Treatment of infected newborns

Babies born to *T. cruzi* seropositive mothers undergo intense follow-up for 9 months to detect infection, as treatment is highly effective in early life. Treatment is initiated if newborns are symptomatic or have positive parasitological tests (PCR on blood) or have persistently positive serological tests at 9 months of age.

Treatment effectiveness

Parasitological clearance (from *T. cruzi* PCR positive to negative) can be demonstrated for many patients and antibody titres decay very slowly over many years. However, it remains uncertain whether parasite clearance removes or even diminishes risk of future development of disease, and we inform patients about this. In advanced disease, it is likely that anti-parasitic treatment has little effect.

Cardiomyopathy management entails control of rhythm disturbance, attention to conduction defects and management of cardiac failure and risk of thromboembolism from dilated ventricles. A Chagas Heart Service has been established in the cardiomyopathy service at Barts Heart Centre.

Follow-up

Annual symptom and ECG review is required to detect any disease progression. Serial serological and PCR testing is performed to assess treatment response and detect any relapse.

What is the Chagas Hub?

The UK Chagas Hub was founded in 2017. It is a new collaboration bringing together healthcare professionals, researchers, advocates, and members of the Latin American community to tackle Chagas disease in the United Kingdom.

The Hub is focused on three main activities:

(1) Raising awareness of Chagas disease amongst the Latin American community in the UK and the healthcare professionals working with them

(2) Improving clinical services for those with, or at risk of Chagas disease. We work closely with the HTD which provides diagnostic and treatment services in a dedicated Chagas clinic, unique in the UK.

(3) Conducting research into epidemiology and clinical manifestations of the disease in the UK

How can I get my patient tested?

Refer to local infectious diseases clinic or HTD, OR
Download request form from Chagas Hub website
Send clotted blood with completed form to local lab
Sample will be forwarded to HTD
Result will be returned to sender

Contact us:

email: ukchagashub@lshtm.ac.uk

website: http://www.thehtd.org/chagasuk.aspx

twitter: @ChagasHubUK

facebook: UK Chagas Hub

The Hospital for Tropical Diseases

Mortimer Market Centre, London WC1E 6JB
0203 456 7891 / 0203 447 5990
Monday to Friday, 9am – 5pm.

Management of Patients with Chagas Disease

Information leaflet for healthcare professionals

UK Chagas Hub

V1.5 3rd January 2019

What is Chagas disease?

Chagas disease, caused by the parasite *Trypanosoma cruzi,* leads to a cardiomyopathy or gut dysmotility or both. It is transmitted in Central and South America by triatomine bugs and can also be transmitted, anywhere in the world, by blood transfusion, organ transplant, or vertically.

Chagas disease affects around 7 million people worldwide, mainly in Central and South America. Migration has moved many people with *T. cruzi* infection to non-endemic parts of the world. It is estimated that there are several thousand people with Chagas disease in London who have never been tested.

Diagnosis rests on serology – detection of *T. cruzi* antibodies in blood. Some patients may also have detectable *T. cruzi* DNA in blood (by PCR), which is helpful for monitoring response to treatment.

Natural History of Chagas disease

The **acute phase**, for up to 8 weeks following infection, is rarely symptomatic though can cause fever, anorexia, facial oedema, lymphadenopathy, and hepatosplenomegaly. It is almost never seen outside the Americas.

All individuals pass into the **chronic** phase when the acute infection is not treated. 60-70% of infected people live their lives with no end-organ damage in the ***indeterminate phase.*** Though at risk of future reactivation they are asymptomatic. 30-40% of infections lead to end-organ damage **decades** after initial infection – this ***determinate disease*** may cause cardiac conduction defects, dysrhythmias, dilated cardiomyopathy or GI manifestations of mega-oesophagus or -colon.

Chagas in Immunosuppression

Chronic untreated *Trypanosoma cruzi* infection may reactivate (become "determinate") in patients who become immunocompromised.

HIV infection – patients with HIV from regions endemic for Chagas should be screened for *T cruzi* infection. Chagas can cause a cerebral abscess in people with HIV.

Iatrogenic immunosuppression – patients receiving biologics, chemotherapy or post-transplant immunosuppression are at risk of reactivation meningoencephalitis or myocarditis.

Chagas in Pregnancy

The risk of mother to child transmission is around 5-8% of pregnancies. This risk can be reduced to almost zero with pre-conception diagnosis and treatment for women of child-bearing age.

Most **infected newborns** are asymptomatic though there is an increased frequency of low birth weight, prematurity and low Apgar scores. Rarely there may be hepatosplenomegaly, anemia and thrombocytopenia. Serious manifestations such as myocarditis and meningoencephalitis are very rare but carry a high risk of mortality.

What is the treatment for Chagas disease?

Benznidazole and ***nifurtimox*** are the only drugs with proven efficacy against *T. cruzi*. Benznidazole is first line treatment and is procured from WHO, Geneva individually for each patient. Nifurtimox is not readily available but may be considered as an alternative if benznidazole cannot be tolerated.

Treatment recommendations

Treatment is always recommended for:
Acute infection, regardless of age,
Infants with ***congenital infection***,
Children up to 18 years with chronic infection,
Immunocompromised patients with reactivation.

Benznidazole and nifurtimox are **contraindicated** in pregnancy and hepatic or renal insufficiency.

Treatment should be offered to ***women of childbearing age.*** Women diagnosed during pregnancy may be treated once they have delivered and are no longer breastfeeding.

The main **side effects** are digestive, cutaneous or neurological, and may appear in 40-60% of patients. Most side effects are self-limiting and reversible; patients are seen regularly throughout treatment at HTD to support them through treatment, weekly initially then fortnightly.

Treatment for Chagas disease

Benznidazole (5-7 mg/kg per day) in 2 divided doses for 60 days, OR **nifurtimox** (8-10 mg/kg per day) in 3 divided doses for 60 days.

Treatment in Immunosuppression

Treatment should be given stronger consideration where immunosuppression is anticipated, such as patients awaiting organ transplantation or those co-infected with HIV.