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The importance of HBV testing during pregnancy and immunization and current HBV situation of babies

Selma Tosun [1], Ilknur Esen Yildiz [2], Semra Sen[3], Kenan Ugurlu[4], Handan Alaylı[5], Aysenur Bahsi[5], Seher Ayten Coskuner [1]

[1]*Health Science University Izmir Bozyaka Education and Resarch Hospital, Department of Infectious Diseases and Clinical Microbiology Izmir*
[2]*RTE University The Faculty of Medicine, Department of Infectious Diseases and Clinical Microbiology Rize*
[3]*Celal Bayar University, The Faculty of Medicine, Department of Pediatric Gastroenterolgy Manisa*
[4]*25 Aralık State Hospital, Department of Infectious Diseases and Clinical Microbiology Gaziantep*
[5]*Nene Hatun Gynecology and Maternity Hospital, Department of Infectious Diseases and Clinical Microbiology Erzurum*
[6]*Merkez Efendi State Hospital,Department of Gynecology and Obstetrics Manisa*

INTRODUCTION: To investigate HBsAg during pregnancy in different provinces of Turkey, to evaluate the status of HBV vaccination + HBIG in babies at birth and current HBV status of these children.

METHODS: Following the permission of the ethics committee and the permission of the Ministry of Health, it was carried out as a multi-center prospective field study. HBsAg positive mothers who had a child born after 1991 were interviewed by face-to-face interview or by telephone, and HBV examination conditions, immunization of babies and current HBV conditions were learned.

RESULTS: The data of 470 HBsAg positive mothers with a total of 262 (56%) graduated from primary school, and 919 children (487 male) of six different provinces aged 19-60 years were evaluated. Only 450 (49%) mothers had HBsAg test during pregnancy and 431 (47%) infants received vaccination + HBIG at birth. When HBV conditions of children were examined, it was learned that no HBV examination was performed in 353 children (38.4%). Of the children who were examined, 97 (17.2%) were HBsAg positive, 79 (14%) were naturally infected and immunized, 62 (11%) were HBV negative and 326 (57.6%) were positive. When the data of 97 HBsAg positive children (56% girls) were analyzed; it was learned that only 19.6% of mothers had HBsAg test during pregnancy, 10% had vaccination + HBIG at birth, 84% of them were born with normal birth and 92% of them were born in term (Table 1). The education level of mothers of HBsAg positive children was 69% at primary school, 45% of them were between 41-50 years of age and 34% of them were between 31-40 years of age.The age group with the highest HBsAg positivity was in children born between 1997-1991 (21-27 years) and followed by children who was born between 2006-2000 (12-18 years)(Table 2). HBsAg positivity was significantly lower in children born after 2008.Of the 97 babies with HBsAg positivity, ten (10%) had HBsAg positivity, although vaccination + HBIG was performed at delivery. The mothers of these children had HBeAg positivity and high HBV levels during pregnancy, some of them were still using medication for treatment.

CONCLUSION: HBsAg during pregnancy and proper immunization (HBV vaccine+HBIG)of babies are very important and should never be neglected. In our study, it was determined that HBsAg during pregnancy and immunization of infants were not at the desired level and sometimes mothers could not be diagnosed. However, there has been a significant decrease in the number of cases in our country since 1998 when national HBV vaccination started. On the other hand, it was learned that mothers generally did not have enough information about "pregnancy and HBV infection" and 38% of them did not have their children examined at all. In our country, which came into force at the end of 2018 "Turkey Viral Hepatitis Prevention and Control Program (2018-2023)" We think that thanks to the provision of compulsory tests for all pregnant women and the awareness will increase it.

Keywords: HBsAg test, pregnancy, infant, chronic HBV infection

Table 1. Children's HBV situations according to the number of pregnancies

Children	HBsAg positive	AntiHBs positive	Naturally infected and immunized	AntiHBcIgG and antiHBS negative	Isolated antiHBcIgG positive	Number of total children tested for HBV	Number of total children non tested for HBV	Total
1.children	64 (%20)	175 (%55)	50 (%16)	29 (%9)		319	151	470
2. children	30 (%17)	97 (%54)	25 (%14)	26 (%15)		178	136	314
3. children	3 (%5)	43 (%74)	4 (%7)	7 (%12)	1 (%2)	58	56	114
4. children		10(%100)				10	9	19
5. children		1(%50)				1	1	2
Total	97 (%17.2)	326(%57.6)	79 (%14)	62 (%11)	1 (%0.2)	566	353	919

Table 2. Distribution of HBsAg positive children according to age groups (n:97)

Birth years	Years	Male	Female	Total
2018-2013	0-5	2	0	2 (%2)
2012-2007	6-11	5	7	12 (%12.5)
2006-2000	12-18	16	14	30 (%31)
1999-1998	19-20	7	5	12 (%12.5)
1997-1991	21-27	14	27	41 (%42)
Total		43	54	97

HBsAg analysis of mothers of HBsAg-positive children during pregnancy and vaccination / vaccination + HBIG after delivery and other sociodemographic characteristics (n:97)

		1.CHILDREN (n:64)	2. CHILDREN (n:30)	3. CHILDREN (n:3)	TOTAL *
	YES	13	6	0	19 (%19)
HBSAG TESTING DURING PREGNANCY	NO	35	16	3	54 (%56)
	UNKNOWN/NOT REMEMBER	16	8	0	24 (%25)
	HBV VACCINE+HBIG	8	2	0	10 (%10)
HBV VACCINATION/HBV VACCINE+HBIG STATUS	NON OF THEM	28	14	2	44 (%46)
	ONLY HBV VACCINE	20	8	1	29 (%30)
	UNKNOWN/NOT REMEMBER	8	6	0	14 (%14)
TYPE OF DELIVERY	NORMAL	53	28	3	84(87%)
	SECTIO	11	2	0	13(13%)
BIRTH IN TIME	YES	58	25	3	86(89%)
	PRETERM LABOR	6	5	0	11(11%)

HBsAg analysis of mothers of HBsAg-positive children during pregnancy and vaccination / vaccination + HBIG after delivery and other sociodemographic characteristics (n:97)					
GENDER	GIRL	31	22	1	54(56%)
	BOY	33	8	2	43(44%)
	ILLITARETE	9	2	1	12(12.5%)
	LITARETE	5	3	0	8(8%)
MOTHER'S EDUCATION STATUS	PRIMARY + MIDDLE SCHOOL	46	25	2	73(75.5%)
	HIGH SCHOOL	3	0	0	3(3%)
	UNIVERSITY	1	0	0	1(1%)
	1999-1993 (19-25 YEARS)	3	0	0	3(3%)
	1992-1988 (26-30 YEARS)	5	2	0	7(7%)
AGE GROUPS OF MOTHERS	1987-1978 (31-40 YEARS)	23	10	0	33(34.5%)
	1977-1968 (41-50 YEARS)	26	15	2	43(44.5%)
	1967+ (51+YEARS)	7	3	1	11(11%)

** Column percentages calculated*