

LONG-TERM FOLLOW-UP OF CHRONIC HBV INFECTED PREGNANT WOMEN AFTER DELIVERY.

A SINGLE-CENTER, PROSPECTIVE STUDY.

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Background

Data concerning post-partum reactivation (PPR) of chronic HBV infection among HBeAg-negative women are limited. In this study we sought to evaluate the frequency and the timing of PPR appearance, as well as to identify its pre-partum virological and/or biochemical – hematological predictive factors.

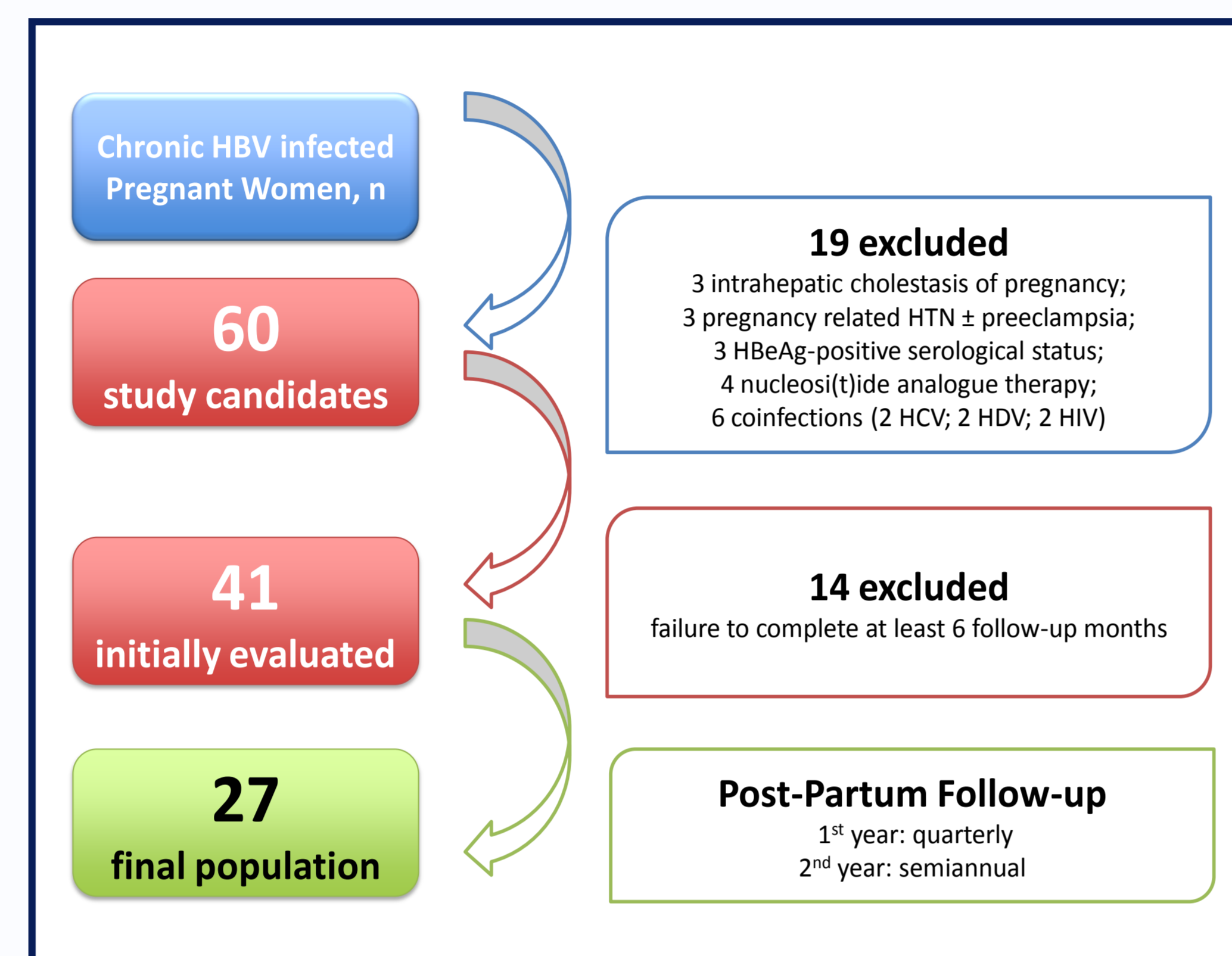
Methods

Between January 2007 and January 2008 a total of 60 chronic HBV infected pregnant women were consecutively evaluated clinically, haematologically, biochemically and serologically between 28th and 32nd week of gestation and then gave birth at the Departments of Obstetrics and Gynaecology of “Elena Venizelou” Maternal and Perinatal Hospital of Athens, Greece.

