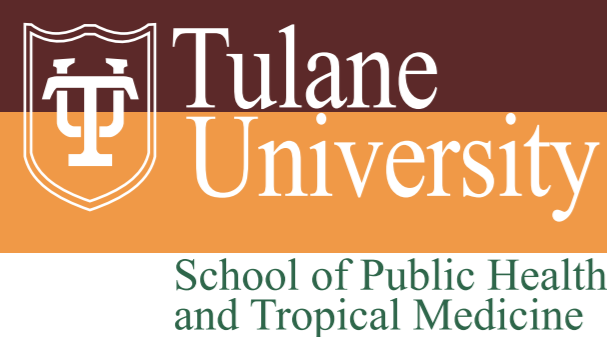


Congenital Chagas' Disease in an endemic area of Honduras



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INTRODUCTION AND PURPOSE

Congenital *Trypanosoma cruzi* infection depends directly on the prevalence of infection in fertile women usually infected by vectorial transmission. In 2006, Honduras was part of a multi-site study including Argentina, Bolivia, Mexico, Honduras, Uruguay and USA. The objectives of this study are 1) To determine the seroprevalence of pregnant women for antibodies to *T. cruzi*; 2) To validate use of a rapid diagnostic test (RDT); 3) To validate detection of *T. cruzi*-specific antibodies in cord blood (CB) versus maternal blood (MB); and 4) To validate detection of *T. cruzi*-specific antibodies in plasma versus filter paper samples.

METHODS

Geographic location and population. The study is conducted in the Hospital Enrique Aguilar Cerrato (HEAC) of La Esperanza, Intibuca, a region of Honduras with one of the highest prevalences of Chagas' Disease (7.2%, 2004-2005) (see map). Intibuca is located in southern Honduras, bordering El Salvador. Intibuca is located in southern Honduras, bordering with El Salvador. This region is mainly mountainous and includes the highest valley in the country (1950 mt ASL), where the city of La Esperanza is located. The population is formed by indigenous ethnic group denominated Lenca and ladinos. Agricultural production of crops such as corn, beans, potatoes, and apples is the main economic activity. Here we present preliminary results, including general characteristics of the prenatal care system of Intibuca.

Laboratory methods. Data collection started in September 2006 and is expected to complete 500 women by March 2007. At time of delivery, CB and MB are collected for analysis of maternal antibodies to *T. cruzi* by Chagas Stat-Pak, a commercial RDT (read at minute 15) using whole blood, followed by a confirmatory ELISA using plasma and filter paper. Written informed consent is obtained immediately after delivery. All detected cases are referred for medical care and follow-up.



RESULTS

General characteristics of the prenatal care system in Intibuca. During 2003-2005, the Health Center of La Esperanza and HEAC gave prenatal care to an average of 960 (range 877-1045) and 5569 (range 4467- 6120) women annually, respectively. In the same period, an average of 2404 women (range 2204-2513) gave birth at HEAC. The table below lists demographic and obstetric characteristics of a sample of women receiving prenatal care in Intibuca.

Congenital Chagas' Disease, preliminary results (January 31, 2007). After 20 weeks of collection, a total of 427 women were screened with 323 registered in the study. Of these, a total of 53 samples were RDT positive (30 MB samples, including 14 weak positive results, and 23 CB samples, including 6 weak positive results). Of the samples already tested by ELISA using plasma and filter paper, 17 cases were confirmed in MB and CB.

Demographic and gynec-obstetric characteristics of women receiving prenatal care in four health centers in Intibuca, 2006.

CHARACTERISTICS	CESAMO VMC N (%)	HOSPITAL EAC N (%)	CESAMO MONTE VERDE N (%)	CESAMO CAMASCA N (%)
Age (years) average	23.8 (n=301)	24.6 (n=185)	25.3 (n=19)	23.9 (n=72)
Education (final grade)	5.3 (n=227)	6.4 (n=96)	2.6 (n=19)	4.9 (n=61)
Number of prenatal care visits				
1-3	165 (55)	101 (55)	16 (84)	34 (47)
≥4	137 (45)	81 (45)	3 (16)	38 (53)
Gestational age (weeks) at first prenatal care visit				
<20	202 (67)	88 (48)	13 (69)	72 (100)
21-25	50 (17)	29 (16)	4 (21)	
26-30	25 (8)	29 (16)	1 (5)	
>31	25 (8)	36 (20)	1 (5)	
Parity				
Primiparous	109 (37)	63 (38)	4 (21)	22 (30)
1-3	134 (45)	79 (47)	10 (53)	33 (46)
≥4	54 (18)	25 (15)	5 (26)	17 (24)



CONCLUSIONS

1. The determined seroprevalence of pregnant women for antibodies to *T. cruzi* estimated by ELISA is 5.3% (17/323).
2. ELISA detected *T. cruzi*-specific antibodies in CB and MB with both plasma and filter paper samples. All weak positive RDT results, except one MB sample, were ELISA negative. There were more weak positive results in MB (n= 14) than CB (n= 6).
3. This study will allow us to estimate the magnitude of congenital Chagas' Disease in the surveyed population and to define guidelines to conduct further studies on a larger scale using validated laboratory tests.



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