

Liver Disease in Pregnancy: Evaluation of 32 Pregnant Iraqi Patients with Liver Diseases

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Abstract:

Background:

Liver disease in pregnancy may be peculiar to pregnancy or may be intercurrent affecting the pregnant women or the pregnancy occur in patients with preexisting liver disease.

The aim:

To study the spectrum of liver diseases in pregnant Iraqi patients attending the Gastrointestinal and Hepatology Teaching hospital- Baghdad during the period January 1999 –January 2002

Methods:

Every pregnant patient with jaundice or with clinical or biochemical evidence of liver disease attending the gastro intestinal and hepatology hospital during the mentioned period were included with full clinical and laboratory assessment.

Results:

Thirty two patients were included in this study with mean age of 29 years .Intercurrent liver disease with pregnancy were the commonest causes which occurred in 20/30(62.5%) in which viral hepatitis were seen in 11/20 ,while 7/32(22%) had pregnancy induced liver diseases and only five (15.6%) patients had preexisting liver diseases. The highest mortality were recorded in patients with viral hepatitis

Conclusion:

Intercurrent diseases of pregnancy are the commonest causes of liver disease in pregnancy.

Introduction:

Pregnancy is associated with many normal physiological changes that must be considered in the diagnosis of hepatobiliary diseases ⁽¹⁾.

These changes are summarized as follow:

1. Increase in the blood volume and cardiac output .The liver blood flow comprise 35% of the cardiac output in non-pregnant females, however in pregnancy it is only 28% of the cardiac output. The excess blood volume is shunted through the placenta , but the absolute hepatic blood flow remain unchanged ⁽²⁾
2. Transient portal hypertension leading to the development of varices has been described as rare physiological changes of late pregnancy due to the increase portal blood flow & decrease mesenteric arteriolar tone ⁽³⁾. Clinically , spider angioma and palmer erythema are common during pregnancy but disappear after delivery. The liver is forced up into the chest in late pregnancy , so palpable liver is abnormal finding ⁽¹⁾.
3. Pregnancy cause very few alterations in the result of the standard liver tests , except the alkaline phosphatase (ALP) rise modestly in the range of (2-4) times the normal in the 3rd trimester. Serum albumin decrease, while the cholesterol level is higher ⁽⁴⁾

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Liver disease and jaundice may be peculiar to pregnancy, or may be an intercurrent one affecting the pregnant women. In considering the effect of pregnancy on pre-existing chronic liver disease, it is rare for such patients to conceive but when they do, liver function may deteriorate during pregnancy (2). This study aims to describe the spectrum of liver disease in pregnant patients attending gastroenterology and hepatology teaching hospital, in Baghdad, during four years period.

Methods:

This is a case series study conducted at gastroenterology and hepatology teaching hospital during the period January 1999 to January 2002.

Every pregnant patient with jaundice or with clinical or biochemical evidence of liver disease attending the hospital were included. After thorough evaluation with history and physical examination, a full laboratory assessment was carried for liver function including viral serology and immunological study. Fibrinogen & fibrin degradation products (FDP) were carried when indicated.

Ultrasound & Doppler study was performed for all patients

Results:

During the four years study period, thirty two patients were included in the study, with age range 18-40 years and a mean of 29 years. They were divided into three groups (table 1). 20/32 (62.5%) were included in group (1) of intercurrent diseases followed by group (2) 7/32 (21.9%) of pregnancy induced diseases and group (3) of 5 patients (15.6%) who had a preexisting liver diseases.

Viral hepatitis is the main cause of intercurrent liver diseases which were seen in 11/20. Hepatic encephalopathy was the presenting feature in 7/11 (63.63%) with maternal mortality of 6/11 (54.54%) & 5 neonatal mortality (table 2).

Biliary tract abnormalities were seen in three patients. One with gall stone, other with gall bladder empyema, and the last with choledochal cyst.

Table (3) shows that 7/32 (21.87%) had liver disease induced by pregnancy in which intrahepatic cholestasis, preeclampsia & HELLP (Hemolysis, Elevated liver enzymes, Low platelets) syndrome were diagnosed in equal frequency two for each and one patient had hyperemesis gravidarum.

Five patients had preexisting liver diseases. These patients presented with features of hepatic decompensation (table 4) with high rate of spontaneous abortion.

Malignant diseases were seen in four patients 4/32 (12.5%) (table 5)

Table(1): Clinical description of the study groups.(no32)

Group(1) Intercurrent diseases during pregnancy(no20).	
• Viral hepatitis	11
• Malignant diseases	4
• Biliary tract abnormality	3
• Hepatic vein thrombosis	1
• Drug induced liver disease	1
Group (2) Pregnancy induced liver diseases. (no7)	
Intrahepatic cholestasis	2
HELLP syndrome	2
Pre-eclampsia	2
Hyperemesis gravidarum	1
Group (3) Pre existing liver disease. (no5)	
Immune hepatitis	2
Wilson disease	2
Cryptogenic chronic hepatitis	1

Table(2):description of viral hepatitis subgroup.(no11)

Features	Observations
Number of patients	11
Time of onset(trimester)	
I	1
II	4
III	6
Age range (years)	(25-36)
Etiology	
HBV	5
HEV	4
HAV	1
HCV	1
Fulminant hepatic failure	7
Maternal mortality	6
Premature labour	1
Fetal/ neonatal death	5

Table(3) :Pregnancy induced liver diseases.(no7)

