

만성 B형 간염의 항바이러스 치료

Anti - viral Treatment of Chronic Hepatitis B

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Abstract

Patients with chronic hepatitis B virus (HBV) infection are at risk for development of liver cirrhosis and hepatocellular carcinoma. The goal of antiviral therapy for chronic hepatitis B is the permanent suppression of HBV replication ; loss of HBV DNA and HBeAg seroconversion. Three antiviral drugs - interferon, lamivudine and adefovir dipivoxil - are available now. Although they were proven to have suppressive effects on HBV replication, their antiviral effects are not satisfactory yet and durability of response is low. Emergence of drug resistant mutants is troublesome in lamivudine therapy. Expense of drugs is another problem for long - term antiviral treatment. Development of new drugs which have stronger and durable antiviral effects and combination therapy with several antiviral drugs to reduce drug resistant mutants are anticipated.

Keywords : Chronic hepatitis B; Interferon ;
Lamivudine; Adefovir dipivoxil

: B ; ; ;

B

B 20 ~ 30

B

1 ~ 2% , 50%, 90%

B (HBV)

B

80%

HBsAg

HBV HBsAg

가 (病期) (

1). HBeAg HBV - DNA가

(replicative stage) HBeAg HBV DNA가

anti - HBe가 (integrated stage)

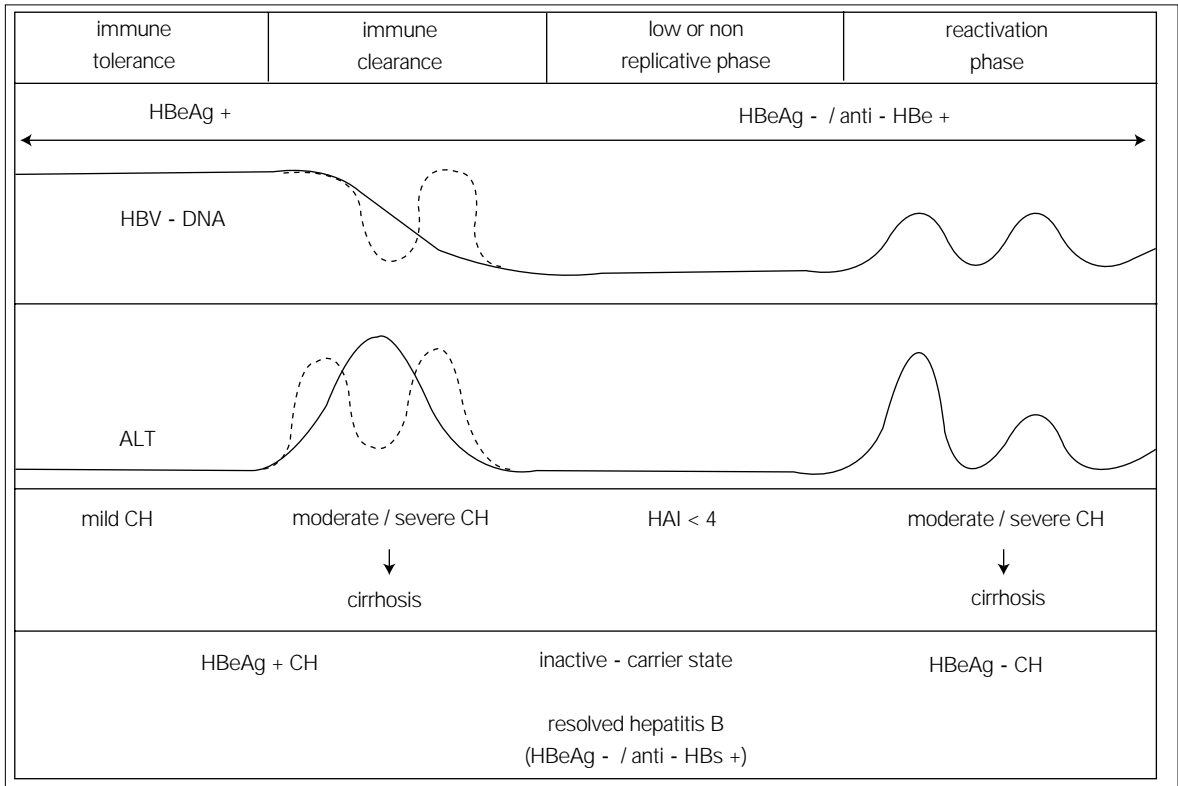
가 DNA

polymerase

· HBeAg

anti - HBe가

HBV 가 · HBeAg



1. B

1. B

HBeAg / anti - HBe	+ / -	- / +
HBV - DNA	+	-
ALT		

,

HBeAg HBV DNA가
HBV
15~30 가 AST, ALT 가

. HBeAg HBV DNA가

ALT 가 . 가
anti - HBe가 가 . 가 가
HBV가 . B
(immune tolerance phase) (immune
clearance phase) (1). 가 .
HBV AST, ALT 가

가 . 가 HBeAg HBV DNA . HBeAg, anti - HBe, HBV - DNA

가 anti - HBe가 .

