

Study of Hepatitis E infection in a tertiary care hospital in Western Maharashtra

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Abstract

Background: Hepatitis E is the most common cause of acute viral hepatitis in the adult population in India. Acute viral hepatitis E (HEV) is generally mild and self-limiting and resolves within six weeks, with no chronic sequelae. Pregnant women are at increased risk with the risk increasing as the pregnancy progresses near term. **Methods:** Prospective study is done in Krishna Hospital at Karad in which 70 patients are taken from January 2017-march 2018 and the data is analysed for clinical and outcome of HEV. **Results:** Out of 70 patients, 65 presented with jaundice which is 92%, 55 presented with nausea and vomiting which is 78%, 50 patients presented with anorexia which is 72%, 44 patients presented with abdominal pain which is 62%. Hepatomegaly was present in 24 patients which is 34%, bleeding problems are presented in 22 patients which is 31%. Sleep disturbances, altered consciousness are present in 16 and 12 patients which is 22% and 17%, hepatic coagulopathy was present in 28 that is 40%, hepatic failure was present in 12 patients which is 17% and from that 3 patients died. 10 patients are having renal failure which is 14%. Out of 12 pregnant women in this study, intra uterine death occurred in 7 females that is 58%. Out of 38 females in this study, 8 females died (maternal mortality) which is 21%. Overall mortality is 11 patients died which is 15%. **Conclusion:** We found that majority of cases were cured with supportive treatment while risk of mortality and morbidity was more in pregnant women.

Key Words: Hepatitis E.

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INTRODUCTION

Hepatitis E is a liver disease caused by the hepatitis E virus (HEV): a small virus, with a positive-sense, single-stranded ribonucleic acid (RNA) genome. The virus has at least 4 different types: genotypes 1, 2, 3 and 4. Genotypes 1 and 2 have been found only in humans. Genotype 3 and 4 viruses circulate in several animals (including pigs, wild boars, and deer) without causing any disease, and occasionally infect humans. The virus is shed in the stools of infected persons, and enters the human

body through the intestine. It is transmitted mainly through contaminated drinking water. Usually the infection is self-limiting and resolves within 2–6 weeks. Occasionally a serious disease, known as fulminant hepatitis (acute liver failure) develops, and a proportion of people with this disease can die. Hepatitis E is a viral hepatitis (liver inflammation) caused by infection with a virus called hepatitis E virus.² It is one of five known human hepatitis viruses: A, B, C, D, and E. HEV is a positive-sense, single-stranded, nonenveloped, RNA icosahedral virus; HEV has a fecal-oral transmission route.^{3,4} Infection with this virus was first documented in 1955 during an outbreak in New Delhi, India.⁵ A preventive vaccine (HEV 239) is approved for use in China.⁶ Although hepatitis E often causes an acute and self-limiting infection (the virus usually resolves itself and the individual recovers) with low mortality rates in the western world, it bears a high risk of developing chronic hepatitis in immunocompromised patients with substantial mortality rates. Organ transplant recipients who receive immunosuppressive medication to prevent rejection are thought to be the main population at risk for

chronic hepatitis E.⁷ Furthermore, in healthy individuals during the duration of the infection, the disease severely impairs a person's ability to work, care for family members, and perform other daily activities. Hepatitis E occasionally develops into an acute, severe liver disease, and is fatal in about 2% of all cases. Clinically, it is comparable to hepatitis A, but in pregnant women, the disease is more often severe and is associated with a clinical syndrome called fulminant liver failure. Pregnant women, especially those in the third trimester, suffer an elevated mortality rate from the disease of around 20%.⁸ Hepatitis E newly infected about 28 million people in 2013.¹

DETAILED RESEARCH PLAN

Study Design: Hospital based cross sectional study.

Study Setting: Dept of Medicine KIMS hospital

MATERIALS AND METHODS

70 patients are taken from IPD from January 2017 to March 2018 at Krishna Hospital Karad.

Inclusion Criteria

- Both males and females are taken into study
- All the patients are above the age of 18 years
- Patients who were positive for serological viral marker (IgM HEV, ELISA) are taken into study.

Exclusion Criteria

- Patients with pre existing liver disease are excluded from this study.

Methodology: All the patients from IPD are taken for the study and routine investigations are done.

