A REVIEW OF INFECTIVE HEPATITIS IN PREGNANCY

by

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SUMMARY

Three hundred and fifty six cases of Infective hepatitis with pregnancy are studied in the present series. The incidence, modes of presentation, obstetric outcome, etiology of maternal mortality and perinatal mortality are outlined in detail.

Introduction

Hepatitis in pregnancy is seen to occur more often in the third trimester. Pregnant women are more affected by hepatitis and are also more susceptible. The mortality rate amongst those affected is usually quite high.

Various authors, Bhaskar Rao (1955), Malkani *et al* (1957) Hammerali (1966), Naidu and Vishwanathan (1957), Cahill (1962), Adams (1965), Fatehali (1973) have recorded that the highest incidence of infective hepatitis in pregnancy occurs in the third trimester. This is also the outcome of this series.

Material and Method

This study was carried out at the Kasturba Hospital for infectious diseases over a period of two years from 1st January 1979 to 31st December 1980. A total of 356 cases of pregnancy with infective hepatitis are reviewed.

TABLE I
Incidence

Total No. of female patients with Infective Hepatitis	8490
Infective Hepatitis with pregnancy	356
Incidence	4.04%
Total patients in third trimester	192
Incidence	53%
Total Deaths	132
Deaths in third Trimester	93
Incidence in third Trimester	70.4%
Overall Incidence	37%

Table I shows that 8490 cases of infective hepatitis were admitted in the period under review. A total of 356 pregnant women with infective hepatitis were studied, the incidence being 4.04%. In studies carried out in the southern states of India, the incidences recorded were 1 in 1063 (Isaac 1975). A total of 192 patients out of 356 were affected in the 3rd trimester, giving an incidence of 53%. This is also in correlation with the

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findings of other authors Malkani and Grewal (1957), Cahill (1962), Narayan Rao *et al* (1955) that the incidence of infective hepatitis is the most in the third trimester of pregnancy. The incidence of maternal mortality in this series was 37% the highest incidence being in the third trimester, 70.4%. D'Cruz *et al* (1968) records a mortality of 54% whereas Fatehali (1973) shows a mortality of 36.5%, Malkani and Grawal (1955) records a mortality of 36%. It is quite clear that the overall mortality rate varies from place to place.

with complaints of loss of appetite, nausea, vomiting and jaundice, with an overlap of these conditions. Disturbed mental state was seen in 65 patients on admission. This indicated a grave prognosis. The liver was palpable in 238 patients on admission. According to Michel *et al* (1951), the enlargement of the liver is thought to be a sign of better prognosis. Hematemesis and bleeding per vaginum were seen in 30 and 40 cases respectively. Bleeding per vaginum was the outcome of incomplete abortions or a fore runner of labour either premature or normal.

TABLE II

Age in years	1st	2nd	3rd	4th or more	Total
14-19	20	4	—	—	24
20-24	77	28	15	6	126
25-29	80	39	5	15	149
30-34	10	10	15	15	40
35 and more	3	6	3	5	17
Total	190	87	38	41	356

In Table II, is seen that the majority of patients affected were primaegravidae (53.5%). A total of 275 patients belonged to the age group 20-29 years.

TABLE III
Symptoms and Signs

Palpable Liver	238
Drowsiness and Irrelevant behaviour	65
Hematemesis	30
Bleeding per vaginum	40
Obliteration of liver dullness	40
Jaundice	
Nausea and Vomiting	
Anorexia	

Table III shows the manner of presentation of the patients affected. In this series a majority of patients presented

Table IV shows the correlation of obstetrical outcome with the severity of jaundice in patients who survived. In this series a total of 224 patients out of 356 survived, of these 99 were in the third trimester. A total of 155 patients admitted were discharged from the hospital after hepatitis had decreased and the SGPT levels had reduced sufficiently. In these cases the obstetrics outcome was not determined. In the first trimester, 78 patients were discharged after treatment, of the remaining 2 aborted completely, one was incomplete and completed by blunt curretage. 69 patients out of 99 affected in the third trimester had obstetrical outcome as shown in Table IV. Premature labour and still births were seen in 27 and 10 cases respectively, both

