



Effects of antiviral therapy and drug withdrawal on postpartum hepatitis in pregnant women with chronic HBV infection

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Abstract

Objective To explore the effects of antiviral therapy and drug withdrawal on postpartum hepatitis in pregnant women with chronic HBV infection.

Methods Eighty-four pregnant women with chronic HBV infection (CHB) were divided into two groups: antiviral therapy group (AT) and drug withdrawal group (DW). The AT group received antiviral therapy (n = 42) and the DW group received no antiviral therapy (n = 42). The primary endpoint was the incidence of postpartum hepatitis (PPH). The secondary endpoint was the incidence of liver damage (LD).

Results A total of 84 pregnant women were included in the study. The AT group had a significantly lower incidence of PPH (28.1%) compared with the DW group (42.9%) ($\chi^2 = 0.607, p = 0.738$). The incidence of LD was significantly lower in the AT group (92.3%) compared with the DW group (77.7%) ($\chi^2 = 0.607, p = 0.738$).

Conclusion Antiviral therapy significantly reduced the incidence of PPH and LD in pregnant women with chronic HBV infection.

Keywords Antiviral therapy, Chronic HBV infection, Postpartum hepatitis, Liver damage.

Introduction

Chronic hepatitis B virus (HBV) infection is a global health problem. It is estimated that 280 million people worldwide are infected with HBV, and 80 million of them have developed chronic liver disease [1].

In 2020, the World Health Organization (WHO) reported that 280 million people worldwide are infected with HBV, and 80 million of them have developed chronic liver disease [1]. The incidence of liver damage (LD) in pregnant women with chronic HBV infection is high, reaching 77.7% [2].

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HBsAg, HBeAg, and HBV DNA levels were significantly higher in the HBV A group compared to the HBV B group ($p < 0.05$). The mean HBV DNA level was 250 IU/mL in the HBV A group and 500 IU/mL in the HBV B group.

Statistical analysis

The data were analyzed using the chi-square test for categorical variables and the Fisher's exact test for small cell counts. The Mann-Whitney U-test was used for non-parametric comparison of continuous variables. A p -value of < 0.05 was considered statistically significant.

Results

Patient enrollment and deposition

A total of 397 HBV A patients were enrolled in the study. The mean age was 30.74 years (range 12-65 years). The majority of patients (251, 63.2%) were from the HBV A group, and 146 (36.8%) were from the HBV B group. The HBV DNA level was significantly higher in the HBV A group compared to the HBV B group ($p < 0.05$).

Changes of biochemical indexes and HBV DNA during pregnancy

The biochemical indexes and HBV DNA levels were significantly higher in the HBV A group compared to the HBV B group during pregnancy.

The HBV DNA level was significantly higher in the HBV A group compared to the HBV B group ($p < 0.05$).

Changes of HBV DNA content during pregnancy and after delivery

The HBV DNA level was significantly higher in the HBV A group compared to the HBV B group during pregnancy and after delivery. The mean HBV DNA level was 264 IU/mL in the HBV A group and 168 IU/mL in the HBV B group.

Occurrence of postpartum hepatitis and treatment

The occurrence of postpartum hepatitis and treatment was significantly higher in the HBV A group compared to the HBV B group. The mean ALP level was 67 IU/L in the HBV A group and 28.1% (27/96) in the HBV B group. The mean ALP level was 23.8% (40/168) in the HBV A group and 96.3% in the HBV B group ($p > 0.1$).

