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High hepatitis B virus seroprevalence in pregnant women coming from middle and high-endemicity countries: An unresolved issue



Sir,

In a recent issue of Digestive and Liver Disease, Lembo et al. [1] presented an interesting survey on hepatitis B and hepatitis C prevalence in pregnancy in Southern Italy. Regarding hepatitis B virus (HBV), analyzing a cohort of 7,558 pregnant women, a prevalence of 0.5% was reported. Hepatitis B surface Antigen (HBsAg) seroprevalence was significantly higher among the 569 foreigners compared to the 5,559 Italian women (3% vs. 0.2%, $p < 0.001$), but still lower than was described in previous studies [2,3].

Since in Italy a significant cluster of HBV carriers is represented by people coming from high endemicity countries, we conducted an epidemiological study in non-Italian pregnant women (with the exception of those coming from Western Europe and Northern America) consecutively hospitalized for the delivery between May 2012 and January 2014 in the Obstetric Department of Policlinico Umberto I in Rome. We focus on the local unpublished data of a multicentric national survey promoted by the Italian Society of Infectious and Tropical Diseases [3]. The main goal was to estimate the overall HBsAg seroprevalence in pregnant migrant women, stratified by area of origin, whereas secondary aims were to control the coverage rate of mandatory HBV screening in pregnancy, to verify the rate of retention in follow-up in non-Italian women and of appropriate screening of their household contacts. Data on HBsAg serological status were collected using the clinical records, whereas data on socio-demographic characteristics by a questionnaire. HBsAg-positive patients were enrolled for follow-up and screening for HBV was offered to all their household contacts.

A total of 714 pregnant women coming from 62 different countries were prospectively evaluated. Of them, 682 (95.11%) correctly attended the HBV prenatal screening. The analyzed population was mainly represented by Eastern European women, followed by Asian, Central-South American, Sub-Saharan African and North African women (43.6%, 33.7%, 9.5%, 7.0% and 6.2%, respectively). Overall HBV seroprevalence was 5.13% (35/682). HBsAg-positive patients came from four macro-areas and only eleven countries, namely Albania, Bangladesh, Burkina Faso, China, Egypt, Philippines, Ghana, Kenya, Moldova, Romania and Tunisia. HBsAg seroprevalence was 6.67% (4/60), 6.64% (14/211), 5.62% (15/267) and 3.57% (2/56) in women coming from Sub-Saharan Africa, Asia, Eastern Europe and Northern Africa, respectively. Focusing on the nationality, the most relevant seroprevalence was reported in Chinese (10/42, 23.81%), Albanian (3/20, 15%) and Romanian women (10/132, 7.58%) (Table 1).

46.7% (14/30) of patients who accepted to fulfill the survey discovered HBV infection during pregnancy. Of the remaining 53.3% (16/30), only 12.5% was currently retained in care. Examining data

Table 1
HBsAg seroprevalence according to area and country of origin of women.

Area of origin	HBsAg sero-prevalence	Country of origin ^a	HBsAg sero-prevalence
Sub-Saharan Africa	6.67% (4/60)	Burkina Faso	33.33% (1/3)
		Ghana	40% (2/5)
		Kenya	100% (1/1)
		Senegal	0% (0/12)
Asia	6.64% (14/211)	Bangladesh	4.41% (3/68)
		China	23.81% (10/42)
		India	0% (0/13)
		Philippines	3.33% (1/30)
		Sri Lanka	0% (0/10)
Eastern Europe	5.62% (15/267)	Albania	15% (3/20)
		Bulgaria	0% (0/12)
		Moldova	14.29% (2/14)
		Polonia	0% (0/13)
		Romania	7.58% (10/132)
Northern Africa	3.57% (2/56)	Ukraine	0% (0/15)
		Egypt	8.33% (1/12)
		Morocco	0% (0/15)
Central-South America	0% (0/88)	Tunisia	50% (1/2)
		Ecuador	0% (0/13)
		Peru	0% (0/24)

^a Considering only the countries from which at least one HBsAg-positive woman or at least ten HBsAg-negative women came.

by country of origin, 87.5% (7/8) of Chinese women were already aware of their HBsAg-positivity since several years (13 ± 5.15), versus 37.5% (3/8) of Romanians and none of those from Albania. Overall, compliance to follow-up was 76.7% (23/30), but lower than 50% in the Chinese group. The median number of family members, excluding newborns, was 2.77, for a total of 83 subjects. 37.3% (31/83) of them had already been tested for HBsAg, with a positive result in 12.9% (4/31) of cases. The vaccination of cohabitants had previously been indicated to only 18.7% (3/16) of the infected women. Among the household contacts who had never been tested before, only 22 (42.3%) accepted to be screened for HBV. Within the Chinese population, the acceptance rate was less than 20%. The HBsAg and anti-HBs seroprevalence were 9.1% (2/22) and 31.8% (7/22), respectively. 22.7% (5/22) of family members had an occult HBV infection, while 59.1% (13/22) were still HBV susceptible.

From our data it emerges that adherence to the protocol of HBV mandatory screening in pregnancy has not been optimal, in accordance with a previous Italian survey [4]. As discussed in the study of Lembo et al. [1], the reason why the HBV serological status of some women is unknown at the time of delivery is currently unclear, but we can hypothesize a possible role of the language barrier in hindering access to the public health system, particularly among Chinese subjects. Regarding HBsAg-seroprevalence, we found a rate of 5.13%, that was higher than reported in a cohort of pregnant foreign women living in Italy [4], and even higher than described in the Sicilian setting [1]. This discrepancy probably reflects the different composition of non-Italian population residing in different regions of Italy. In Rome, despite the multi-ethnicity of the immigrant residents demonstrated by more than 60 nationalities included in the present study, high HBsAg seroprevalence is noticed in people coming from a small number of countries, especially from China, Albania and Romania. As expected, these three nationalities were those mostly affected by HBV in the Sicilian study too [1]. Among the Chinese population who accessed our hospital, more than one in four pregnant women was HBsAg-positive, as reported in the island regions of Zhejiang province [5], from which most of our Chinese patients were coming from. A

considerable proportion of them had a serological and virological profile indicating active HBV replication (HBeAg-positivity and HBV DNA serum level ≥ 2000 IU/mL) [3]. Hence, to implement a personalized diagnostic-therapeutic algorithm, it seems reasonable that HBV screening could be anticipated to the first or second gestational trimester in high-prevalence clusters of immigrant pregnant women.

Both retention in care of HBsAg-positive patients after pregnancy, and HBV screening in family members may be improved. The poor compliance of Chinese population could be mainly caused by linguistic and cultural barriers, but it can also depend on the assumption that direct and indirect costs for HBV treatment could be so high as to represent a catastrophic expenditure for the households, as it is in their Country of origin [6]. We think that implementation of cross-cultural mediation services in the hospitals may be essential to improve the compliance of foreign patients and their families to HBV screening, follow-up and vaccination. Undoubtedly, for achieving the goal of HBV elimination from low endemic countries such as Italy, raising awareness and free access to the health system for ethnic minorities are necessary.

Conflict of interest

None declared.

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