



PREVALENCE OF HEPATITIS B VIRUS INFECTION, TOTAL ANTI-HBc POSITIVITY, AND ISOLATED ANTI-HBc AMONG 118,141 INDIVIDUALS UNDERGOING ROUTINE HEALTH CHECK-UPS AT MEDIC MEDICAL CENTER IN THE SOUTH OF VIETNAM

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Pham et al. Poster 2226. AASLD TLM 2026, Denver, CO.

I. Background.

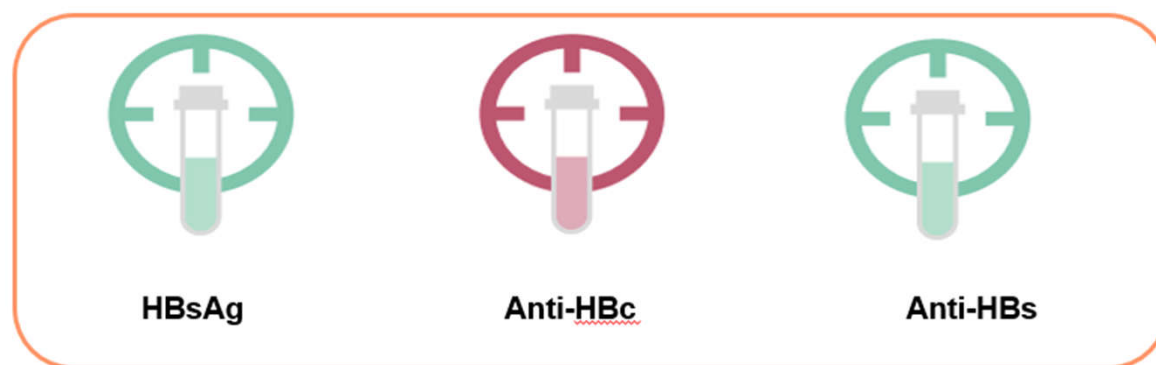
HƯỚNG DẪN CHẨN ĐOÁN, ĐIỀU TRỊ VIÊM GAN VI RÚT B

(Ban hành kèm theo Quyết định số 1740/QĐ-BYT ngày 16/6/2026 của Bộ trưởng Bộ Y tế)

I. ĐẠI CƯƠNG

Viêm gan vi rút B (Viêm gan B) là bệnh truyền nhiễm phổ biến trên toàn cầu, do vi rút viêm gan B (HBV) gây ra. Theo báo cáo của Tổ chức Y tế Thế giới, ước tính năm 2022 có khoảng 254 triệu người nhiễm HBV mạn trên toàn cầu; 1,2 triệu người nhiễm HBV mới hàng năm; 1,1 triệu trường hợp tử vong, chủ yếu là do xơ gan và ung thư biểu mô tế bào gan (HCC)^{1,2}. HBV lây nhiễm qua đường máu, quan hệ tình dục và từ mẹ sang con. Tại Việt Nam, đường lây chủ yếu là từ mẹ truyền sang con. Tỷ lệ lưu hành HBsAg trong cộng đồng dân cư ≥ 18 tuổi là 9,4%². Hiện nay, tỉ lệ người nhiễm HBV được phát hiện và điều trị còn thấp, số tử vong liên quan đến viêm gan B còn cao.





Screening and Testing for Hepatitis B Virus Infection: CDC Recommendations — United States, 2023



XÉT NGHIỆM CHẨN ĐOÁN NGƯỜI NHIỄM HBV

Các xét nghiệm cần làm: HBsAg, anti-HBs, anti-HBc (nếu có điều kiện)⁶; **tối thiểu phải thực hiện HBsAg⁵.**

Lưu ý:

- Với người có HBsAg dương tính: cần tư vấn và kết nối người bệnh đến cơ sở quản lý và điều trị bệnh;
- Với người có HBsAg âm tính: nên làm xét nghiệm anti-HBc và anti-HBs (nếu trước đó chưa làm) để tư vấn các biện pháp phòng bệnh.

Bảng 1. Phiên giải các kết quả xét nghiệm chẩn đoán nhiễm HBV^{5,6}



Các xét nghiệm			Phiên giải	Quản lý	Tiêm vắc xin viêm gan B
HBsAg	anti- HBc	anti-HBs			
Dương Tính	Dương Tính	Bất kỳ	Viêm gan B mạn	Kết nối cơ sở điều trị để quản lý theo hướng dẫn	Không
Âm tính	Dương tính	≥ 10 IU/L	Hồi phục sau nhiễm HBV trong quá khứ	Không cần quản lý về viêm gan B trừ khi suy giảm miễn dịch hoặc đang hóa trị hoặc điều trị ức chế miễn dịch	Không
Âm tính	Dương tính	< 10 IU/L	Hồi phục sau nhiễm HBV trong quá khứ hoặc dương tính giả	Xét nghiệm HBV DNA nếu suy giảm miễn dịch hoặc nghi ngờ viêm gan B thể ẩn	Không
Âm tính	Âm tính	≥ 10 IU/L	Không nhiễm HBV, có miễn dịch bảo vệ do tiêm phòng	Không cần xét nghiệm thêm	Không (tiếp tục bổ sung các mũi tiêm theo lịch nếu chưa hoàn thành)
Âm tính	Âm tính	< 10 IU/L	Không nhiễm HBV, chưa có miễn dịch bảo vệ	Xét nghiệm anti-HBs sau 1- 2 tháng kể từ khi hoàn thành liệu trình tiêm vắc xin viêm gan B nếu có điều kiện	Có (tiêm đầy đủ các mũi theo liệu trình hoặc theo phác đồ tăng cường với các nhóm đối tượng đặc biệt)

Objectives:

- (1) Determine the prevalence of HBV serologic subgroups identified by the triple test, particularly iAHBc, among individuals in Southern Vietnam;
- (2) Assess the associations of HBsAg positivity, anti-HBc positivity, and iAHBc with age and sex;
- (3) Examine the associations between HBV serologic subgroups and both liver fibrosis severity and HCC risk, thereby providing evidence to inform the potential inclusion of anti-HBc in HBV screening programs in Vietnam.



