



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

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Abstract

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

Methods Eligible CHB pregnant women were divided into DF (n=32), C (n=13), and A (n=6) groups. HR was measured at delivery and 24 weeks postpartum.

Results 264 pregnant women were included. C (n=96), A (n=168), and DF (n=131) groups were compared. C (n=37), A (n=6), and DF (n=2) groups were compared. HR was measured at delivery and 24 weeks postpartum. $\chi^2=0.607, p=0.738$. No significant difference was found between groups.

Conclusion Antiviral therapy and drug withdrawal did not significantly affect postpartum hepatitis in pregnant women with chronic HBV infection.

Clinical trial registration: NC 03214302.

Keywords Antiviral therapy · Chronic hepatitis B · Maternal · Postpartum · Hepatitis

Introduction

Chronic hepatitis B (CHB) is a global health problem. The prevalence of CHB is 1.4% in China, with a total of 128 million carriers. CHB is a leading cause of liver disease.

Worldwide, CHB is a leading cause of liver disease. In 2020, approximately 84%–92% of CHB carriers develop liver cirrhosis (HCC). In China, there are approximately 330,000 HCC cases annually [1–3]. The mortality rate of CHB is 5–7%. Maternal CHB infection is a leading cause of postpartum hepatitis. HR is a common complication of CHB in pregnant women. HR is defined as ALT > 2 times the upper limit of normal (ULN) and total bilirubin > 2 times the ULN. HR is more likely to occur in pregnant women with CHB DNA levels > 10⁷ IU/mL. HR is more likely to occur in pregnant women with CHB DNA levels > 10⁷ IU/mL. HR is more likely to occur in pregnant women with CHB DNA levels > 10⁷ IU/mL.

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HB A 1 1 a 0.05 250 I/mI. HB A 1 1 a 250 I/mI. C 500. HB A 1 1 a 500. HB A 1 1 a <0.05 I/mI. HB A 1 1 a

Statistical analysis

Statistical analysis was performed using the chi-square test. The results are presented in Table 1. The difference between the two groups was statistically significant (p < 0.05).

Results

Patient enrollment and deposition

A total of 397 HB A - positive pregnant women were enrolled in the study. The mean age was 30.74 ± 3.85 years. The majority of the patients were from the urban area (C 251). The majority of the patients were from the urban area (C 251). The majority of the patients were from the urban area (C 251).

Changes of biochemical indexes and HBV DNA during pregnancy

The changes of biochemical indexes and HBV DNA during pregnancy are shown in Table 2.

HBV DNA content was significantly higher in the first trimester compared with the second and third trimesters (p < 0.05).

Changes of HBV DNA content during pregnancy and after delivery

HBV DNA content was significantly higher in the first trimester compared with the second and third trimesters (p < 0.05). After delivery, the HBV DNA content was significantly lower compared with the first trimester (p < 0.05).

Occurrence of postpartum hepatitis and treatment

Postpartum hepatitis occurred in 28.1% (27/96) of the patients. The majority of the patients were from the urban area (C 23.8% (40/168)). The majority of the patients were from the urban area (C 23.8% (40/168)).