TABLE IV

Trimester	Cases	Outcome		Cont. of pregnancy	Serum bilirubin (mg%)				SGPT (Karmen Units)			
					Total		Direct					
		No.	Mode		0-5	5.1-10	0-5	5.1-10	100	101-200	201-300	500 and more
First	81	—	—	78	64	14	66	12	—	10	54	14
		1	Incomplete abortion		1	—	1	—	—	—	—	1
			Complete abortion		1	1	1	1	—	—	2	—
Second	44	—	—	44	34	10	36	8	2	12	30	—
Third	99	—	—	33	23	10	26	7	—	10	3	20
		16	FTND		11	5	13	3	—	4	8	4
		27	Premature		15	12	17	10	—	—	12	15
		10	Stillbirths		—	10	2	8	—	—	2	8
		4	Forceps		3	1	4	—	1	3	—	—
		3	Vacuum		3	—	3	—	—	2	1	—
		3	Breech		2	1	2	1	1	1	1	—
		2	LSCS		2	—	2	—	—	2	—	—
		1	Twin		1	—	1	—	—	1	—	—
Total	224	69		155								

rather high incidences. Isaac *et al* (1975) also reports high incidences of still births and premature labour in the third trimester of pregnancy. Lower segment caesarean section was performed in 2 cases indications being cephalopelvic disproportion discovered in labour and foetal distress respectively. The investigations carried out, show the serum bilirubin and enzyme levels to be moderately raised. In all the patients who were discharged after treatment and in whom obstetric outcomes were successfully achieved without maternal mortality, it could be that low levels of bilirubin contributed in some way to their survival. In no patient who survived, was the serum bilirubin level raised above 10 mg%. Similarly SGPT levels were not raised to high levels often seen in severe jaundice or in pre-coma and coma cases.

Table V reveals the obstetrical outcome in the first two trimesters, mortality and the severity of jaundice.

A correlation of maternal mortality with the cause of death, the obstetric outcome and the severity of jaundice in the third trimester is charted in Table VI. It shows the overall incidence of maternal mortality in this series to be 37.02%, that in the third trimester being 70.4% (Table I). It is also seen that morality rises sharply in the third trimester of pregnancy. Barnes C. G. and Sherlock state that the course of infective hepatitis in pregnancy is mild and is in no way different than that in the non pregnant state. The findings in this series are quite contrary and are more in line with Isaac *et al* (1975) who reports a very fulminant course of hepatitis in pregnancy. In the third trimester mortality cases, 74 resulted due to hepatic coma complicating an existing obstetrical morbidity. In 6 cases of post partum haemorrhage which resulted after still births, coma was the terminal complication. In a solitary case, rupture of uterus was diagnosed on admission, a subtotal hysterectomy was done, the case however was complicated by hepatic coma and death resulted in 2 days. In the valvular heart disease cases, the disease process itself was the major contribution to fatality in the form of cardiac failure. A glance at the investigations correlated reveal that a large number of fatalities had deep jaundice, reflected by high total bilirubin values of more than 10 mg% and high SGPT levels. A few cases which show low values of SGPT levels prior to death could be due to hepatic necrosis. This fact has also been reported by Kirsner (1961). It can thus be said that though higher bilirubin and SGPT values with deepening icterus do indicate a worsening prognosis, low values of bilirubin and SGPT do not in any way rule out an impending maternal mortality.

Results of term pregnancy are compared to neonatal outcome in Table VII. The still birth and premature percentages are 30.08% and 30.05%. Sherlock S and Barnes, C. G. also mention high incidences of still births and premature labour in pregnancy complicated by viral hepatitis. Neonatal jaundice is seen in 1.08% of cases. The low incidence of neonatal jaundice is believed to be due to the immunity conferred on the fetus by gamma globulins circulating in maternal blood.