Exclusion criteria:

Acute hepatitis B, HBeAg positive, HCV, HDV, HIV co-infection, other pre-existing liver disease, pregnancy-related complications, therapy with nucleos(t)ide analogues or other medications, failure to complete at least a 6 month post-partum follow-up. Nineteen women were excluded from final analysis, as shown in the flow chart diagram of the study population (Figure 1).

Figure 1. Flow chart diagram of the study population.



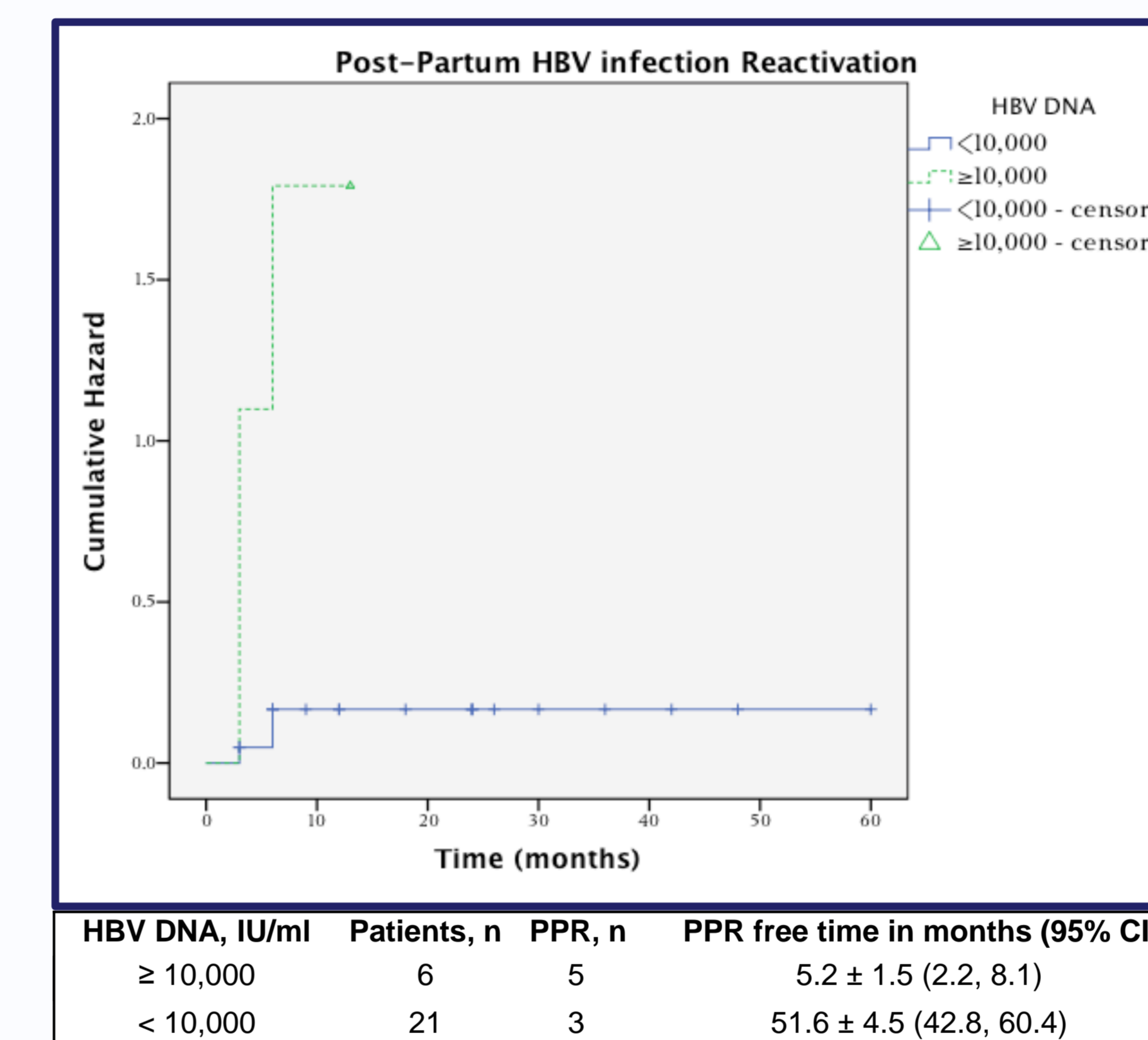
Subjects were re-evaluated at 3 months intervals during the first post-partum year and every 6 months for the following years. PPR was defined as abnormal ALT (>35 IU/L) combined with HBV-DNA >2.000 IU/ml (Cobas TaqMan HBV Test, LDL 8 IU/mL), irrespectively of the pre-partum levels.