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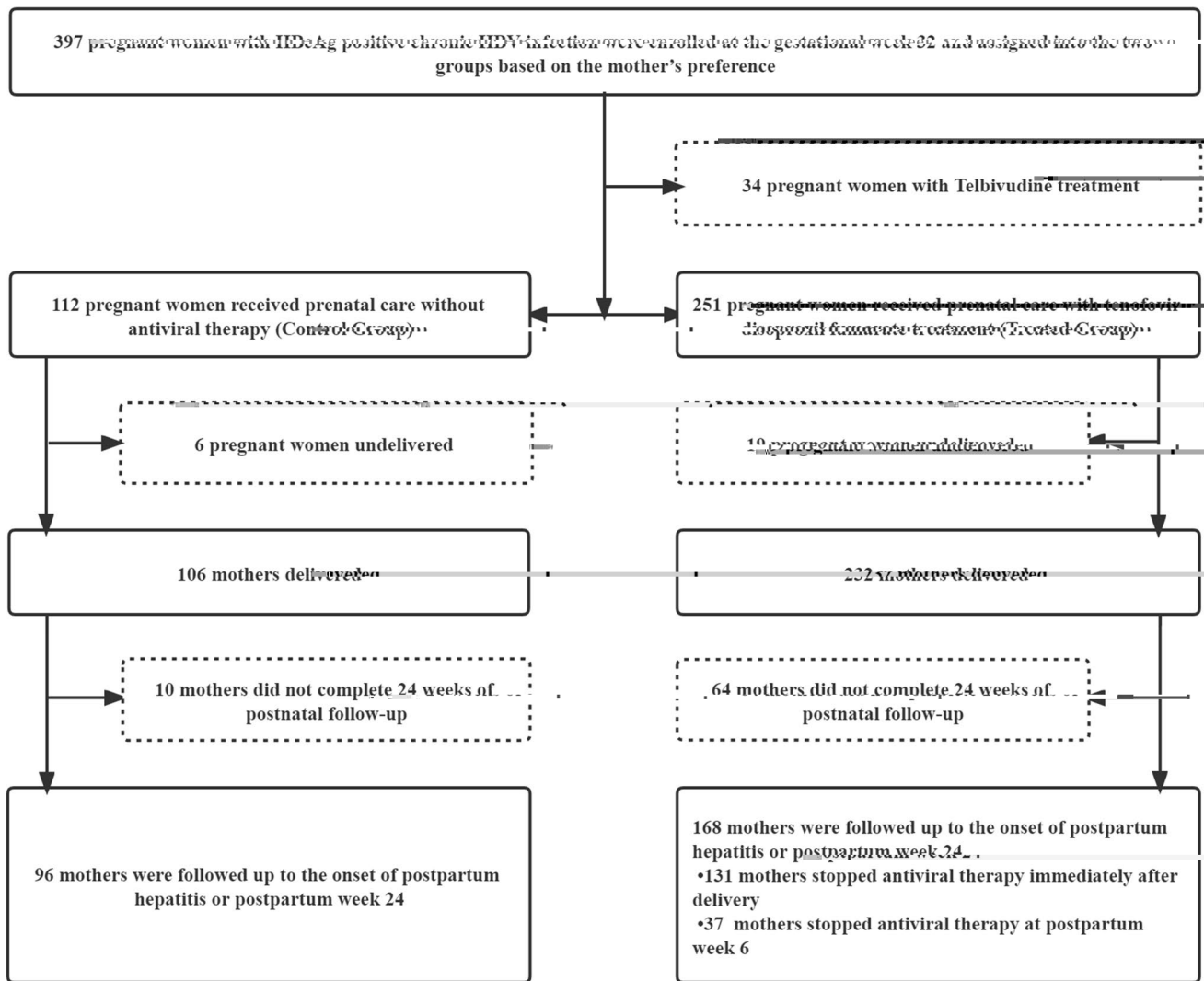


Fig. 1 Study design and participant flow

... DF 28 ... EG-IFN ...
 EG-IFN ... DF ...
 ...
 ... DNA ...
 ...
 ...

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

... 346 ...
 ... 157 ...
 ... 3311.78 ... 424.04 ...
 ... 9.97 ... 0.26 ... 5 ...

... 9.99 ... 0.22 ... A ... 10 ... 10.00 ... 0.00 ...
 ... 7 ...
 ... 1 ...
 ... I 326 ... HR ...
 ... 41.4% (135) ... HB A ... (HB A > 0.05 I_U/mL) ...
 ... 0.14 (0.08, 0.41) I_U/mL ...
 ... 96.3% (314) ... HB A ... (HB A > 1.0 I_U/CO) ...
 ... HB A ... 64.46(18.15, 169.72) I_U/CO ... 98.5% ...
 ... HB ... (HB > 1.0 I_U/CO) ... 98.5% (321) ...
 ... HBc ... (HBc > 1.0 I_U/CO) ...
 ... 321 ... 14.0% ... (HR ...
 ... DNA ... 20 I_U/mL) ... HR ... DNA ... 3.47 ... 1.33 ...
 ... I_U/mL ...

