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DUALITY OF PATTERNS IN HEPATITIS A EPIDEMIOLOGY: A STUDY INVOLVING TWO SOCIOECONOMICALLY DISTINCT POPULATIONS IN CAMPINAS, SÃO PAULO STATE, BRAZIL

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SUMMARY

To evaluate the prevalence of antibodies against hepatitis A in two socioeconomically distinct populations, 101 and 82 serum samples from high and low socioeconomic groups, respectively, were analysed for the presence of IgG anti-HAV using a commercial ELISA. The prevalence in low socioeconomic level subjects was 95.0%, whereas in high socioeconomic subjects was only 19.6% ($p<0.001$). These data show a duality in Brazil: anti-HAV prevalence in low socioeconomic subjects is similar to that of developing countries, while in high socioeconomic subjects, a pattern typical of developed countries is found. The control of this infection in our country is primarily related to the improvement of sanitation, but especially for high socioeconomic level populations, the use of vaccination against hepatitis A is strongly advisable to avoid the occasional appearance of this disease in adults.

KEYWORDS: Hepatitis A; Antibodies; Seroepidemiology

INTRODUCTION

As hepatitis A Virus (HAV) is transmitted mainly by oral-fecal route, its prevalence is strikingly related to sanitary and socioeconomic status of the studied population. Other studies have already reported a changing pattern in the epidemiology of this infection in developed countries[6], where the improvement of sanitation has led to a significant decrease in its prevalence. In these countries, as most of the population was not exposed to the virus in younger ages, the use of hepatitis A vaccination is advise when travelling to areas where hepatitis A is endemic.

In the last five years, few studies have been published analyzing the prevalence of HAV infection in Brazil: 69.7% among day-care children from 3 months to 9 years[4] and 80.0% to 92.2% among abandoned children[5]. These studies involved populations of low socioeconomic level from Goiânia, a middle size city in the central region of Brazil.

The evaluation of the prevalence of HAV infection in one population is an important subsidy to determine the policy that should be implemented to control this infection. Another study carried out in 1985 involving two socioeconomically distinct populations of São Paulo showed that the prevalence for anti-HAV in adults was 100% and 90.4% in low and medium socioeconomic level subjects, respectively[3]. Other reports from two different Bazilian regions carried out in 1987 also reported high prevalence rates: more than 90% in two different urban populations from Rio de Janeiro[1] and 100% at Boca do Acre, in the southwestern corner of Brazilian Amazon Basin[2].

The present study was undertaken to evaluate the prevalence of antibodies against HAV in low and high socioeconomically distinct populations from Campinas, São Paulo State, a middle size city in the southeast of Brazil, located less than 100 Km from São Paulo city.

MATERIAL AND METHODS

Sampling was made up of 183 sera from Campinas, Brazil. Of these, 102 samples, corresponding to a high so-

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cioeconomic level population, were obtained from medical college students. Besides, 81 samples were obtained from blood donors of low educational level (8 years or less), corresponding to a low socioeconomic level population. All the subjects studied were young adults, age ranging from 18 to 30 years old. The samples from blood donors were collected in 1995, while those from medical students were collected in 1996.

Anti-HAV was measured by a commercial ELISA (ETI-AB-HAVK-2 Sorin Biomedica, Italy).

Statistical analysis was performed using the χ^2 test.

RESULTS AND DISCUSSION

In this population, the prevalence of anti-HAV antibodies (Fig. 1) varied considerably according to the socioeconomic level considered: while 95.0% of the low socioeconomic level subjects were positive, only 19.6% of the high socioeconomic subjects were positive ($\chi^2 = 103$ $p < 0.001$). These data show that in high socioeconomic level individuals, subjected to better sanitary conditions, HAV infection has already reached the low prevalence level found in developed countries. Otherwise, in low socioeconomic level individuals, the data do not significantly differ from those published in 1985 from São Paulo city[3], in 1987 from Rio de Janeiro[1] and Boca do Acre[2] and from those recently published from Central-Brazil[4,5], reflecting that this kind of population is always subjected to poor sanitary conditions, in a picture typical of developing countries. More studies should be carried out in other Brazilian regions, to evaluate the epidemiological pattern detected in this study. This dual epidemiological pattern for hepatitis A was also found in Taiwan[7].

Certainly, the best way for controlling HAV infection is the improvement of the sanitary conditions for all the population of Brazil. On the other hand, for high socioeconomic level populations, it would be advisable the vaccination against hepatitis A, since these individuals live in a country where HAV is probably widely circulating. In Brazil, susceptible individuals do not need to travel very far to be exposed to the virus and minor changes in their common habits can make them infected by HAV.

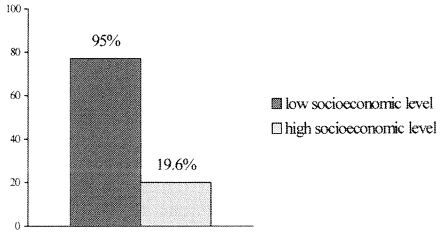

Fig. 1 - Prevalence of anti-HAV in Campinas, São Paulo State, Brazil, according to socioeconomic level

RESUMO

Alteração no padrão epidemiológico da hepatite A no Estado de São Paulo, Brasil: estudo de duas populações com níveis sócio-econômicos diferentes

A avaliação da prevalência de anticorpos contra o vírus da hepatite A em duas populações com diferentes níveis sócio-econômicos foi realizada pela análise de 101 e 82 amostras de soros provenientes de grupos de alto e baixo nível sócio-econômico, respectivamente, utilizando um teste imunoenzimático comercial. A prevalência no grupo de baixo nível sócio-econômico foi 95,0% enquanto que no grupo de alto nível socioeconomico foi apenas 19,6% ($p < 0,001$). Estes dados mostram uma dualidade no Brasil: a prevalência de anti-HAV em indivíduos de nível sócio-econômico baixo é similar àquela dos países em desenvolvimento, enquanto que nos indivíduos de alto nível sócio-econômico é compatível com o padrão de países desenvolvidos. O controle desta infecção depende primariamente da melhoria das condições sanitárias, mas especialmente em populações de alto-nível sócio-econômico, o uso da vacinação contra a hepatite A é altamente aconselhável para evitar o aparecimento da doença em adultos.

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