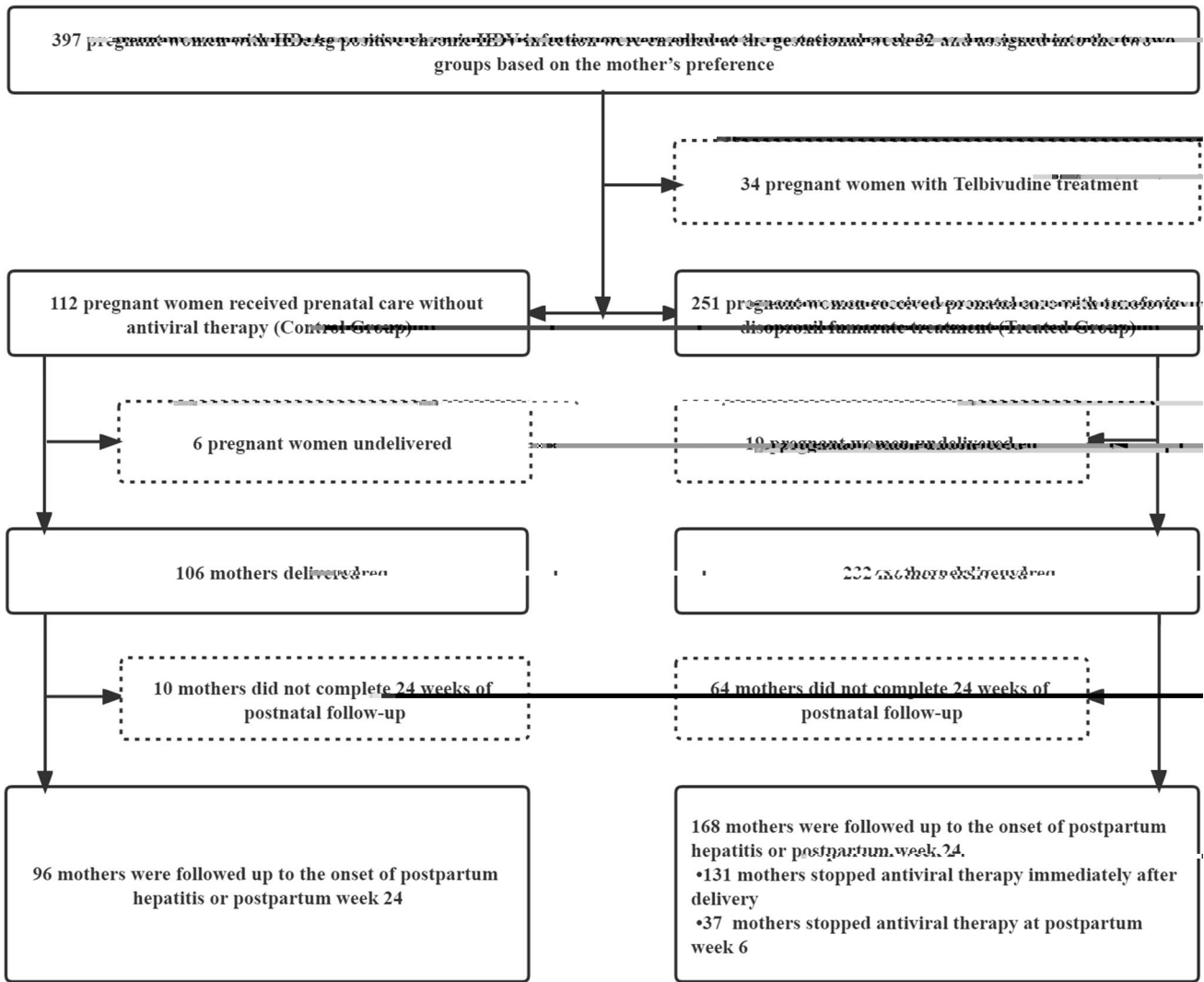


Fig. 1

DF 28 EG-IFN 9.99, 0.22, A 10 9 10.00, 0.00. 99 99
 EG-IFN 9 DF. 7 9 9 , 5 9 y y ,
 1 9 9 1 9 y
 I 326 9 9 HBV 9 9
 , 41.4% (135) 99 HB A 9 (HB A
 > 0.05 I) HB A 9.9 0.14 (0.08, 0.41) I)
 96.3% (314) 99 HB A 9 (HB A > 1.0 /CO), 9
 HB A 9.9 64.46(18.15, 169.72) /CO. 98.5% 99
 -HB 9 9 (-HB > 1.0 /CO). 98.5% (321) 99
 -HB 9 (-HB > 1.0 /CO). 9 HB DNA
 9 99 9 321 9 , 14.0% 9 (HB
 DNA 20 I) , HB DNA 9 3.47. 1.33
 I)