Table 1 Clinical laboratory data

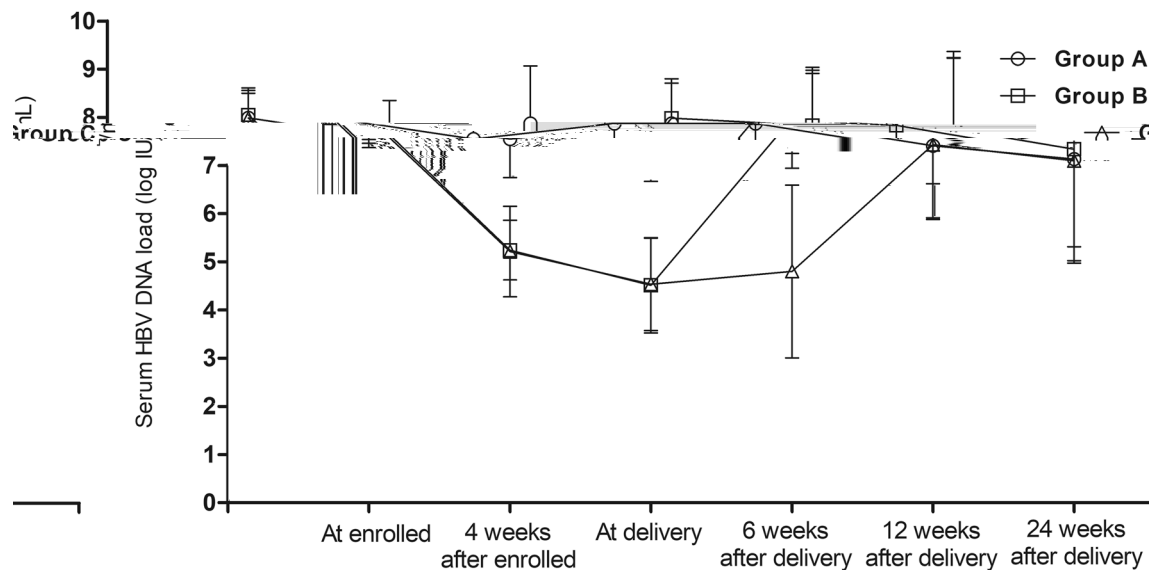
Parameter	Baseline		3 Months		6 Months		12 Months		24 Months		P-value
	Value	Reference	Value	Reference	Value	Reference	Value	Reference	Value	Reference	
ALT (U/L)	29.99	3.60	31.35	3.95	2.805	0.005	/	/	/	/	/
AST (U/L)	7.99	0.62	8.03	0.51	0.676	0.500	7.55	0.80	5.20	0.72	9.910
HBsAg (IU/mL)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	<0.001
ALB (g/L)	22.17	14.80	23.46	20.03	0.051	0.960	20.71	27.69	23.75	18.81	1.050
A/G	21.60	14.61	22.44	6.21	0.239	0.812	20.85	13.03	23.63	11.04	2.091
BIL (mg/dL)	7.11	2.41	7.74	2.59	1.909	0.057	7.62	3.44	7.99	2.56	0.932
DBIL (mg/dL)	1.72	0.76	1.771	2.3	0.157	0.875	1.70	1.03	1.91	0.87	1.396
ALB (g/L)	39.03	3.28	37.09	2.07	5.525	<0.001	36.75	2.44	36.24	2.66	2.714
GGT (U/L)	10.15	7.81	9.60	6.73	0.957	0.339	9.79	6.77	9.37	5.61	0.997
AL (mg/dL)	70.55	34.25	76.80	23.13	1.600	0.112	129.88	52.41	149.66	346.69	0.607
BA (mg/dL)	3.25	2.60	4.11	8.91	0.531	0.596	3.70	3.35	7.66	41.40	0.902
BUN (mg/dL)	3.08	0.78	3.96	11.64	0.662	0.509	2.92	0.62	3.10	0.80	0.994
C (mg/dL)	44.33	5.78	45.63	11.95	0.530	0.597	46.67	5.19	50.90	23.20	0.890
HO (mg/dL)	1.11	0.10	1.18	0.65	0.865	0.388	1.15	0.13	1.13	0.13	1.075
A (%)	109.99	13.45	113.40	10.34	2.089	0.041	116.68	9.95	116.79	10.59	0.102
IN	0.97	0.05	1.35								0.919

Abbreviations: ALT: Alanine Aminotransferase; AST: Aspartate Aminotransferase; HBsAg: Hepatitis B Surface Antigen; ALB: Albumin; A/G: Albumin/Globulin Ratio; BIL: Bilirubin; DBIL: Direct Bilirubin; ALP: Alkaline Phosphatase; GGT: Gamma-Glutamyl Transaminase; BA: Bilirubin Anion; BUN: Blood Urea Nitrogen; C: Creatinine; HO: Hemoglobin; A: Hemoglobin A; IN: International Normalized Ratio.

Table 2 HR DNA1 11 HR ...

HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11	HR DNA1 11
B	7.99	0.62	8.05	0.51	7.98	0.52	0.708/0.479	0.077/0.939	0.648/0.518
4	7.55	0.80	5.24	0.62	5.21	0.94	11.226/<0.001	6.966/<0.001	0.207/0.837
B	7.87	1.20	4.51	0.99	4.53	0.96	22.875/<0.001	15.275/<0.001	0.016/0.987
6	7.87	0.93	7.98	0.73	4.80	1.79	0.866/0.388	9.339/<0.001	10.212/<0.001
12	7.41	1.50	7.83	1.21	7.43	1.55	1.276/0.211	0.049/0.961	1.336/0.184
24	7.13	2.11	7.34	2.03	7.10	2.13	0.535/0.593	0.056/0.956	0.476/0.635

No es: C ...
 Lmm ...
 D b3 ...



