

Prevalence of the TTV in blood donors, in the metropolitan region of the Belém-Pará

Walber Victor de Moraes Pinto¹,
Maria de Fátima Lima de Assis²,
José Alexandre Rodrigues de Lemos³

1 Mestre em Biologia de Agentes Infecciosos e Parasitários. Consultor da UNESCO/IEC/SVS/MS. End: Jardim Tropical, Travessa We 10 nº 10 - BR 316, km 3, bairro Guanabara, Ananindeua - Pará - CEP: 67110-150 - E-mail: walbervictor@iec.pa.gov.br. 2 Citogeneticista. Pesquisadora do Instituto Evandro Chagas. Consultora da UNESCO/IEC/SVS/MS. 3 Doutor em Genética. Professor Adjunto da Universidade Federal do Pará. Pesquisador do Centro de Hematologia e Hemoterapia do Estado do Pará.

INTRODUCTION

TTV is among the viruses causes of hepatitis turn inespecifics, in patients with history of fulminant hepatitis (Nishizawa *et al.*, 1997). Composed by a molecule of DNA of simple ribbon with characteristics of the family *Circoviridae* could be transmitted by the following roads: sanguine; vertical (normal born or cesarean; maternal breast feeding); fecal - oral; and sexual (Saéz-Alquezar *et al.*, 2001), happening in the several age groups, besides in adolescents and children (Bendinelli *et al.*, 2001). The TTV is prevalent in several countries, in individuals' groups with risk of exhibition parenteral (Abe *et al.*, 1999; Niel, *et al.*, 1999; Devalle & Niel, 2004).

OBJECTIVE

Verify the prevalence of TTV in donors of blood and existence of association among the infection for the virus and the characteristics presented in the individuals.

MATERIAL AND METHODS

Were collected 186 samples of blood's donors that came spontaneously in the Center of Hematology and Hemoterapy of the State of Pará (HEMOPA). The DNA viral was extracted of the serum's patients, through the commercial kit for extraction of DNA and amplified in the ABI 7000 (Applied Biosystems®) being used the technique of PCR in real time. The results statistical were treated being used the program BIOESTAT 3.0 (Ayres *et al.*, 2003). For to the analyze the association between characteristics and the donors' habits with the result of the exams, were used the test χ^2 and the exact test of Fisher, the a significance level á $\alpha = 0,05$.

RESULTS AND DISCUSSION

The study showed that 60% of the samples were positive for the infection for TTV, and the results of the study has been showed in the table 1. The prevalence of TTV in donors of blood, in the metropolitan area of Belém can be considered high in a population of individuals assintomatics. Our data are in accordance with the data on prevalence in the too much regions of Brazil. Although the diversity of ways of transmission of the TTV, our results had not related infection for the virus and the possible routes of infection. Our sample did not allow suggestion of the way of transmission of the TTV in sight of none saw searched to have statistical been significant.

Table 1 - Distribution of the frequency of TTV in relation to characteristic, habits and behavior of the donors' of blood risk.

VARIABLE	PCR - TTV						P
	NEGATIVE		POSITIVE		TOTAL		
	N	%	N	%	N	%	
SORT *							0,670
Maculine	13	37,1	22	62,9	35	18,8	
Feminine	62	41,1	89	58,9	151	81,2	
ENDOVENOUS DRUGS **							0,584
Users	2	25,0	6	75,0	8	4,3	
Not-users	73	41,2	104	58,8	177	95,7	
Without information	0	0,0	1	100,0	1	0,5	
PRESENCE OF TATTOOING *							0,887
Tattooing	5	38,5	8	61,5	13	7,2	
Not-tattooing	68	40,5	100	59,5	168	92,8	
Without information	2	40,0	3	60,0	5	2,7	
USE OF CONDOM *							0,644
It makes use	31	54,4	26	45,6	57	51,4	
It does not make use	27	50,0	27	50,0	54	48,6	
Without information	17	22,7	58	77,3	75	40,3	
N ° PARTNERS (5 YEARS)							0,291
Up to 10	57	38,5	91	61,5	148	79,6	
More than 10	16	48,5	17	51,5	33	17,7	
Without information	2	40,0	3	60,0	5	2,7	
TOTAL	75	40,3	111	59,7	186	100,0	

* χ^2 ; ** exact test of Fisher. Carried through tests disrespecting without information

CONCLUSION

The TTV is prevalente in a population of donors of blood in Belém of Pará, in 60%. It was not possible to establish relationships between the prevalence of TTV and habits of the donor o that the infection is unchained by TTV, because, in 60% s' of blood. We supposed influence of the hybrid genome sof bearers of the particle viral, none presented any clinical symptom, what classified them as donors of blood in potential.

BIBLIOGRAPHICAL REFERENCES

ABE,K.,INAMI,T., ASANO,K., MIYOSHI,C., MASAKI,N., HAYASHI,S., ISHIKAWA,K., TAKEBE,Y., WIN,K., EL-ZAYADI,A., HAN,K., AND ZHANG,D. TT Virus Infection Is Widespread in the General Populations from Different Geographic Regions **JOURNAL OF CLINICAL MICROBIOLOGY**, p. 27032705 Aug. 1999

AYRES, M.; AYRES JR., M.; AYRES, D. L.; SANTOS, A. A. S. **BIOESTAT Aplicações Estatísticas nas Áreas das Ciências Bio-Médicas**. Belém: IDSM/MCT/CNPq. 2003. 324p.

BENDINELLI, M.; PISTELLO, M.; MAGGI, F.; FORNA, C.; FREER, G.; VATTERONI, M.L. Molecular properties, biology, and clinical implications of TT Virus, a recently identified widespread infectious agent of humans. **Clinical Microbiology Reviews**. v. 14, n. 1, p. 98 - 113, 2001.

DEVALLE, S.; NIEL, C. Distribution of TT virus genomic groups 1-5 in Brazilian blood donors, HBV carriers, and HIV-1-infected patients. **Journal of Medical Virology**. v. 72, n. 1, p. 166 - 173, 2004.

NIEL, C.; DE OLIVEIRA, J. M.; ROSS, R. S.; GOMES, S. A.; ROGGENDORF, M.; VIAZOV, S. High prevalence of TT virus infection in Brazilian blood donors. **Journal of Medical Virology**. v. 57, n. 3, p. 259 - 263, 1999.

NISHIZAWA, T.; OKAMOTO, H.; KONISHI, K.; YOSHIZAWA, H.; MIYAKAWA, Y.; MAYUMI, M. A novel DNA virus (TTV) associated with elevated transaminase levels in posttransfusion hepatitis of unknown etiology. **Biochemical and Biophysical Research Communications**. v. 241, n. 1, p. 92 - 97, 1997.

SÁEZ-ALQUÉZAR, A.; BASSIT, L.; SABINO, E. C. Hepatites virais. In: FERREIRA, A. W.; ÁVILA, S. L. M. **Diagnóstico laboratorial das principais doenças infecciosas e autoimunes**. 2. ed. Rio de Janeiro: Guanabara Koogan, 2001. p. 74 - 91.

FINANCIAL SUPPORT: Instituto Evandro Chagas / SVS / MS