II. Methods.

- In this cross-sectional study, individuals attending routine health check-ups at MEDIC Medical Center, Ho Chi Minh City (January 2023–December 2025), were simultaneously tested for HBsAg, anti-HBs, and anti-HBc; those with hepatitis C virus infection were excluded.
- Participants were classified into five serologic groups: at risk (all negative), vaccine-induced immunity (anti-HBs only), resolved infection (anti-HBs and anti-HBc positive, HBsAg negative), iAHBc (anti-HBc only), and current infection (HBsAg positive).
- Liver fibrosis was staged by FibroScan (F0–F4), and HCC was ascertained from clinical records.
- Distributions across sex, age, and serologic subgroups were compared using chi-square tests.
- Multivariable logistic regression estimated prevalence odds ratios (PORs) and 95% confidence intervals (CIs) for associations of serologic subgroups with age, sex, liver fibrosis, and HCC.
- Significance level was set at $\alpha = 0.05$, with analyses performed in R version 4.6.0.

III. Results & Discussions.



Table 1: Characteristics of ***118,141*** subjects in the study

	Overall N = 118,141	Female N = 65,573	Male N = 52,568	p-value*
	100%	55.5%	44.5%	
Age (mean, SD)	44 ± 14	45 ± 14	43 ± 14	<0.001
<20	3,689 (3.1%)	1,752 (2.7%)	1,937 (3.7%)	<0.001
20-29	15,962 (13.5%)	8,749 (13.3%)	7,213 (13.7%)	
30-39	26,162 (22.1%)	13,746 (21.0%)	12,416 (23.6%)	
40-49	30,041 (25.4%)	16,459 (25.1%)	13,582 (25.8%)	
50-59	25,212 (21.3%)	14,521 (22.1%)	10,691 (20.3%)	
60+	17,075 (14.5%)	10,346 (15.8%)	6,729 (12.8%)	
HBsAg				<0.001
HBsAg (-)	110,753 (93.7%)	62,116 (94.7%)	48,637 (92.5%)	
HBsAg (+)	7,388 (6.3%)	3,457 (5.3%)	3,931 (7.5%)	
Anti-HBs				<0.001
Anti-HBs (-)	51,869 (43.9%)	28,359 (43.2%)	23,510 (44.7%)	
Anti-HBs (+)	66,272 (56.1%)	37,214 (56.8%)	29,058 (55.3%)	
Anti-HBc total				<0.001
Anti-HBc (-)	65,985 (55.9%)	38,134 (58.2%)	27,851 (53.0%)	
Anti-HBc (+)	52,156 (44.1%)	27,439 (41.8%)	24,717 (47.0%)	
HCC diagnosis	179 (0.15%)	49 (0.07%)	130 (0.25%)	<0.001
FibroScan				<0.001
F0-F1	15,818 (77.3%)	6,590 (77.6%)	9,228 (77.0%)	
F2	2,279 (11.1%)	883 (10.4%)	1,396 (11.7%)	
F3	1,377 (6.7%)	621 (7.3%)	756 (6.3%)	
F4	993 (4.9%)	396 (4.7%)	597 (5.0%)	
Unknown	97,674	57,083	40,591	

*Continuous variable summarized as Mean (SD) and compared using Wilcoxon rank sum test; Categorical variable summarized as n (%) and compared using Chi-squared test; P-value <0.05 denotes significant difference

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Table 2: HBV infection status based on triple panel testing, stratifying by gender

	Triple panel	Total	Female	Male	<i>p</i> -value*
		N=118141	N=65573	N=52568	
At risk	HBsAg (–) Anti-HBs (–) Anti-HBc (–)	37288 (31.6%)	21474 (32.7%)	15814 (30.1%)	<0.0001
Vaccine-induced immunity	HBsAg (–) Anti-HBs (+) Anti-HBc (–)	28697 (24.3%)	16660 (25.4%)	12037 (22.9%)	<0.0001
Resolved HBV infection	HBsAg (–) Anti-HBs (+) Anti-HBc (+)	37412 (31.7%)	20481 (31.2%)	16931 (32.2%)	<0.0001
iAHBc	HBsAg (–) Anti-HBs (–) Anti-HBc (+)	7356 (6.2%)	3501 (5.3%)	3855 (7.3%)	<0.0001
Total HBsAg (+)	HBsAg (+)	7388 (6.3%)	3457 (5.3%)	3931 (7.5%)	<0.0001

*Chi-squared test for comparing distribution between male and female. *P*-value <0.05 denotes significant difference.

Distribution of HBV infection statuses, based on the combinations of three sero-markers (HBsAg, anti-HBs, and anti-HBc Total), in Ho Chi Minh City, Vietnam.

14,674 participated in the study.

HBV Infection status	Combination of sero-markers	Unweighted, n	Weighted, n	Weighted % (95% CI)
HBV-Naive	• HBsAg (-) • Anti-HBs (-) • Anti-HBc (-)	3970	2,751,041	<u>37.7</u> (36.5–39.0)
Immunization	• HBsAg (-) • Anti-HBs (+) • Anti-HBc (-)	2116	1,360,111	<u>18.7</u> (17.7–19.7)
Immune control	• HBsAg (-) • Anti-HBs (+) • Anti-HBc (+)	6174	2,250,033	30.9 (29.9–31.9)
Chronic HBV infection	• HBsAg (+) • Anti-HBs(-) • Anti-HBc (+)	1157	546,980	<u>7.5</u> (6.9–8.1)
Isolated anti-HBc (+)	• HBsAg (-) • Anti-HBs (-) • Anti-HBc (+)	1257	381,643	<u>5.2</u> (4.8–5.6)
Total		14,674	7,289,808	

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Kết quả xét nghiệm sử dụng bộ 3 xét nghiệm HBsAg, anti-HBs, anti-HBc tổng số

Chúng tôi sử dụng phương pháp nghiên cứu mô tả cắt ngang để khảo sát thực trạng chỉ định xét nghiệm HBsAg, anti-HBs, anti-HBc tại **Bệnh viện Đại học Y Hà Nội**.

