

行政院國家科學委員會專題研究計畫 成果報告

比較不同時期 B 型肝炎 e 抗原陰性孕婦其前核心及核心驅動
子基因突變之比率及其臨床意義

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中文摘要

一、 目的：

探討 B 型肝炎 e 抗原(HBeAg)陰性孕婦在不同時期，其肝炎病毒的核酸(HBV DNA)量、基因型、前核心及核心驅動子基因突變比率的不同，並分析其臨床意義。

二、 研究方法：

我們分別找出在 1988 年(group)及 2000 年(group)所保存孕婦血清，由生產登記本找出 HBeAg 陰性之血清。比較此兩組在年齡、生產次數、HBV DNA 濃度、基因型、前核心及核心驅動子基因突變比率，以統計方法分析其臨床意義。

三、 結果：

此兩組各有 109 個血清，顯示在平均年齡是一致的，而平均生產胎數、HBV DNA 濃度、前核心及核心驅動子基因突變比率均無統計學上的意義 (Table 1)。但 group 的基因型 B 及 C 之比率為 77%，而 group 的比率為 53%，具統計學上的差異 (P = 0.000)。

四、 討論：

此兩組孕婦之平均年齡為一致，因此可去除因年齡所導致之影響因素。HBeAg 陰性孕婦其血清中有 35% 其 HBV DNA 是十分低，少於 10^3 copies 之病毒。但經 HBeAg 陰性有關係之前核心及核心驅動子基因突變比率在兩組無統計學上之差異。B 及 C 型病毒在 group 比 group 統計學上有意義地減少。

五、 結論：

HBeAg 陰性孕婦在相關十二年，其前核心及核心驅動子基因突變之比率並無差別，但及 C 基因型之比率反而下降，其臨床意義有待進一步釐清。

《關鍵語》：

B 型肝炎病毒，e 抗原，去氧核糖核酸，基因型，前核心及核心驅動子基因突變

ABSTRACT

Aims:

To compare hepatitis B virus (HBV) genotype, HBV DNA level, the percentage of precore/basal core promoter mutations in two groups of HBeAg-negative carrier mothers in 1988 and 2000, respectively.

Methods:

The stored sera of HBeAg-negative carrier mothers in 1988 (group I) and 2000 (group II) were retrieved from the registry of delivery in our department. The clinical data in each carrier mothers were recorded and analyzed. All sera were assayed for HBV DNA level, HBV genotype and precore/basal core promoter mutations. The comparisons of HBV characteristics between groups I and II carrier mothers were analyzed by Student's t-test and Pearson chi-square test.

Results:

One hundred and nine serum samples in each group I and II were retrieved and analyzed. No statistical differences were found in mean age, parity, HBV DNA level and percentage of precore/basal core promoter mutations between the two groups (Table 1). In contrast, the percentage of genotypes B and C in group I carrier mothers were 77% versus 53% in group II carrier mothers ($P=0.000$).

Discussion:

Because the mean age between the two groups was matched, the factor of age cannot be the confounding one in this study. HBV DNA levels were undetectable (less than the sensitivity of 10^3 copies) in 35% of the HBeAg-positive carrier mothers. The percentage of precore/basal core promoter mutations between the two groups was not significantly different, whereas the percentage of genotypes B and C significantly decreased in group I compared to group II.

Conclusions:

The percentage of precore/basal core promoter mutations between groups I and II was not significantly different, whereas the percentage of genotypes B and C significantly decreased in group I compared to group II.

<**Key Words**> hepatitis B virus (HBV), HBeAg, HBV DNA, genotype, precore/basal core promoter mutant

Table 1. Comparisons of Hepatitis B Viral Characteristics Between HBeAg(-) Carrier Mothers in 1988 (Group I) and HBeAg(-) Carrier Mothers in 2000 (Group II)

Group	I (n=109)	II (n=109)	P
Age (years)	31.1±3.7	31.1±3.7	1.0*
Parity	1.15±0.67	1.45±0.59	0.199*
Log HBV DNA (copies) [#]	8.98±3.22	8.95±3.09	0.855*
Genotype			0.000**
B	61 (56%)	48 (44%)	
C	23 (21%)	10 (9%)	
Others	25 (23%)	51 (47%)	
Precore stop codon mutant (G1896A) ^a			0.085**
yes	42 (39%)	36 (33%)	
no	32 (28%)	14 (13%)	
Basal core promoter mutant ^b (A1762T/G1764A)			0.165**
yes	7 (6%)	2 (2%)	
no	68 (62%)	58 (53%)	

*: Student's t-test; **: chi-square test;

[#]: The HBV DNA level was less than the sensitivity (10^3 copies) in 25 of group I and 51 of group II carrier mothers.

^a: The gene sequence could not be detected in 35 of group I and 59 of group II carrier mothers.

^b: The gene sequence could not be detected in 34 of group I and 49 of group II carrier mothers.