. Chagas disease can infect anyone. Untreated, Chagas disease can cause serious heart and digestive problems. During the first phase of infection, treatment of Chagas disease aims to kill the parasite. Later not possible to kill the parasite. Treatment mainly focuses on managing symptoms only because accurate treatment is not yet available. But there also are few ways to prevent infection effectively such as vector control, early detection etc. There is no vaccine and no proper treatment protocol is not available for this disease at present scenario. The World Chagas Day is observed every year on 14th April to create awareness among public/peoples.

Keywords: *Chagas Disease, Silent Killer, Prevention and Management*

Introduction

The disease also called as American TRYANOSOMIASIS it is life threatening illness caused by the protozoan parasite T.CRUZI. In Latin America, T. cruzi parasites are mainly transmitted by contact with faeces/urine of infected blood-sucking triatomine bugs. These bugs live in the wall / roof cracks of homes such as chicken coops,

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pens and warehouses. Normally, they hide during the day and become active at night when they feed on animal blood, including human blood. The triatomine bug usually bites an exposed area of skin such as the face (hence its common name, the "kissing bug"), then defecates or urinates close to the bite.

Facts:

- An estimated 10,000 people die every year from clinical manifestations or complications of Chagas disease, and about 75 million people are at risk of acquiring the disease. Chagas disease imposes a heavy and long burden on families, communities, health systems, economy, etc. To beat Chagas disease, it is crucial to achieve universal health coverage, starting at primary care level.
- Chagas disease is a complex socio-economic, environmental health problem and the lack of understanding Chagas as a multidimensional challenge led to fragmented approaches and contributed to its neglected condition.
- In many countries, there are low detection rates (<10%, frequently <1%) and frequent barriers to access adequate healthcare.

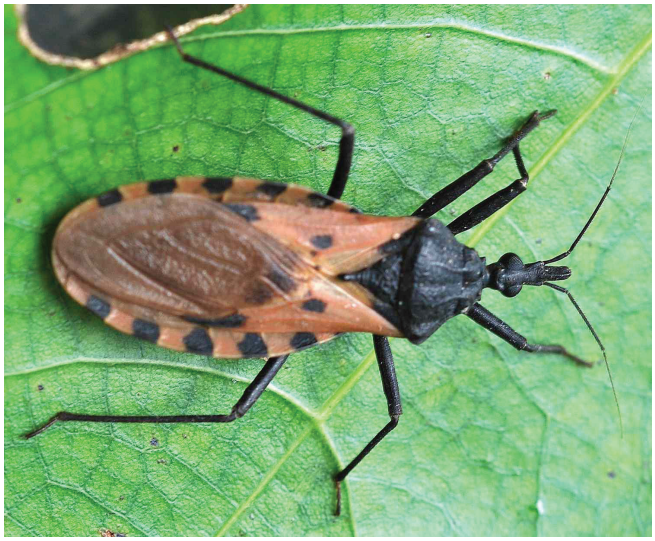

Image 01: The kissing bug. Credit: Google images

Vector-borne transmission

Chagas disease is transmitted to human beings and to more than 150 species of domestic animals (eg, dogs, cats, and guineapigs) and wild mammals (eg, rodents, marsupials, and armadillos) mainly by large, blood-sucking reduviid bugs of the subfamily Triatominae, within three overlapping cycles: domestic, peridomestic, and sylvatic.

Epidemiology

Chagas disease was originally confined to poor, rural areas of South and Central America, in which vector-borne transmission to man occurs. Last few years, improved vector control programmes controlled the spread of Chagas Disease, and compulsory blood-bank screening have substantially reduced new cases of infection

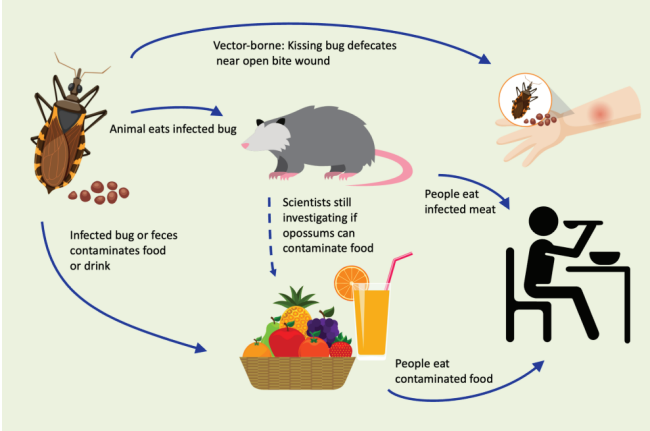

Image 02: The Transmission of CHAGAS. Credit: Google images

Domiciliary vectorial control and transfusional control, together with active screening of girls and women of childbearing age to prevent congenital transmission, remain the most effective control tools in Latin America.

Signs and symptoms:

Few peoples do not show any symptoms initial stage of the disease but later they develop the following symptoms.

- Fever
- Body ache
- Headache
- Rash around the bite area
- Rash around the eyelid
- Chest pain
- Shortness of breathe
- Heart palpitations
- Dizziness
- Fatigue
- Dysphagia
- Constipation
- Bloating

Diagnosis

If you have symptoms of Chagas disease, two or more blood tests can confirm the diagnosis.

- **Electrocardiogram:** shows the electrical activity of the heart

- **Chest X-ray:** shows the cardiomegaly
- **Echocardiogram:** This test uses sound waves to capture moving images of the heart.
- **Abdominal X-ray:** This imaging test shows the stomach, intestines and colon.
- **Upper endoscopy:** A thin, lighted tube goes into the throat and show the images of the esophagus.

Image 03: The World CHAGAS Day

Preventive Measures are:

- Vector control
- Screening periodically in high risk areas
- Screening for blood donors
- Early detection
- Risk reduction
- Awareness activities for the public
- Better hygiene management
- No vaccine is yet available.

Image 04: The CHAGAS Disease preventative aspects. Credit: W.H.O

Conclusion

Chagas Disease a Silent Killer is a rare disease bur it is spreading in recent days in certain parts of the world. Chagas disease (CD) is a vector-borne Neglected Zoonotic Disease (NZD) caused by a flagellate protozoan, **Trypanosoma cruzi**,

This article influences the recommendations for screening and diagnosis of Chagas disease in the affected parts of the world, including identification of the population at risk in public or clinical areas and awareness programmes plays a significant role in preventing the disease because no proper treatment and vaccine is not yet available.

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Conflict of Interest: None

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