Kết quả cho thấy từ năm 2020 - 2022 đã có 306.115 người được chỉ định xét nghiệm sàng lọc VGB tại Bệnh viện Đại học Y Hà Nội.

Trong đó, tỷ lệ được làm đủ bộ 3 xét nghiệm HBsAg, anti-HBs, anti-HBc tổng số là 0,29%.

Nhóm đối tượng (n = 892)	Kết quả xét nghiệm	Số lượng	Tỷ lệ %
Nhiễm HBV	HBsAg (+), anti-HBc (+), anti -HBs (-)	72	8,07%
Chưa nhiễm HBV, đã tiêm vaccin	HBsAg (-), anti-HBc (-), anti-HBs (+)	150	<u>16.82%</u>
Chưa nhiễm HBV, chưa tiêm vaccin	HBsAg (-), anti-HBc (-), anti-HBs (-)	303	<u>33,97%</u>
Đã phơi nhiễm HBV và hồi phục	HBsAg (-), anti-HBc (+), anti-HBs (+)	280	31,39%
Khác	Khác	87	9,75%

The seroprevalence of HBV markers among male and female students.

A total of **568 students of Da Nang University** were enrolled in the study in 2018.

The prevalence of HBsAg, anti-HBs and anti-HBc was 4.2% (24/568), 30.4% (173/568), and 17.6% (100/568), respectively

HBV markers	All participants (n = 568),n (% , 95% CI)	Male (n = 103), n (% , 95% CI)	Female (n = 465), n (% , 95% CI)	<i>P value</i>
HBsAg (+) anti-HBs (-) anti-HBc (-)	0	0	0	–
HBsAg (+) anti-HBs (-) anti-HBc (+)	24 (4.2; 2.9–6.2)	6 (5.8; 2.7–12.1)	18 (3.9; 2.5–6.0)	0.426
HBsAg (-) anti-HBs (-) anti-HBc (+)	7 (1.2; 0.6–2.5)	0	7 (1.5; 0.7–3.1)	–
HBsAg (-) anti-HBs (+) anti-HBc (+)	69 (12.2; 9.7–15.1)	10 (9.7; 5.4–17.0)	59 (12.7; 9.9–16.0)	0.402
HBsAg (-) anti-HBs (+) anti-HBc (-)	104 (18.3; 15.4–21.7)	23 (22.3; 15.4–31.3)	81 (17.4; 14.2–21.1)	0.243
HBsAg (-) anti-HBs (-) anti-HBc (-)	363 (63.9; 59.9–67.8)	64 (62.2; 52.5–70.9)	299 (64.3; 59.9–68.5)	0.678

ĐÁNH GIÁ TÌNH TRẠNG NHIỄM VIRUS VIÊM GAN B BẰNG BỘ 3 XÉT NGHIỆM TẠI BỆNH VIỆN ĐA KHOA QUỐC TẾ VINMEC TIMES CITY NĂM 2024

N. T. Hang et al. / Vietnam Journal of Community Medicine, Vol. 67, Special Issue 5, 212-216

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Tình trạng nhiễm	Kết quả xét nghiệm			Số lượng (n)	Tỷ lệ %
	HBsAg	Anti-HBs	Anti-HBc		
Nhiễm HBV mạn	+	-	+	172	7,59
Chưa nhiễm HBV, đã tiêm vaccin	-	+	-	609	26,89
Chưa nhiễm HBV, chưa tiêm vaccin hoặc đã tiêm vaccin nhưng không có kháng thể	-	-	-	568	<u>25,08</u>
Đã phơi nhiễm HBV và hồi phục	-	+/-	+	905	39,96
Khác	+	+	+	10	0,44
	+	-	-	1	0,04
Tổng				2265	100

Phân loại tình trạng nhiễm và miễn dịch qua bộ 3 xét nghiệm

Mẫu		HBsAg Dương tính		HBsAg Âm tính	
		Số lượng (n)	Tỷ lệ %	Số lượng (n)	Tỷ lệ %
Giới	Nam	1479	7,32	18739	92,68
	Nữ	1187	4,71	24028	95,29
Nhóm tuổi	< 18 tuổi	6	0,43	1387	99,57
	18 - 45 tuổi	1856	5,57	31488	94,43
	46 - 60 tuổi	576	7,53	7071	92,47
	> 60 tuổi	228	7,48	2821	92,52
Tổng		2666	5,87	42767	94,13

Tỷ lệ xét nghiệm HBsAg Dương tính của các nhóm đối tượng nghiên cứu

Trong tổng số 45433 mẫu, có 2666 mẫu HBsAg dương tính (5.87%) và 42767 mẫu âm tính (94,13%).

Nam giới ghi nhận tỷ lệ HBsAg dương tính cao hơn nữ (7,32% so với 4,71%), sự khác biệt có ý nghĩa thống kê ($p < 0,001$).