Features	Observations
Number of patients	7
Age range(years)	18-38
Time of onset	
I	1
II	0
III	6
Etiology:	
Intrahepatic cholestasis	2
HELLP Syndrome	2
Pre-eclampsia	2
Hyperemesis gravidarum	1
Fulminant hepatic failure	1
Maternal mortality	0
Premature labour	1
Fetal/neonatal death	0

Table(4):Pregnancy with chronic liver diseases.(no5)

Features	Observations
Number of patients	5
Age range(years)	20-35
Time of onset(trimester)	
I	1
II	3
III	1
Etiology:	
Immune hepatitis	2
Wilson disease	2
Cryptogenic	1
Maternal mortality	1
Complications:	
Jaundice	4
Encephalopathy	3
Ascites	3
GI bleeding	2
Post partum hemorrhage	1
Spontaneous abortion	1

Table(5): Pregnancy with malignant diseases subgroup.(no4)

Features	Observations
Number of patients	4
Age range (years)	28-36
Type of malignancy	
Lymphoma	1
Metastatic:	3
Colonic	1
Breast	1
Thyroid	1
Maternal mortality	0
Premature labor	2
Fetal mortality	1

Discussion:

Pregnancy is associated with physiological changes in the hepatic function that may cause uncertainty about the presence or absence of liver disease and the common disorders of the liver may present with unusual features during pregnancy, in addition to the liver diseases that are unique to the pregnancy⁽¹⁾.

This study demonstrated clearly that the group of intercurrent diseases of pregnancy particularly viral hepatitis is the commonest cause of liver disease during pregnancy²⁻⁵⁾. This explained on the basis that our hospital is a tertiary referral center where most of complicated cases are referred to. It is reported that the course of acute hepatitis is unaffected by pregnancy except hepatitis E virus and disseminated herpes simplex infection⁽⁵⁾. However, our study showed that high percentage of mortality among the other types of viral hepatitis in which 3/4 of the patients with hepatitis E and 4/7 of other types of viruses had fulminant hepatic failure with maternal mortality 6/11 (54.54%) which is almost similar compared to the mortality rate in the developing countries which range from 10 - 45%⁽²⁾. This may be explained by poor nutritional status of the mother and by the delay in the referral to the tertiary center and the lack of liver support system or liver transplantation. Whether there is aggressive sub - type of viral hepatitis in our country is still in need for further studies.

Pregnancy decreases gall bladder motility and increases lithogenicity of the bile⁽³⁾. This may explain the biliary problem that was seen in 3/32 (9.37%) patients in the form of: Gall stone causing severe biliary colic, empyema of the gall bladder and choledochal cyst causing cholangitis, while in one large series, biliary tract disease occurred in a percent of 0.16%⁽⁶⁾. Choledochal cyst may present for the first time during pregnancy due to the changes in the biliary motility which lead to the development of symptoms in previously asymptomatic patients who have a congenital choledochal cyst⁽⁷⁾. This situation was demonstrated in one patient with a congenital choledochal cyst who was 26 years old, primigravida who presented with cholangitis for the first time in her second trimester.

She recovered on conservative measures. Since the surgery is safest to perform during the second trimester when the risk of premature labour is lowest and uterine obstruction of gall bladder is not present. Accordingly the 40 years old patient with empyema of the gall bladder had successful cholecystectomy during her second trimester⁽²⁾.

Hypercoagulable state in women during pregnancy explain the cause of hepatic vein thrombosis seen in one patient in this study. The risk for thrombosis occurs in women who have been on oral contraception (for as little as two weeks), pregnant women or those who have a delivery within the previous two months⁽⁸⁾. In addition the pregnancy may exacerbate other hypercoagulable states that predispose to the thrombosis like antiphospholipid antibody syndrome. Thus underlying cause of hypercoagulability other than pregnancy should be sought⁽⁹⁾.

Pregnancy is not associated with an increased susceptibility to drug toxicity, however hepatotoxicity may occur during pregnancy⁽²⁾. In this study one (3.12%) patient had liver disease due to anti tuberculosis drug (rifadin & INH).

Three patients (9.37%) had metastatic carcinoma to the liver (primary from colon, breast and thyroid) and the fourth patient had systemic lymphoma with involvement of the liver. This is noted in the literatures and explained by modest immune suppression state associated with pregnancy which permit enhanced growth of tumors in this setting⁽⁴⁾.

Pregnancy induced liver diseases were seen in 7/32 (21.87%), they were two cases of: intrahepatic cholestasis, pre eclampsia, HELLP Syndrome and one case had hyperemesis gravidarum, with favorable maternal and prenatal outcome due to early delivery. This is similar to a study in UK in which 46 pregnant women had liver diseases induced by pregnancy over ten years period in spite of complications had no maternal or prenatal death⁽¹⁰⁾.

Patients with immune hepatitis and with Wilson disease regain their fertility and can conceive and successful pregnancy can be achieved if they continue on treatment (4). 5\32(15.62%)patients had pre existing liver diseases the causes were (immune hepatitis and Wilson disease in two patients for each , and cryptogenic in one case).Fetal loss occurred in4\5(80%)among this group with high rate of maternal morbidity. (table5).Borhanmanesh and Haghighi noted over 40 months period observation two death among 9 pregnant cirrhotic women and three death among 12 age matched non pregnant cirrhotic women(11).

In conclusion the most common cause of liver disease in pregnancy is viral hepatitis particularly HBV and HEV which emphasise the importance of national program of hepatitis B vaccination during childhood in addition to high risk group female planning for pregnancy .

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