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Current Treatment Guidelines for *Trypanosoma cruzi* Infection in Pregnant Women and Infants

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To the Editor:

Astelbauer and Walochnik [1] recently reviewed the treatment options for the most important and neglected tropical protozoal infections. The article highlights the difficulties in treating people with Chagas disease, which is caused by *Trypanosoma cruzi* (*T. cruzi*) and is endemic in many parts of the Americas. The authors raise significant issues about maternal treatment and prevention of congenital transmission; however, they incorrectly describe the current treatment guidelines and outcomes for infected pregnant women and newborns. We would like to provide a correction and discuss future research.

The authors state that “treatment of pregnant women with benznidazole or nifurtimox is recommended in any stage of *T. cruzi* infection and for newborns since approximately 40% of all untreated prenatal cases are fatal.” Treatment of congenitally infected newborns is indeed highly recommended, but this is not the case for pregnant women who are already infected with *T. cruzi*. According to the WHO expert panel on congenital Chagas disease, anti-parasitic treatment is not recommended during pregnancy since the teratogenic risks of the available medicines (benznidazole and nifurtimox) are not well understood, the risk of adverse reactions is high in adults, and the curative efficacy is limited in the chronic phase [2]. Mothers can be diagnosed during pregnancy or after based on conventional serologic tests, such as IFA or ELISA, but treatment for the mother should only be considered after delivery and breastfeeding [2].

Even though prevention of *T. cruzi* congenital transmission in infected pregnant women is not feasible, early diagnosis allows appropriate treatment of newborns [2,3]. This emphasizes the need for serological screening of mothers and direct parasite examination of infant whole blood. If the infant is positive, treatment should be started immediately. If no parasites are found upon examination, serological analysis of the infant at > 8 months of age should be completed to confirm an absence of congenital infection from the positive mother

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[2]. Sosa-Estani et al [4] have also suggested that treatment of infected women prior to pregnancy resulted in no congenitally infected children. This finding supports the need for further studies of active preconception screening of women of reproductive age as a possible means to prevent congenital transmission [2].

Neonatal infection with *T. cruzi* may increase the risk for adverse fetal outcomes such as premature rupture of membranes, preterm birth, low-birth weight and non-specific symptoms that are common to other congenital infections (TORCH syndrome). Infant mortality as a consequence of *T. cruzi* infection can occur in the days after birth in untreated severe congenital Chagas disease, with rates below 15% of cases in most studies, but close to 100% when coinfection with HIV occurs [5]. More often, the infant will be asymptomatic, apparently healthy, and be of adequate body weight for the gestational age [5]. However, infants infected with *T. cruzi* may develop chronic Chagas disease 15 to 20 years later with the cardiac and/or gastrointestinal symptoms that normally accompany the chronic disease [5].

Treatment of infected infants is justified because it is well-tolerated in children and will cure them by eliminating the parasite in 90–100% of the cases if started before one year of age [2]. This treatment method will also reduce the source for future infections again by congenital transmission in subsequent generations or through organ transplantation or blood donation.

New chemotherapeutic agents that are effective against all strains and stages of *T. cruzi* infection and have fewer or no side effects than those currently available are needed. Additionally, there are no infant formulations of the drugs used to treat infection. At present, infants and children are prescribed adult medicines that have been adjusted according to the weight of the child. The currently available tablets then must be crushed and used as a suspension [2].

It is critical to provide accurate, evidence-based *T. cruzi* treatment recommendations to health professionals. While treatment of infected pregnant women is not advised and prevention of congenital transmission is not possible, active screening and treatment of congenitally infected newborns is highly effective and recommended. Further research, including novel chemotherapeutic agents, is necessary for successful treatment and future control of *T. cruzi* infection and Chagas disease.

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