Tỷ lệ dương tính thấp nhất ở nhóm <18 tuổi (0,43%), trong khi cao nhất ở nhóm 46–60 tuổi (7,53%) và >60 tuổi (7,48%), sự khác biệt có ý nghĩa ($p < 0,001$)

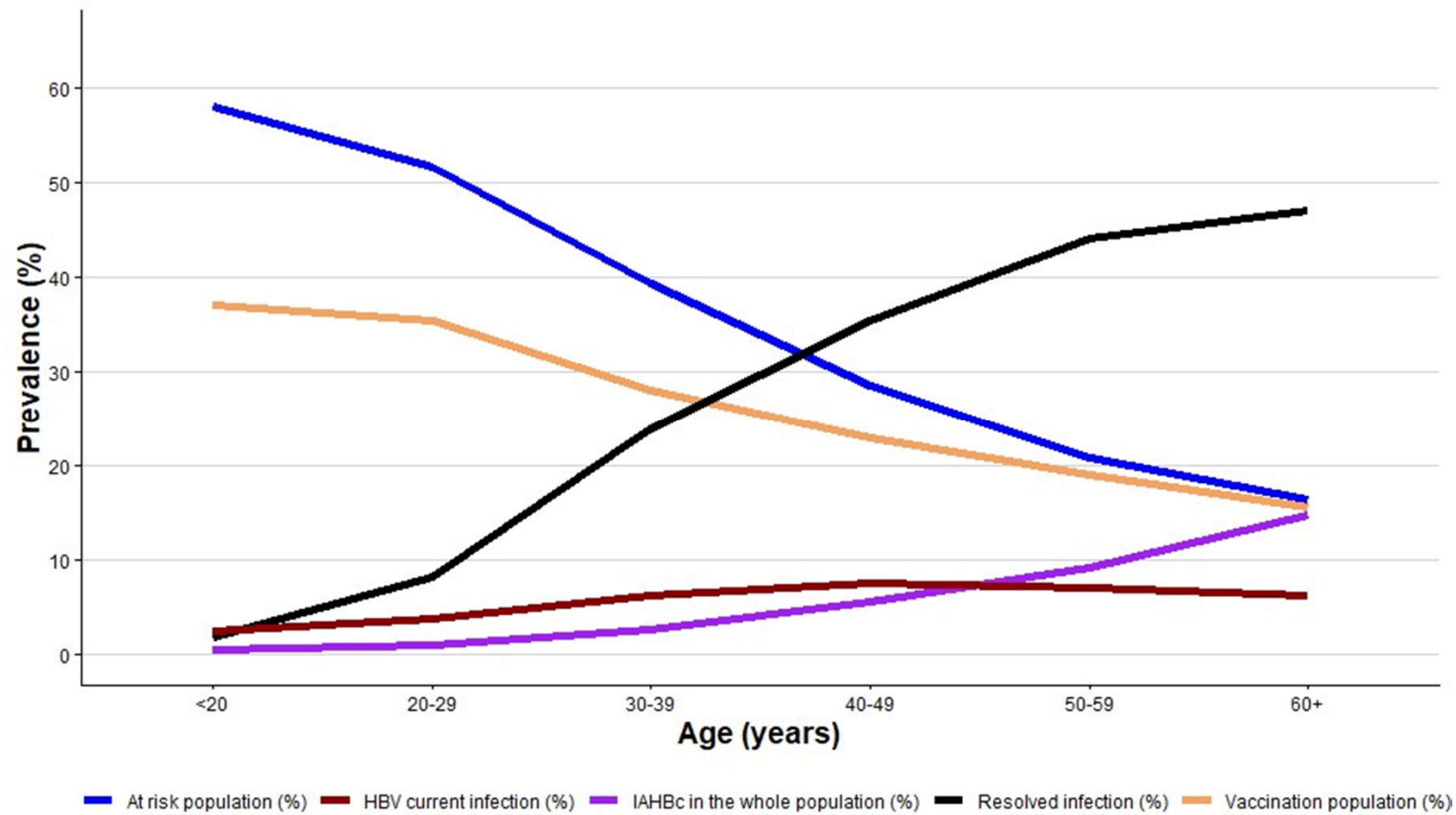
Table 3: HBV infection status based on triple panel testing, stratifying by age groups

	Triple panel	<20 (N=3689)	20-29 (N=15962)	30-39 (N=26162)	40-49 (N=30041)	50-59 (N=25212)	60+ (N=17075)	<i>p</i> -value*
Age (years, SD)		16.90 ± 2.64	24.89 ± 2.82	34.71 ± 2.82	44.46 ± 2.86	54.21 ± 2.80	66.16 ± 5.46	<0.0001
Male (yes)		1937 (52.5%)	7213 (45.2%)	12416 (47.5%)	13582 (45.2%)	10691 (42.4%)	6729 (39.4%)	<0.0001
At risk	HBsAg (-) Anti-HBs (-) Anti-HBc (-)	2144 (58.1%)	8255 (51.7%)	10279 (39.3%)	8558 (28.5%)	5246 (20.8%)	2806 (16.4%)	<0.0001
Vaccine-induced immunity	HBsAg (-) Anti-HBs (+) Anti-HBc (-)	1369 (37.1%)	5644 (35.4%)	7340 (28.1%)	6906 (23.0%)	4787 (19.0%)	2651 (15.5%)	<0.0001
Resolved HBV infection	HBsAg (-) Anti-HBs (+) Anti-HBc (+)	68 (1.8%)	1303 (8.2%)	6248 (23.9%)	10650 (35.5%)	11103 (44.0%)	8040 (47.1%)	<0.0001
iAHBc	HBsAg (-) Anti-HBs (-) Anti-HBc (+)	20 (0.5%)	157 (1.0%)	673 (2.6%)	1679 (5.6%)	2309 (9.2%)	2518 (14.7%)	<0.0001
Current HBV infection	HBsAg (+)	88 (2.4%)	603 (3.8%)	1622 (6.2%)	2248 (7.5%)	1767 (7.0%)	1060 (6.2%)	<0.0001

*Chi-squared test for comparing distribution between male and female. *P*-value <0.05 denotes significant difference.

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Figure 1. Prevalence of different serological patterns across age subgroups .



TỈ LỆ NHIỄM VI RÚT VIÊM GAN B TRONG CỘNG ĐỒNG TỈNH TIỀN GIANG NĂM 2015 VÀ CÁC YẾU TỐ NGUY CƠ

Tạ Văn Trầm*, Trần Thanh Hải **

Từ tháng 7/2014 đến tháng 07/2015.

Tỷ lệ nhiễm vi rút viêm gan B: tỷ lệ HBsAg (+) là 9%; tỷ lệ anti HBc (+) là 50,7%; .Tỷ lệ HBsAg (+) cao nhất ở độ tuổi 40 - 49 (27,3%).