HBV markers at birth and blocking effect of HBV mother-to-child transmission in newborns

A 346 9 99 9 99 , 189 9
 157 9 9 , y 9 50.07. 1.07 , 9
 3311.78. 424.04 , A 1 9 9.97. 0.26, A 5

Table 1 C

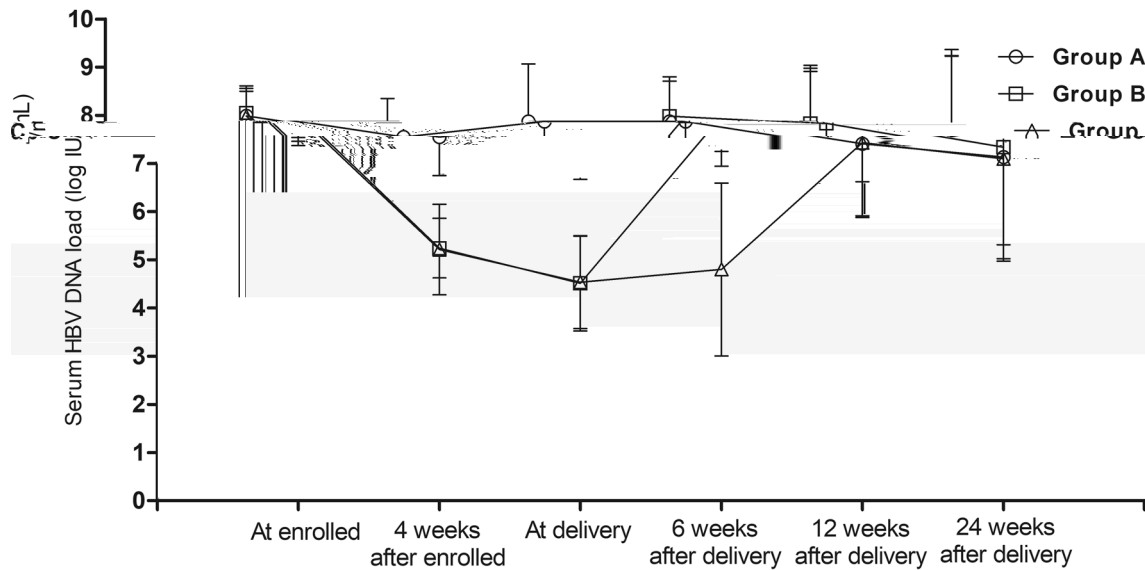
	B			A			T			H		
	Mean	SD	P	Mean	SD	P	Mean	SD	P	Mean	SD	P
HBV DNA (IU/mL)	29.99	3.60	0.005	20.71	27.69	0.001	18.41	11.80	0.001	7.87	1.20	0.001
HBsAg (%)	7.99	0.62	0.500	7.55	0.80	100%	5.20	0.72	9.910	4.50	1.03	23.928
AL (g/L)	22.17	14.80	0.960	20.71	27.69	0.005	23.75	18.81	1.050	20.30	9.73	1.770
A (g/L)	21.60	14.61	0.812	20.85	13.03	0.239	23.63	11.04	2.091	22.72	6.29	2.105
BIL _T (g/L)	7.11	2.41	1.909	7.62	3.44	0.057	7.99	2.56	0.932	7.48	2.66	0.321
DBIL _T (g/L)	1.72	0.76	0.875	1.70	1.03	0.157	1.91	0.87	1.396	1.72	0.82	0.062
ALB (g/L)	39.03	3.28	<0.001	36.75	2.44	5.525	36.24	2.66	2.714	35.77	2.86	0.446
GGT (U/L)	10.15	7.81	0.339	9.79	6.77	0.957	9.37	5.61	0.997	10.06	5.47	0.273
AL (g/L)	70.55	34.25	0.112	129.88	52.41	1.600	149.66	346.69	0.607	140.52	32.73	1.797
BA _T (g/L)	3.25	2.60	0.596	3.70	3.35	0.531	7.66	41.40	0.902	8.90	7.71	1.155
B _T (g/L)	3.08	0.78	0.509	2.92	0.62	0.662	3.10	0.80	0.994	3.91	3.35	1.147
C _T (g/L)	44.33	5.78	0.597	46.67	5.19	0.530	50.90	23.20	0.890	50.53	8.63	1.166
HO (g/L)	1.11	0.10	0.388	1.15	0.13	0.865	1.13	0.13	1.075	1.13	0.15	1.382
A (%)	109.99	13.45	0.041	116.68	9.95	2.089	116.79	10.59	0.102	117.03	17.82	2.732
IN	0.97	0.05	1.35	0.97								0.007

