Hepatitis A in Western Austria – The Epidemiological Situation before the Introduction of Active Immunisation

Summary: Several European countries report a decreasing prevalence of antibodies to hepatitis A virus (anti-HAV). This trend is most pronounced in the youngest age groups. In 1979, however, 58% of young Austrians aged 20 to 30 years were shown to possess anti-HAV. Here we describe the current epidemiological situation in western Austria. Prevalence of anti-HAV has decreased to 7% in those 18 to 30 years old. This percentage rises to 20% (31 to 40 years of age) and 57% (41 to 50 years of age) and is highest in those older than 50 years (87%). Of 180 cases of clinical hepatitis A occurring from 1985 to 1992 45% were imported by travel to HAV-endemic areas. Seventy-one percent of the cases in children (59/83) occurred in foreign workers' families and were also predominantly acquired abroad. A change in prevention policy should be considered in this respect, as vaccination is available now.

Introduction

Hepatitis A virus (HAV) is still the predominant cause of viral hepatitis in most central European countries [1, 2]. However, due to improved hygienic conditions and the higher standard of living after World War II contact with HAV has become rare as compared to populations of developing countries which are infected at a young age [3]. As a result, a steady decrease of anti-HAV prevalence in the younger generations has been noted for the last decades [4, 5], which was most pronounced in Scandinavian countries [4, 6]. Nowadays in some European countries up to 95% of individuals younger than 30 years are seronegative for HAV [7–9].

In this epidemiological setting hepatitis A is imported to a high percentage [10] from countries where HAV is still endemic. Two new developments may influence this current situation. First, since 1992 vaccination [11, 12] is available in Austria and other European countries and this will have an impact on the incidence of imported travel-associated hepatitis A in the next years. Second, it is not yet clear whether the rapidly increasing number of immigrants from eastern Europe will exert the opposite effect. To investigate the current epidemiological situation we analysed the prevalence of anti-HAV and the incidence of clinical hepatitis A cases (1985–1992) in the western parts of Austria.

Patients and Methods

Two hundred and twenty blood donors residing in Tyrol were tested for presence of anti-HAV IgG in 1991. The donors were grouped according to age; each group comprised 30–100 individuals (m/f ratio 1). In Austria blood donors are volunteers and not remunerated. Additionally, 186 first-year medical students agreed to have their anti-HAV status tested in 1991 (m/f ratio 1.43). Histories of 97 cases treated at the Infectious Disease Unit of the Department for Internal Medicine, Innsbruck University Hospital, were analysed. All cases mentioned presented with acute hepatitis and were serologically confirmed by the detection of IgM anti-HAV.

Determination of antibodies to hepatitis A virus was done using HAVAB-EIA and HAVAB-M EIA (Abbott Laboratories, North Chicago, IL, USA).

Results

Prevalence of Anti-HAV

As expected, prevalence was highly dependent on age (Figure 1). Compared with studies performed by others in eastern Austria in 1979, a marked further decrease in seropositivity was seen in all age groups, reaching only 7% in the youngest age group. Of 186 medical students of the same age, five (2.7%) were seropositive, thus probably reflecting a higher socioeconomic status encountered in this group.

Patients and Epidemiology

The annual incidence was found to vary between 4 and 23 (mean 12.1) for adults and 7–16 (mean 10.4) for children. In adults (m/f ratio 1.22; mean age 29.8 years), 60% of the patients were younger than 31 years. The mean age of adults affected after travelling abroad (28.7 years) was almost the same as in the rest (29.3 years). The mean age for children was 7.7 years (m/f ratio 1.17). Youngsters between 6 and 10 years of age were most affected (53%). Fifty-two of 83 childhood infections (63%)
Discussion

The decline of anti-HAV prevalence has been a well-known epidemiological feature for northern and central Europe in the last decades [4, 6-8]. In 1979, 58% of young Austrians (20 to 30 years old) and even 20% of children under 10 years in the eastern part of the country have had antibodies to HAV [5]. We demonstrate that this does not hold true any more, at least not for western Austria. The very low prevalence of 7% in adolescents (18–30 years of age) and of 20% in young adults (aged 31–40 years) comes close to figures shown for Denmark in 1980 [6]. This reflects a continuous trend in the last 12 years which seems to be even more pronounced than in other central European countries [13]. It may indicate a lower circulation of HAV in the western part of the country during the years before 1979, as the curves for 1979 and 1991 are more than twelve years apart (Figure 1). On the other hand, a possibly higher number of people immigrated into eastern Austria and could have played a critical role compared to our blood donors and medical students, who were Austrian by birth. Nevertheless, recent studies report a similar prevalence of anti-HAV for twens in Eastern Austria (Ch. Kunz, personal communication). Despite the existence of passive immunisation a constantly high percentage of hepatitis A cases in developed countries is seen in travellers [10]. For the next years the availability of active immunisation [11, 12] hopefully will reduce the incidence in this group. In 1992 we already observed the lowest number of cases (two) in adult travellers for the last 8 years. This finding is not significant, however, and will need further observation.

Children of foreign workers are another leading route of infection. They contract the virus on their annual holidays abroad and cause substantial secondary morbidity in Austria. However, experience with vaccinating children against hepatitis A is still limited, although promising [14]. As compared to other groups at risk for hepatitis A, such as staff in day-care facilities or sewage-workers, young children visiting their home countries would profit much more from active immunisation. In this respect, recommendations for vaccination probably will be revised soon.

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