Bảng 1. Tỷ lệ HBsAg (+)

Cỡ mẫu	HBsAg (+)	
	Tần số	Tỷ lệ (%)
1224	110	9,0

Bảng 2. Tỷ lệ anti HBc (+)

Cỡ mẫu	anti HBc (+)	
	n	Tỷ lệ (%)
1224	621	50,7

Bảng 4. Tỷ lệ HBsAg (+) theo tuổi

Đặc điểm		HBsAg n(%)				anti HBc n(%)			
		(-)	(+)	Tổng	p	(-)	(+)	Tổng	p
Nhóm tuổi	10 - 14	59(5,3)	2(1,8)	61(5,0)	0,26	54(9,0)	7(1,1)	61(5,0)	0,001
	15 - 19	62(5,6)	10(9,1)	72(5,9)		54(9,0)	18(2,9)	72(5,9)	
	20 - 29	110(9,9)	9(8,2)	119(9,7)		91(15,1)	28(4,5)	119(9,7)	
	30 - 39	171(15,4)	19(17,3)	190(15,5)		116(19,2)	74(11,9)	190(15,5)	
	40 - 49	237(21,3)	30(27,3)	267(21,8)		108(8,8)	159(13,0)	267(21,8)	
	50 - 59	255(22,9)	22(20,0)	277(22,6)		101(16,7)	176(28,3)	277(22,6)	
	≥ 60	220(19,7)	18(16,4)	238(19,4)		79(13,1)	159(25,6)	238(19,4)	

Distribution of HBV infection statuses, based on the combinations of three sero-markers (HBsAg, anti-HBs, and anti-HBc Total), in Ho Chi Minh City, Vietnam.

14,674 participated in the study.

	Overall (n = 14,674)	Naïve (n = 3970)	HBsAg (+) (n = 1157)	Other ^f (n = 9547)
Age^a				
18-30	36.3 (34.9–37.6)	<u>52.9 (50.8–55.0)</u>	23.4 (19.0–27.9)	26.5 (24.9–28.2)
31-60	53.2 (52.0–54.5)	43.0 (41.0–45.1)	<u>67.5 (63.2–71.8)</u>	58.3 (56.8–59.9)
60+	10.5 (10.1–10.9)	4.1 (3.7–4.5)	9.1 (7.8–10.3)	15.1 (14.4–15.8)
Gender^a				
Female	52.1 (50.9–53.3)	54.0 (51.7–56.2)	45.1 (41.2–49.1)	51.8 (50.3–53.3)
Male	47.9 (46.7–49.1)	46.0 (43.8–48.3)	<u>54.9 (50.9–58.8)</u>	48.2 (46.7–49.7)

Trang N.D.P. et al. Establishing baseline framework for hepatitis B virus micro-elimination in Ho Chi Minh City, Vietnam – a community-based seroprevalence study. www.thelancet.com Vol 30 January, 2023

Kết quả sàng lọc VGB dựa vào các xét nghiệm HBsAg, anti-HBs, anti-HBc

Bảng 4. Tỷ lệ HBsAg dương tính của các nhóm đối tượng nghiên cứu

		HBsAg dương tính		HBsAg âm tính		p
		n	Tỷ lệ %	n	Tỷ lệ %	
Tổng số đối tượng (n = 186.270)		15.897	8,5	170.373	91,5	p<0,001
Giới	Nam	9.321	9,8	85.753	90,2	p<0,001
	Nữ	6.576	7,2	84.620	92,8	
Nhóm tuổi	< 18 tuổi	136	2,0	6.828	98,0	p<0,001
	18 - 45 tuổi	6.360	8,2	70.878	91,8	
	46 - 60 tuổi	5.600	9,8	51.399	90,2	
	> 60 tuổi	3.801	8,4	41.268	91,6	

Nghiên cứu mô tả cắt ngang, hồi cứu trên 186.270 người được chỉ định xét nghiệm HBsAg, anti-HBs, anti-HBc tại **Bệnh viện TƯQĐ 108 năm 2023**.

Tỷ lệ được làm xét nghiệm HBsAg đơn độc là 98,25%, tỷ lệ được làm đủ bộ 3 xét nghiệm HBsAg, anti HBs, anti-HBc tổng số là 0,09%. Tỷ lệ người có HBsAg dương tính là 8,5%, trong đó, nhóm tuổi 46 - 60 có tỷ lệ mắc cao nhất (9,8%), nam giới có tỷ lệ cao hơn nữ giới với tỷ lệ nam/nữ = 1,36 (p < 0,001).

Dựa vào kết quả bộ 3 xét nghiệm, chúng tôi ghi nhận có 32,77% số người đã từng phơi nhiễm HBV.

ĐÁNH GIÁ TÌNH TRẠNG NHIỄM VIRUS VIÊM GAN B BẰNG BỘ 3 XÉT NGHIỆM TẠI BỆNH VIỆN ĐA KHOA QUỐC TẾ VINMEC TIMES CITY NĂM 2024

N. T. Hang et al. / Vietnam Journal of Community Medicine, Vol. 67, Special Issue 5, 212-216 Ngày duyệt đăng: 29/04/2026

Tình trạng nhiễm	Kết quả xét nghiệm			Số lượng (n)	Tỷ lệ %
	HBsAg	Anti-HBs	Anti-HBc		
Nhiễm HBV mạn	+	-	+	172	7,59
Chưa nhiễm HBV, đã tiêm vaccin	-	+	-	609	26,89
Chưa nhiễm HBV, chưa tiêm vaccin hoặc đã tiêm vaccin nhưng không có kháng thể	-	-	-	568	<u>25,08</u>
Đã phơi nhiễm HBV và hồi phục	-	+/-	+	905	39,96
Khác	+	+	+	10	0,44
	+	-	-	1	0,04
Tổng				2265	100

Phân loại tình trạng nhiễm và miễn dịch qua bộ 3 xét nghiệm

Mẫu		HBsAg Dương tính		HBsAg Âm tính	
		Số lượng (n)	Tỷ lệ %	Số lượng (n)	Tỷ lệ %
Giới	Nam	1479	7,32	18739	92,68
	Nữ	1187	4,71	24028	95,29
Nhóm tuổi	< 18 tuổi	6	0,43	1387	99,57
	18 - 45 tuổi	1856	5,57	31488	94,43
	46 - 60 tuổi	576	7,53	7071	92,47
	> 60 tuổi	228	7,48	2821	92,52
Tổng		2666	5,87	42767	94,13

Tỷ lệ xét nghiệm HBsAg Dương tính của các nhóm đối tượng nghiên cứu

Trong tổng số 45433 mẫu, có 2666 mẫu HBsAg dương tính (5,87%) và 42767 mẫu âm tính (94,13%).