B

1.5 ~ 2.5% . B

15 ~ 20%가

40%

. HBV

가 가 30 ~ 100 .

. HBV 가

가 가 가 .

B

가 6% 가 ,

HBeAg B 5 ~ 15% , .

HBeAg .

HBeAg Child A, B, C

5 83, 79, 30% .

, ,

가 가 . (hepatorenal syndrome), .

HBeAg HBV - DNA가 2.5% 가 .

. (wild type) HBV가 B

HBeAg HBV(precore mutant)가 . HBeAg B

10 ~ 15% HBeAg

. HBV DNA가 (10⁵ copies/ml), HBeAg anti - HBe가

가 .

6 HBsAg AST HBeAg HBV DNA

ALT가 - globulin . pro- ALT 가 2 .

thrombin time bilirubin .

(2).

2. B

HBeAg	HBV DNA ($>10^5$ copies/ml)	ALT	Treatment strategy
+	+	$< 2 \times$ normal	low response, observe
+	+	$> 2 \times$ normal	IFN, LAM, or ADV
-	+	$> 2 \times$ normal	long term treatment
-	-	$< 2 \times$ normal	no treatment

3. B

1. short duration of disease
2. high serum aminotransferase level
3. active liver disease with fibrosis
4. low HBV DNA level
5. wild - type (HBeAg +) virus - not precore mutant
6. absence of immunosuppression

(interferon alpha)

(lamivudine)

(adefovir

dipivoxil)가

1.

5

4

1

1

3

4

가

500~600

1

3

6

2.

30~40%

ALT 가

HBeAg

3

B

HBeAg

ALT 가

가

가

HBeAg

precore mutant

가

가

1

1

pegylated IFN

B

nucleoside analogue HBV re-

verse transcriptase

cccDNA(covalently

closed circular DNA)

100 mg

2

HBV DNA 가

90%

HBV DNA가

18% HBeAg . 1 16~ B 가 .

polymerase 가

YMDD mutant . 6~9

HBeAg 가 2 1 14%,

, 3 , 4 29%, 40%, 47% 가 가 5 79%

1 30% . YMDD mutant가

HBeAg HBV DNA가

ALT 가 ALT 가 viral breakthrough

가 . 가

HBeAg precore mutant .

HBeAg viral breakthrough가

1 가 가

HBeAg .

가 . breakthrough ALT HBV

HBeAg HBV DNA가 DNA가

ALT . HBeAg

adefovir

breakthrough

HBeAg ,

3~6 - 가 adefovir

HBeAg 6 .

가

3. (Adefovir Dipivoxal)

1 50% . HBeAg adenosine monophos-

HBV DNA phate nucleotide analog reverse transcrip-

tase DNA polymerase . 10

mg YMDD

4. 가

	IFN	Lamivudine	Adefovir
Indications			
HBeAg + normal ALT	-	-	-
HBeAg + chronic hepatitis	+	+	+
HBeAg - chronic hepatitis	+	+	+
Decompensated cirrhosis	-	+	+
Duration of treatment			
HBeAg + chronic hepatitis	4 ~ 6 months	> 1 year	> 1 year
HBeAg - chronic hepatitis	1 year	1 year	1 year
Decompensated cirrhosis	NA	Indefinite	Indefinite
Durability of response			
HBeAg + chronic hepatitis	80~90%	50~80%	Unknown
HBeAg - chronic hepatitis ^b	20~25%	~10%	Unknown
Route	Subcutaneous	Oral	Oral
Side effects	Many	Negligible	Potential nephrotoxicity
Contraindications	++	-	-
Drugs resistance	-	~20%/1 yr ~70%/5 yr	1.7%/2 yr
Cost (Won)	300 (6 mo)	140 (1 yr)	540 (1 yr)

(4).

가 . B



mutant

가 .

가

(rescue therapy)

2

3%

30 mg

(nephrotoxicity)

가가

가

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