Results

Among 41 pregnant women finally evaluated, in the pre-partum period 9 (21.9%) had undetectable HBV-DNA levels and 32 (78.1%) were HBV-DNA positive :
 - 18/41 (43.9%) HBV-DNA < 2.000 IU/ml
 - 14/41 (34.1%) HBV-DNA > 2.000 IU/ml
 8/14 (57.1%) of women with HBV-DNA levels above 2.000 IU/ml, exhibited HBV-DNA levels above 10.000 IU/ml also.

PPR occurred in 8/27 (29.6%) cases, all within the first 6 months after delivery (5 at third month and 3 at sixth month) (Figure 2).

Figure 2. Cumulative Hazard plot for post-partum HBV reactivation.



In univariate analysis, parameters related to PPR, compared to non-reactivation, were a lower percentage of neutrophils, a higher percentage of lymphocytes and maternal HBV-DNA >10.000 IU/ml (Table).

In the multivariate analysis, taking into account lymphocyte and neutrophil blood count, the only pre-partum parameter that could predict reactivation was maternal HBV-DNA >10.000 IU/ml (OR=57.02, p=0.033). In particular, 5/6 (83.3%) women with pre-partum HBV-DNA >10.000 IU/ml exhibited PPR, whereas only 3/21 (14.3%) women with HBV-DNA <10.000 IU/ml (2 with HBV-DNA >2.000 and 1 with HBV-DNA of 1.850 IU/ml) had PPR.

Pre-partum (3rd trimester of pregnancy) haematological, biochemical and virological characteristics of chronic HBV infected patients.

	Overall Population	No-Reactivation	HBV-Reactivation	p*
Patients, n	27	19	8	
Hct, %	35.9 ± 4.0	35.1 ± 3.0	37.8 ± 5.6	0.312
Hb, g/dl	12.0 ± 1.4	11.6 ± 1.1	12.7 ± 1.8	0.207
WBC, n	8.677 ± 2.835	8.835 ± 3.122	8.308 ± 2.231	0.444
PNL, %	67.3 ± 10.3	68.8 ± 11.0	62.3 ± 6.2	0.008*
LYMPHO, %	24.3 ± 9.1	23.1 ± 9.8	28.5 ± 5.2	0.035*
MONO, %	5.9 ± 1.8	5.6 ± 1.9	6.8 ± 1.0	0.192
PLT, n × 10 ³	209 ± 41	212 ± 45	202 ± 31	0.968
AST, IU/L	27.6 ± 14.7	23.8 ± 6.9	35.3 ± 22.8	0.585
ALT, IU/L	30.6 ± 28.2	22.2 ± 13.0	47.3 ± 42.4	0.094
GGT, IU/L	12.8 ± 6.8	14.2 ± 7.2	9.8 ± 5.4	0.210
LDH, IU/L	203.8 ± 85.6	180.6 ± 79.5	250.2 ± 88.8	0.214
TBIL, mg/dl	0.51 ± 0.29	0.53 ± 0.34	0.47 ± 0.19	1.000
DBIL, mg/dl	0.22 ± 0.20	0.26 ± 0.24	0.15 ± 0.06	0.462
TPTOT, g/dl	6.67 ± 0.58	6.84 ± 0.48	6.23 ± 0.66	0.138
ALB, g/dl	3.59 ± 0.39	3.71 ± 0.32	3.25 ± 0.39	0.078
GLOB, g/dl	3.07 ± 0.39	3.10 ± 0.42	2.97 ± 0.34	0.661
HBV DNA ≥10,000 IU/ml, n(%)	6 (22.2)	1 (5.2)	5 (62.5)	0.004**

* Univariate analysis

** Remained statistically significant in multivariate analysis

None of the chronic HBV infected pregnant women with undetectable HBV-DNA levels during the pre-partum period present post-partum HBV-reactivation.

Conclusions

In the present study, PPR occurred in approximately 30% of HBeAg-negative women and all events were recorded during the first six months after delivery.

HBV-DNA levels >10.000 IU/ml during the third trimester of pregnancy is the only parameter related to post-partum HBV reactivation.

Disclosures

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