Nam giới ghi nhận tỷ lệ HBsAg dương tính cao hơn nữ (7,32% so với 4,71%), sự khác biệt có ý nghĩa thống kê ($p < 0,001$).

Tỷ lệ dương tính thấp nhất ở nhóm <18 tuổi (0,43%), trong khi cao nhất ở nhóm 46–60 tuổi (7,53%) và >60 tuổi (7,48%), sự khác biệt có ý nghĩa ($p < 0,001$)

Table 4: Comparison of the distribution of iAHBc and at-risk populations by FibroScan report and HCC

	FibroScan (N=20,467)			
	F0-1	F2	F3-4	<i>p</i> -value*
At-risk (N=4413)	3612 (81.85%)	390 (8.84%)	411 (9.31%)	<0.001
iAHBc (N=2011)	1270 (63.15%)	300 (14.92%)	441 (21.93%)	
	HCC (N=118,141)			
	Non-HCC	HCC		
At-risk (N=37,288)	37269 (99.95%)	19 (0.05%)		<0.001
iAHBc (N=7356)	7317 (99.47 %)	39 (0.53%)		

*Groups were compared using Chi-squared tests. For FibroScan, only those with a FibroScan report (n=20,467) were included in the analysis. *P*-value <0.05 denotes significant difference.

Compared with the at-risk group, the iAHBc group showed markedly higher advanced fibrosis prevalence (F3–F4: 21.9% vs. 9.3%).

Table 5: Association of HBsAg positivity, Anti-HBc positivity, and iAHBc with age and sex.

	HBsAg (+)		Anti-HBc (+)		iAHBc	
Age	POR (95% CI)	<i>p</i> -value*	POR (95% CI)	<i>p</i> -value*	POR (95% CI)	<i>p</i> -value*
<20	1.00		1.00		1.00	
20-29	1.65 (1.33-2.09)	<0.001	3.04 (2.60-3.58)	<0.001	1.88 (1.21-3.09)	0.007
30-39	2.76 (2.24-3.46)	<0.001	9.92 (8.53-11.60)	<0.001	4.96 (3.26-8.00)	<0.001
40-49	3.41 (2.77-4.26)	<0.001	19.51 (16.8-22.82)	<0.001	11.24 (7.44-18.09)	<0.001
50-59	3.21 (2.60-4.02)	<0.001	31.71 (27.28-37.10)	<0.001	19.41 (12.85-31.24)	<0.001
60+	2.85 (2.30-3.58)	<0.001	45.16 (38.80-52.91)	<0.001	33.85 (22.41-54.47)	<0.001
Sex						
Female	1.00	<0.001	1.00	<0.001	1.00	<0.001
Male	1.47 (1.40-1.54)		1.39 (1.36-1.43)		1.55 (1.48-1.63)	

*Logistic regression model adjusted for sex and age subgroups. POR: prevalence odds ratio. *P*-value <0.05 denotes significant difference.

- In multivariable analysis, men had higher odds of HBsAg, anti-HBc, and iAHBc positivity than women (POR = 1.47, 1.39, and 1.55, respectively; *p*<0.001).

- Relative to age <20 years, HBsAg positivity peaked at 40–49 years (POR=3.41; 95%CI 2.77-4.26), whereas anti-HBc and iAHBc increased monotonically, reaching PORs of 45.16 and 33.85, respectively, at ≥60 years.

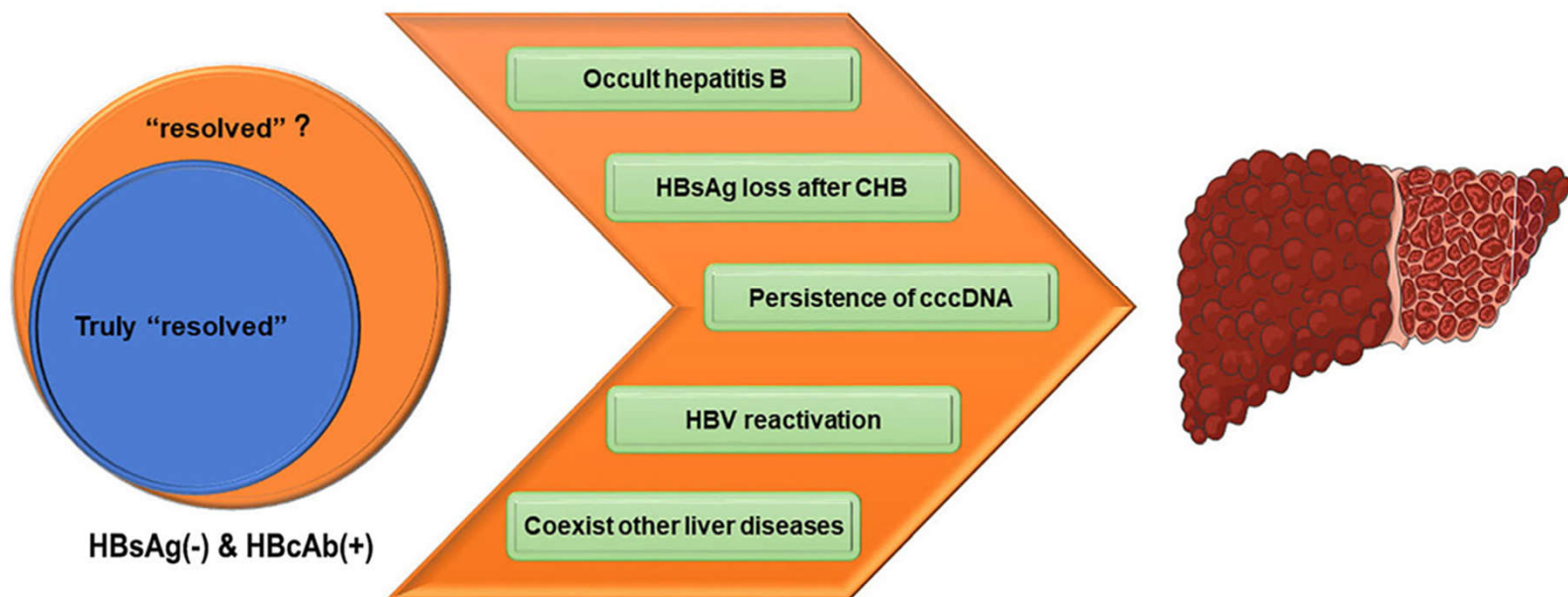
Table 6: Association between different serology status and risk of having HCC, stratified by sex.