No es: HBV DNA: ; ALB: A ; GG: ; y: IN: ; HBsAg: ; AL: ; BA: ; B_T: ; C: ; HO: ; A: ; DB: ;

Table 2 HBV DNA (log IU/mL) at enrollment, 4 weeks, at delivery, 6 weeks, 12 weeks, and 24 weeks after delivery for Group A (untreated) and Group B (withdrawn at delivery).

Time Point	Group A (Mean ± SD)	Group B (Mean ± SD)	Comparison (p-value)
At enrolled	7.99 ± 0.62	8.05 ± 0.51	7.98 ± 0.52
4 weeks after enrolled	7.55 ± 0.80	5.24 ± 0.62	5.21 ± 0.94
At delivery	7.87 ± 1.20	4.51 ± 0.99	4.53 ± 0.96
6 weeks after delivery	7.87 ± 0.93	7.98 ± 0.73	4.80 ± 1.79
12 weeks after delivery	7.41 ± 1.50	7.83 ± 1.21	7.43 ± 1.55
24 weeks after delivery	7.13 ± 2.11	7.34 ± 2.03	7.10 ± 2.13

No es: C : 9 9 9 y
 I 9 9 : 9 9 y 9 9 9 y
 D y 9 : 6 9 9 9 9 y



Group A: women untreated with antiviral drugs during pregnancy
 Group B: women withdrawal antiviral drugs at delivery

Fig. 2 C 9 HBV DNA 9 9 9 9 9 HBV 9 y

A 9 y 9 9 9 -HBV HBIG 100
 I 9 10 9 B 9 6
 B 9 1 6 9 I y,
 262 9 9 9 9 - 9
 HBV 9 - - 9 9
 9 9 9 9 9
 (155/156, 99.35%) 9 (96/106,
 90.56%)($\chi^2=12.132, p < 0.001$).

Discussion

G 9 9 9 9 - 9 9 y
 9 9 9 9 - - 9
 9 B 9 9 9
 5, 8, 10, 23 9 y, 9 9 9
 9 9 9 B 9 9 9 - 9
 9 y 9 9 y 9 9 9

HBV DNA 23, 33 . O y 4
y C . A 4
HBV DNA y 6 . B
HBV DNA y . A -

9 y, HBV DNA 9 9 9 9 9 y 9
I 9 9 9 -
9y 6 99 9 9 9y 9 9 9 9
9 9 9 9y . A 9 90% 9 9
12 99 9 9 9y 9
9 9 9 9y 9 9 9 9
9 9 9y . D y 9 y 9
9 9 9 . O 9 9 9
12 99 9 9 9y
- 9 9 9 9 9
H 9 9 , 9 9 9 99 - 9
9 y , 9 99 9 9
9 9 . 9 , 9 9 y 24 99
9 9 9y y 9 9 9 9 9 ,
9 9 9 9 9 9 9 9 9 48
99 9 9 .

Acknowledgements

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Hf y CMA. 9 9 9 9.9 9 9
9 B. 9). G B
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9 y 9 9 B. F Hf (L -
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A - 9 9 9 9 9 9
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C 9 G 9 9 9 9 9 9 B
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B. 9 9 9 9 : 9
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