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EDITORIAL
Delta hepatitis in Turkey: Decreasing but not vanishing and still of concern

Türkiye'de delta hepatiti: Azalan ama kaybolmay›p önemini sürdüren konu

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Worldwide 170 million humans are infected with the hepatitis C virus for which a preventive vaccine is still not available in contrast to infection with the hepatitis B virus where an effective vaccine is available since 1981. The known clinical burden of infection with the hepatitis B virus, which can lead to cirrhosis, hepatocellular carcinoma and death, has led to the introduction of universal hepatitis B vaccination programs in over 150 countries (1). Is the future thus saved for the next generations with regard to escaping from a potential mortal disease? The answer to this question is not a solid "yes" as such a preventive vaccination strategy needs strict adherence and close watch of universal vaccination practices which again is closely linked to an established medical infrastructure. Thus, hepatitis B infection is still an important medical issue and will continue, in the near future at least, to be a major health problem in many areas of the world. An astonishing number of 2 billion persons (around 1/3 of the world population) have evidence of present or past hepatitis B infection and 400 million people are estimated to have chronic hepatitis B infection. These numbers on hepatitis B and hepatitis C prevalence are well known to gastroenterologists, hepatologists and infectious disease specialists. Almost forgotten is the impact of the third hepatotrop virus capable of inducing chronic liver disease in humans, namely, the hepatitis delta virus (HDV). This is so, despite the fact that infection with the delta virus is by far the clinically most dangerous one (2, 3). The main reason behind this is the perception by many physicians in the industrialized world that the delta virus is almost of medical historical importance only. Reports from Italy may justify such a perception (4). However, delta hepatitis continues to be a major health problem in some parts of the world including some Balkan countries (5), some republics of the former Soviet Union (6, 7) and Turkey (8, 9). In east and especially in southeast Turkey, among chronic hepatitis cases, the HDV still ranks second in prevalence after hepatitis B virus infection as the etiologic agent (9). In this issue of the Turkish Journal of Gastroenterology, a critical and extensive analysis of seroepidemiological studies performed in this country is presented (10).

The analysis fulfils the ambitious goal of presenting, comparing and analyzing all seroepidemiological studies performed so far in Turkey and covers over 15 000 cases of acute and chronic viral hepatitis cases. The study serves several goals: we gain more insight into the prevalence of delta hepatitis in Turkey, its regional differences, the change in prevalence in the last 25 years and the role of HDV in several clinical presentations of acute and chronic viral hepatitis and hepatocellular carcinoma. Such studies are of utmost importance since they indicate regional trends in viral liver diseases, guide in decision making and development of health strategies and thus improve patient outcomes. Hence, Degertekin and his co-workers should be congratulated for their big efforts of putting this work together.

However, when absorbing this big volume of data set, several issues need to be considered. First, "selected" data are sometimes better than "all" data. Analyzing all data does not take into account the "quality of data" whereas "selection" is aimed to select the "better ones". This may account for the striking differences seen in different reports from the very same region. Second, in studies on seroepidemiology, scientific paths of data collection are neglected by the rules of the "real life". Random sampling from the population of interest means logistics, time and cost. Hence, it can be argued with right, that "suboptimal data collection" is better than "no collection". Third, probably all studies subject to the analysis of this study must have been retrospective ones and thus bear the pitfalls and deficiencies of being retrospective. The retrospective nature and the aim to report all da-

ta leads to a certain bias in the context that more data are available from big centers which can lead to overrepresentation of some areas. This of course can lead to misleading "total prevalence figures" for the whole country. Despite these negative arguments, the authors effort to put all available data together was a right decision and will lay a fertile ground for future studies.

Finally, one critique should be directed to the authors and this in context with the way how data analysis was performed. It appears that the authors in some instances have taken the mean values of seroprevalence numbers without taken into account the different sizes of the various studies. What is meant here is, that if you have two studies with a sample size of 100 and 1000 with a prevalence rate of 10% and 2%, respectively, the mean value is not 6% but should be 2.73, a point that must have been overseen also by the referees. There are other small corrections to be made. For the calculation of the change in anti HDV positivity within the last 25 years, Ozaras et al's study (reference 28) is quoted as from the year 1988 in table 3, but according to references the year appears to be 1998, which leads to a wrong calculation in table 4. Further, it appears that in table 4, the number of cases between the 2001 to 2005 period is reported as 792 not taken into account the 1016 patients reported from Izmir by Akarca et al in 2001. Accordingly, some of the total prevalence numbers need correction. Thus, a corrected version of table 4 is provided here in a table. Similarly in table 6 anti HDV prevalence among patients with chronic hepatitis B in Istanbul and Izmir should be 8.6% and 5.1%, respectively, and not 16.5 and 14%.

Table 1. Change in anti-HDV positivity prevalence in inactive HBsAg carriers in Turkey from 1980 to 2005 (corrected version)

Years	No. of cases	Anti HDV+
1980 – 1990	148	7.4%
1991 – 2000	5162	4.4%
2001 – 2005	1808	1.4%

Despite these shortcomings, the study has demonstrated several points: (i) the prevalence of delta hepatitis is decreasing also in Turkey but not at the magnitude seen in Italy; (ii) delta hepatitis continues to be a major cause of chronic viral hepatitis and especially of liver cirrhosis; (iii) the high prevalence of delta hepatitis in southeastern Turkey is striking and this should without doubt not be confined to the Turkish borders. It indicates that delta hepatitis should also be a major health problem for neighbouring countries such as Iran, Iraq and Syria. The same line of reasoning also applies for the impact of delta hepatitis in eastern Turkey and the countries which border eastern Turkey, namely Azerbaijan and Armenia. It is thus hoped, that this manuscript will serve well for the purpose of refreshing awareness of the burden of delta virus not only at the national but also at the international level.

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