	Total#	Male	Female
	POR (95% CI)	POR (95% CI)	POR (95% CI)
At risk	1.00	1.00	1.00
Resolved HBV infection	0.97 (0.57-1.71)	0.99 (0.51-2.09)	0.98 (0.41-2.47)
iAHBc	2.77 (1.59-4.98)**	2.85 (1.43-6.05)*	2.90 (1.11-7.84)*
Current HBV infection	9.91 (6.05-17.0)**	11.62 (6.29-23.53)**	7.17 (3.05-18.05)**
Vaccine-induced immunity	0.48 (0.20-1.06)	0.52 (0.16-1.43)	0.43 (0.09-1.48)

Logistic regression model adjusted for sex and age groups. POR: prevalence odds ratio. * p -value <0.01 , ** p -value <0.001 . P -value <0.05 denotes significant difference.

Compared with the at-risk group, the iAHBc group showed markedly higher odds of HCC (POR=2.77; 95%CI 1.59-4.98), second only to current HBV infection (POR=9.91; 95%CI 6.05-17.0). This pattern was consistent in both sexes.

Factors may contribute to the cirrhosis risk in HBsAg-negative/HBcAb-positive population



Prevalence of Cirrhosis/Advanced Fibrosis Among HBsAg-Negative and HBcAb-Positive US Adults: A Nationwide Population-Based Study

Shuai-Wen Huang et al. Infect Dis Ther (2022) 11:1901–1916

ABSTRACT

Introduction: Evaluation of cirrhosis appears to be easily overlooked in the clinic for the HBsAg-negative (hepatitis B surface antigen-negative) and HBcAb-positive (hepatitis B core antibody-positive) population. Herein, we determine the prevalence of cirrhosis/advanced fibrosis among HBsAg-negative/HBcAb-positive US adults.

Methods: Data came from the National Health and Nutrition Examination Survey (NHANES)

2001–2018. A total of 3115 HBsAg-negative/HBcAb-positive US adults were enrolled in this study. We assessed cirrhosis by using the Fibrosis-4 (FIB-4) and aspartate aminotransferase to platelet ratio index (APRI) score.

Results: Out of 50,201 NHANES adults, 45,087 were tested for HBcAb/HBsAg, of whom 3115 met the inclusion criteria (HBsAg-negative/HBcAb-positive with available data for FIB-4/APRI). The weighted proportion of HBsAg-negative/HBcAb-positive among US adults was 4.46% (95% CI 4.17–4.75%), affecting 9.87 million US adults. According to the results of the FIB-4, the weighted prevalence of cirrhosis/advanced fibrosis among HBsAg-negative/HBcAb-positive US adults was 3.76% (95% CI 2.80–4.72%), which corresponds to 371,112 (95% CI 276,360–465,864) HBsAg-negative/HBcAb-positive American adults who had already developed cirrhosis. Among those, cirrhosis/advanced fibrosis in the HBsAb-negative (hepatitis B surface antibody) group (6.28%, 95% CI 4.10–8.45%) was significantly higher than in the HBsAb-positive group (3.08%, 95% CI 2.07–4.08%). Results were similar when APRI was used.

Conclusion: According to the FIB-4, 3.76% of HBsAg-negative and HBcAb-positive US adults had cirrhosis/advanced fibrosis, much higher than in the general population of the USA. Our data highlight the importance of cirrhosis screening in the HBsAg-negative/HBcAb-positive population to prevent advanced liver disease, especially in those who are HBsAb-negative.

Key Summary Points	What was learned from the study?
<i>Why carry out this study?</i>	
Evaluation of cirrhosis/fibrosis appears to be easily overlooked in the clinic for the HBsAg-negative/HBcAb-positive population.	According to the FIB-4, 3.76% of HBsAg-negative and HBcAb-positive US adults had cirrhosis/advanced fibrosis, much higher than in the general population of the USA.
This study determines the prevalence of cirrhosis/advanced fibrosis among HBsAg-negative/HBcAb-positive US adults given the lack of such reliable and generalizable data.	Our data highlights the importance of cirrhosis/fibrosis screening in the HBsAg-negative/HBcAb-positive population to prevent advanced liver disease, especially among those who are HBsAb-negative.

Isolated Hepatitis B Core Antibody Positivity and Long-Term Liver-Related Mortality in Korea: A Cohort Study

A cohort study comprised 609,299 Korean adults who underwent hepatitis B serologic markers, as a part of health examination. Liver-related and liver cancer mortality were determined using the National Death Records.