Proper consent and all related information is explained to the patients before the study. Details comprising of history, physical examination and laboratory findings of each patient are recorded in the proforma

Investigations which are done are

1. Complete blood count
2. LFT (Liver function tests)
3. PT INR
4. RFT (Renal function tests)
5. Ultrasound

OBSERVATION AND RESULTS

Total 70 patients are taken for the study. Out of which 32 patients are males and 38 patients are females which is 45.7% are males and 54.2% are females

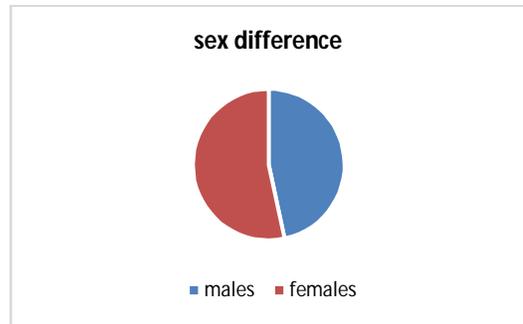


Figure 1:

Clinical symptoms which are present are jaundice, nausea, vomiting, abdominal pain, anorexia, hepatomegaly, sleep disturbances, bleeding, altered level of conscious.

Table 2:

Signs and symptoms	Total (n=70)
Jaundice	65
Nausea/vomiting	55
anorexia	50
Abdominal pain	44
Hepatomegaly	24
Bleeding problems	22
Sleep disturbances	16
Altered conciousness	12

Out of 70 patients, 65 presented with jaundice which is 92%, 55 presented with nausea and vomiting which is 78% 50 patients presented with anorexia which is 72%, 44 patients presented with abdominal pain which is 62% Hepatomegaly was present in 24 patients which is 34%,bleeding problems are presented in 22 patients which is 31%. Sleep disturbances, altered consciousness are present in 16 and 12 patients which is 22% and 17% respectively.

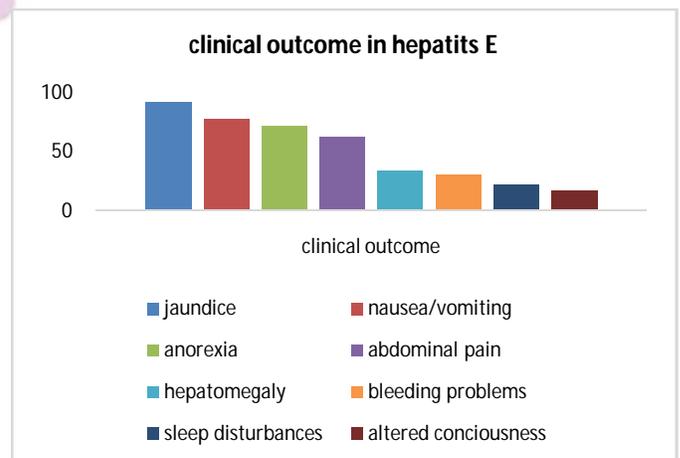


Figure 2:

On presentation, serum bilirubin is elevated in 92% patients with ALT raised in 78%. Values started

decreasing by 2nd week and it became normal by the 8th week. Out of 70 patients, hepatic coagulopathy was present in 28 that is 40% Followed by hepatic failure was present in 12 patients which is 17% and from that 3 patients died. 10 patients are having renal failure which is 14%. Out of 12 pregnant women in this study, intra uterine death occurred in 7 females that is 58%. Out of 38 females in this study, 8 females died (maternal mortality) which is 21% Overall mortality is 11 patients died which is 15%.

Table 3:

Complications	Total
Hepatic encephalopathy	28
Hepatic failure	12
Renal failure	10
Intra uterine death	7
Maternal mortality	8
Overall mortality	11

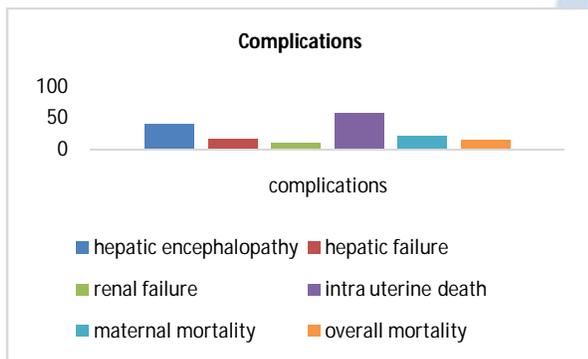


Figure 3:

DISCUSSION

Hepatitis E virus is responsible for various complications and is a major factor of mortality in female patients. In our study intra uterine deaths are 66% which is a major problem which is to be managed by physicians. Hepatitis E is a self-limiting illness with the time to resolution directly correlating with initial severity at presentation and occurrence of complications. It has a higher morbidity and mortality in pregnant women than in the general population. Thus proper diagnosis and early management is necessary to prevent complications and mortality.

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