Group A: women untreated with antiviral drugs during pregnancy
 Group B: women withdrawal antiviral drugs at delivery
 Group C: women withdrawal antiviral drugs at 6 weeks after delivery

Fig. 2 C a ... HR DNA ...

All ... HBIG 100 ...
 I ... 10 ...
 a ... C ...
 B ... 6 ...
 262 ...
 HR ...
 C (155/156, 99.35%) ... C (96/106, 90.56%) ($\chi^2=12.132, p < 0.001$).

Discussion
 GCi li e mm ...
 C ...
 B i C i a m ...
 5, 8, 10, 23 ...
 B a ...
 a 3 a im C 3 a a mi mi

Table 3 I s i e s e n s i t i v i t y a n d s p e c i f i c i t y

Category	Number (n)	Percentage (%)	χ ² /p value	χ ² /p value
Lymn	96	23.7% (31)	0.580/0.446	0.195/0.658
D	37	24.3% (9)	0.580/0.446	0.007/0.934
Total	131	28.1% (27)	0.580/0.446	0.601/0.438

N. i. C. i. l. a. i. t. a. l. a. m. C. i. i. a. c. 2
 Lymn a. i. a. l. a. a. l. a. i. t. a. l. C. i. m. n. a. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

C. i. a. a. l. e. c. C. e. a. i. a. i. a. l. i. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

... 23, 33 ... HBV DNA ...

618(... 1(-9997 ... 4002i ... 5.625i ... 0-1-)52325 (HB)50i ... 2(-)237(1,)11(3.)26(_m)-2.



Cit. a. c. HB DNA 1 li 3
Im. C. a. al.
I e. c. Ci. a. a. a. ial. a. m. imm. t
a. 12. a. 6. a. a. li 3. i. a. a. i. c. i. e
a. a. i. a. a. li 3. A. 90%. a. i. i. c. c. C
i. i. 12. a. a. li 3. i. i. a. i. C. a. i. a. l.
a. a. m. a. a. i. m. m. a. 13. i. a. i. a. a. i. a. a. m.
a. a. li 3. D. b. 3. C. i. a. a. a. l. m. i. b. 3.
a. a. a. a. C. m. a. i. i. O. C. C. a. l. C. a. a. a.
a. a. C. m. 12. a. a. C. i. a. a. a. l. i. a. 3.
i. l. l. C. i. i. m. i. a. i. c. c. C. e. a. a. i. i.
H. i. C. a. a. C. m. e. m. l. i. l. l. C. C. e.
i. l. i. m. i. a. i. C. a. a. i. e. c. i. C. i. a. a. l. C.
a. i. a. m. a. C. m. i. i. a. 13. 24. a.
a. a. li 3. a. 3. i. i. i. c. i. e. l. a. a. a. i.
e. m. m. a. i. i. c. i. e. a. i. a. 48
a. C. m. i. C. C. C. i. i.

Acknowledgements

20. C... I... C... D... CMA, C...
H... CMA... C...
... B... G... B...
2019;2019(27):938-961
21. C... NA, B... NH, C... KM, H... J... I... MM,
M... MH, A... A... C... Li... D...
AA... C... B... H...
2016;63:261-283.
22. H... L... HF, C... C... B... (H...)
... H... 2008;2:370-375
23. C... L... L... H... M... F...
... C...
... B... F... M... (L...)
2021;8: 796901
24. K... K... M... L... CGK, A... C... HL, C... CJ, et al.
A... C...
... B... 2015 C... H... 2016;10:1-98
25. EC... A... C... Li... E...
... EC... A... C... L... EA... L...
... GC...
... JH... 2017;2017(67):370-398
26. G... H...
... B... C... G... B...
2016;24:881-884
27. L... CFC, L... CJ, et al. J... C... J... L...
... B...
... C...
2017;35:6627-6633
28. L... CJ, C... B... C... J... F... J... C...
... B... C...
... C...
... C... D... Li... Di... 2019;51:864-869
29. C... C... K... M... Y... K... A... D... K... CKO... L...
24... 17664(2017.399996H...)... CH850... 03... (.56) 25H8.5(CC.73605)56... 6... C... 85... 09... 999650... 18.5(1)56(6M(C)7360)