RESULTS:

During a median follow-up of 9.0 years (interquartile range, 5.5–13.7 years), 554 liver-related deaths were identified (liver-related mortality, 9.6 cases per 10⁵ person-years). The prevalence of isolated anti-HBc positivity was 3.8% (n = 23,399) and was age-dependent. After adjustment for age, sex, and other confounders, hazard ratios (95% confidence interval) for liver-related mortality in isolated anti-HBc-positive and hepatitis B surface antigen-positive subjects compared with HBV-unexposed subjects were 1.69 (1.22–2.33) and 27.02 (21.45–34.04), respectively. These associations were pronounced in the analyses using liver cancer mortality as an outcome. Among isolated anti-HBc-positive patients, the risks of liver-related and liver cancer mortality were significantly higher in those with high fibrosis-4 scores compared with patients unexposed to HBV with the multivariable-adjusted hazard ratios (95% confidence interval) of 15.59 (9.21–26.37) and 72.66 (36.96–142.86), respectively.

DISCUSSION:

In this cohort of Korean adults, isolated anti-HBc positivity was associated with an increased risk of liver-related and liver cancer mortality, especially when accompanied by a high fibrosis score. Isolated anti-HBc positivity may be an independent risk factor for liver-related outcomes, especially in high-endemic areas.

Association between anti-HBc positivity and hepatocellular carcinoma in HBsAg-negative subjects with chronic liver disease. A meta-analysis

Abstract

A meta-analysis was performed to ascertain to what extent hepatitis B surface antigen (HBsAg)-negative/anti-hepatitis B core (anti-HBc)-positive subjects with chronic liver disease are at a higher risk of developing hepatocellular carcinoma (HCC) than the anti-HBc-negative.

All studies included had to fulfill the following characteristics and inclusion criteria: they investigated the relationship between HBsAg-negative/anti-HBc-positive serology and the occurrence of HCC, whether a case-control or cohort study, they provided relative risk (RR) or odds ratios (ORs) and 95% confidence intervals (CIs), were available as a full text written in English, and were published and indexed up to April 2015.

Twenty-six original studies met the inclusion criteria, allowing a meta-analysis on 44,553 patients. The risk of HCC among the 9986 anti-HBc-positive subjects was 67% higher than in the 34,567 anti-HBc-negative (95% CI = 1.44–1.95, $P < 0.0001$). The results were similar when groups of patients with a different stage of liver disease (patients with chronic liver disease, patients with cirrhosis), with different ethnicity (Asian and non-Asian) and etiology (HCV and non-HCV) were considered. The risk of HCC was significantly higher in the 651 anti-HBs/anti-HBc-positive patients (RR = 1.36; 95% CI = 1.17–1.58, $P = 0.03$) and in the 595 anti-HBs-negative/anti-HBc-positive subjects (RR = 2.15; 95% CI = 1.58–2.92, $P < 0.0001$) than in the 1242 anti-HBs/anti-HBc negative. However, the RR from 8 studies indicated that the risk of HCC was 35% lower among the anti-HBs/anti-HBc-positive subjects compared to the anti-HBs-negative/anti-HBc-positive (RR = 0.65; 95% CI = 0.52–0.8, $P < 0.0001$).

This meta-analysis shows that in HBsAg-negative subjects with chronic liver disease, anti-HBc positivity is strongly associated with the presence of HCC, an association observed in all subgroups according to the stage of the disease, etiology, and ethnicity.

Abbreviations: CI = confidence interval, HBV = hepatitis B virus, HCC = hepatocellular carcinoma, NOS = Newcastle-Ottawa Assessment Scale, OR = odds ratio; RR = relative risk, SE = standard error.

Keywords: anti-HBc positivity, chronic hepatitis, hepatocellular carcinoma, liver cirrhosis, occult HBV infection, silent HBV infection



IV. Conclusions

- To our knowledge, this is the largest study in Vietnam to apply a triple HBV serologic testing panel.
- The prevalence of current HBV infection in Southern Vietnam was 6.3%, and 6.2% of participants had iAHBc — a subgroup that would likely be missed by the conventional two-marker screening approach.
- Importantly, iAHBc was associated with 2.77-fold higher odds of HCC and a substantially higher prevalence of advanced fibrosis (F3–F4) compared with triple-seronegative individuals, indicating that this serologic profile is not clinically benign.
- These findings support consideration of the triple-marker panel for routine HBV screening in Vietnam

• Fwd: AASLD TLM 2026 Abstract Acceptance Notification 3

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Dear Thuy Pham, MD, PhD,

Congratulations! On behalf of the Scientific Program Committee of the American Association for the Study of Liver Diseases (AASLD), it is my pleasure to inform you that your abstract has been selected for a poster presentation at The Liver Meeting® 2026 in Denver, Colorado. Please note that all poster presenters are expected to be at The Liver Meeting in person.

**** Please read this invitation carefully, as it contains important deadlines and presentation information.****

Note: This acceptance notification serves as confirmation of your poster presentation at The Liver Meeting 2026, and you do **NOT** need to complete an invitation form. **Please be sure to notify all co-authors regarding the status of your abstract.**

POSTER PRESENTATION DETAILS

Your Role: Abstract Presenter

Session Date / Time: 11/6/2026, 1:00 pm - 2:00 pm

Title: Health Services and Public Health Research ("2157-2270")

Type: Abstract Poster

Presentation: PREVALENCE OF HEPATITIS B VIRUS INFECTION, TOTAL ANTI-HBc POSITIVITY, AND ISOLATED ANTI-HBc AMONG 118,141 INDIVIDUALS UNDERGOING ROUTINE HEALTH CHECK-UPS AT MEDIC MEDICAL CENTER IN THE SOUTH OF VIETNAM

Publication Number: 2226

Poster Session Schedule by Day

- Poster Session I (Thursday, November 5): 12:00 PM – 1:00 PM
- Poster Session II (Friday, November 6): 1:00 PM – 2:00 PM
- Poster Session III (Saturday, November 7): 1:00 PM – 2:00 PM
- Poster Session IV (Sunday, November 8): 1:00 PM – 2:00 PM