TABLE V

Trimester	Mortality No.	Cause	Obstetric outcome	Serum bilirubin (mg%) Direct 0-5	Direct 5.1-10	Direct 10.1-15	Direct 15.1-20	Total 0-5	Total 5.1-10	Total 10.1-15	Total 15.1-20	SGPT (Karmen Units) 100	100 to 200	201 to 300	301 to 400	401 to 500	501 & more
First	7	H. Coma	—	—	2	3	2	—	—	3	4	—	2	—	4	—	1
	3	Abortion with H. coma	2 complete 1 incomplete	—	2	1	—	—	—	3	—	—	1	1	1	1	—
Total deaths 11	1	Encephalopathy with H. coma	—	—	1	—	1	—	—	—	1	—	—	—	—	1	—
Second	20	H. coma	—	5	10	3	2	—	12	5	3	5	2	—	10	—	3
	7	Abortion with H. coma	5 complete 2 incomplete	2	3	2	—	—	5	—	2	2	—	3	—	2	—
Total deaths 28	1	Encephalopathy with H. coma	—	—	1	—	—	—	1	—	—	—	—	—	1	—	—

TABLE VI
III Trimester

Mortality No.	Cause	Obstetric outcome	S. bilirubin (mg%) Direct				S. bilirubin (mg%) Total				S.G.P.T. (Karmen Units)					
			0-5	5.1-10	10.1-15	15.1-20	0-5	5.1-10	10.1-15	15.1-20	100	101 to 200	201 to 300	301 to 400	401 to 500	500 & over
49	H. Coma	—	10	24	10	5	3	14	14	18	5	2	20	3	4	15
5	H. Coma	Premature	—	—	3	2	—	—	1	4	—	3	—	—	1	1
10	H. Coma	Stillbirth	3	5	2	—	—	5	3	2	—	1	1	2	—	6
4	H. Coma	F.T.N.D.	1	2	1	—	—	2	1	1	2	—	—	—	1	1
6	H. Coma with PPPH	Stillbirth	2	—	3	1	1	1	2	2	1	—	2	—	—	3
12	G.I. Haemorrhage	4 —	—	2	2	—	—	—	1	3	—	2	—	—	—	2
		5 Premature	1	2	1	1	—	1	2	2	3	—	1	—	—	1
		2 Stillbirth	1	1	1	—	—	—	1	1	—	—	1	—	—	1
		1 Forceps	—	—	1	—	—	—	1	—	—	—	—	—	1	—
3	Val. Heart disease	1 —	—	1	—	—	—	1	—	—	—	—	1	—	—	—
		2 Stillbirth	—	—	2	—	—	—	1	1	—	—	—	—	1	1
1	APH	Stillbirth	—	1	—	—	—	—	1	—	—	—	—	1	—	—
1	Diabetes	Stillbirth	—	—	1	—	—	—	1	—	—	—	—	—	1	—
1	Asp. Pneumonia	—	1	—	—	—	1	—	—	—	—	—	—	1	—	—
93																

TABLE VII

Number		Still-births	Prema-turity	FTND	Neona-tal deaths	Neona-tal jaundice	Injury due to instru-ments
Patients who survived	69	10	27	16	21	2	4
Patients who died	38	23	10	4	12	—	1
Total	107	33	37	20	33	2	5
Percentage	30.05	30.08	30.46	18.07	30.08	1.08	

Discussion

This study of infective hepatitis in pregnancy reveals a high incidence of maternal mortality and perinatal mortality. The overall incidence of maternal mortality is 37%, of these 70.4% were in the third trimester. This high incidence of maternal mortality is also recorded by various authors, D'Cruz *et al* (1968), Fatehali *et al* (1973), Malkani *et al* (1955).

The major contribution to death was supervening hepatic coma. In most fatality cases, high levels of bilirubin and enzymes were recorded. However low levels recorded could also be a sign of impending death, due to hepatic necrosis as reported by Kirsner (1961).

Neonatal outcome is not encounraging, the percentages of still births and premature delivery being high. A well planned and properly equipped neonatology unit could help reduce this high figure.

The mainstay of treatment in this series was medical and obstetrical management was done only when required. Not termination of pregnancy was carried out. This fact is also endorsed by Isaac *et al* (1975).

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