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Case series of unusual presentation of non-hepatotropic viruses

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Abstract

Acute viral hepatitis, described as inflammation of hepatic parenchyma or injury to hepatocyte which results in elevated liver parameters. Most commonly hepatotropic viruses like Hep A, E, B, C causes acute hepatitis and some non-hepatotropic viruses like herpes simplex virus, cytomegalovirus, Epstein Barr virus, coxsackie virus, dengue virus is also seen to injure hepatocyte & results in acute viral hepatitis. Here are 3 cases of acute viral hepatitis caused by non-hepatotropic viruses & their presentation. Early supportive care & treatment decreases mortality rate. So, clinical suspicion and screening of non-hepatotropic viruses should be done, as delay will lead to dreadful outcome.

Keywords: Hepatitis, Cytomegalovirus, Non-hepatotropic.

Introduction

Acute viral hepatitis is acute inflammation of hepatic parenchyma or injury to hepatocyte resulting in deranged liver indices. In general, hepatitis is classified as acute, chronic based on duration of inflammation & insult to hepatic parenchyma. If durationis less than 3 months it is termed acute, if duration is more than 3 months it is termed chronic hepatitis [1].

In view of non-hepatotropic viruses like Herpes Simplex virus; cytomegalovirus; Epstein Barr virus &others; which infect many organs including liver involvement assume paramount importance as it often leads to parenchymal necrosis leading to fulminant hepatic failure.

Reactivation of latent infection of HSV cause disease in many organs including liver. Non-specific influenza-like symptoms, right upper quadrant pain and signs of rapid hepatic encephalopathy has been observed. Abrupt extended parenchymal necrosis in HSV hepatitis leads to marked elevation of aminotransferase levels to thousands **(**AST>ALT**)** and with coagulopathy with prolonged PT.HSV hepatitis requires immediate treatment.

Epstein Barr virus (EBV) causes infectious mononucleosis. Its clinical manifestations overshadowed signs and symptoms of lymphadenopathy with Jaundice due to auto-immune hemolytic anemia [2].

CMV being other non-hepatotropic virus manifests sub-clinical illness with mild to severe elevation of serum liver enzymes, mostly presents with anicteric hepatitis [3].

Thrombosis of vascular system is observed as CMV directly invades endothelial cells & causes coagulation [4].

So mostly, acute sporadic viral hepatitis is predominantly caused by hepatitis E & hepatitis A viruses which are hyper-endemic in India. Some non-hepatotropic viruses especially belonging to herpes family and others like cytomegalovirus (CMV), Epstein Barr virus (EBV) can cause hepatitis which has been increasing in recent years in young age female predominant population in our country [5].

Pregnant patients with primary herpes Simples virus infection need close monitoring, in case of presence of systemic viral syndrome [6].

Herpes Simples viral hepatitis is often considered primarily an opportunistic infection of immune-compromised patients but some cases have been found in patients without predisposing situations [7]. Hepatitis caused by Epstein Barr viral infection is generally mild and self-limited. The hepatitis results in hepatic failure with severe jaundice in rare cases [8].

Here are 3 cases of 3 young aged female presented with severe jaundice & hepatitis due to non-hepatotropic infection without significant comorbidities which is very rare. Thus, awareness and early diagnosis is key to treat and decreased mortality of such patients.

Case No: 01

A 36 years old female presented with yellowish discoloration of eyes & urine for 7 days with high grade fever for 5 days &developed distension of abdomen for last 3 days. She was known hypothyroid under medication for last 8 years.

H/o 2 no's of childbirth. Jaundice was insidious in onset, progressive in nature and associated with pruritus. No h/o CAM intake, travel history, IV drug abuse, high risk sexual behavior, tattooing. O/E: - Febrile, altered sensorium, GCS: 10, Pallor, Icterus present. P/A shows ascites present. Anti hbsag: non-reactive, antihcv: non-reactive, HIV I &II: non-reactive. Igm HAV &HEV: Non-reactive. NCCT BRAIN: Normal study, MRI BRAIN: Normal study's STUDY: Normal study. In view of normal viral serology, non-hepatotropic viral serology was sent and report shows **HSV igm positive**. IV antibiotics was started along with iv human albumin, nutritional support was given and LFT. INR monitoring every 48 hrly. Gradually patient got symptomatic relief and ascites was resolved within a span of 2 weeks.

Hb	9.8	9.4	10.2	9.8	9.2
TLC	18000	20000	15000	12000	11000
DC(N/L/E)	71/26	80/19	76/23	72/26	71/27
PLATELET	1.9	2.3	2.1	2.9	2.3
TOTAL BILIRUBIN	35	25.5	18.2	10.9	6.2
DIRECT/INDIRECT BILIRUBIN	30/5	12/13.0	7.0/11.2	4.1/6.8	2.3/3.9
AST	456	996	506	340	116
ALT	856	718	286	288	96
ALP	289	294	276	289	230
TOTAL PROTEIN	6.3	6.1	6.4	6.5	6.7
ALBUMIN	3.4	3.5	3.6	3.5	3.9
GLOBULIN	2.9	2.6	2.8	3.0	2.8
PT	28 sec	32 sec	24sec	19 sec	14 sec
INR	2.8	3.2	2.5	1.9	1.2
Na/K	135/3.8	140/3.6	135/3.6	137/3.8	136/3.7
Urea/creatinine	17/.8	20/.9	16/.5	18/.7	16/.9

Case no: 2

A 26 years old married female yellowish discoloration of eyes & urine with high grade fever for 10 days along with decrease urine output for last 5 days.

0/E: - febrile, Icterus present, pedal edema present. All viral serology came within normal limits. (Anti hbsag: non-reactive, AntiHCV: non-reactive, HIV I &II: non-reactive, igm HAV & HEV: Non-reactive). In view of suspecting autoimmune hepatitis & metabolic disease i. Ewilsons disease, we did ANA & autoimmune hepatitis profile and report shows no abnormality. Patient had developed oliguria and lab parameters shows raised urea

& creatinine. In view diagnostic dilemma we did serology of non-hepatotropic viruses and igm CMV came positive. USGw/a shows mild ascites present. Iv antibiotics along with hemodialysis was started and 4 sessions completed within a span of 10 days. Lab parameters shows resolving urea and creatinine reports. Urine output increased from 150 ml to 900 ml per day. Patient was discharged in a hemodynamically stable condition.

Hb	10.6	10.2	10.3	10.3	10.5
TLC	16000	15000	11000	8500	7000
DC (N/L/E)	78/20/02	76/22/02	70/28/02	68/28/02	68/28/02
PLATELET	2.3	2.2	2.3	2.3	2.2
TOTAL BILIRUBIN	28	27	15	11.5	4.4
DB/IB	19/9	18/9	11/4.0	7.5/4.0	3.0/1.4
TOTAL PROTEIN	6.5	6.5	6.3	6.3	6.6
ALBUMIN	3.0	3.0	3.0	3.3	3.3
GLOBULIN	3.5	3.5	3.3	3.0	3.3
AST	856	756	658	354	187
ALT	1028	945	843	435	203
ALP	328	358	300	258	220
Urea/creatinine	126/8.6	158/12.8	96/6.4	64/2.1	28/1.4
Na/ K	135/3.7	138/6.5	136/4.8	135/3.5	136/3.5
PT/INR	14.1/1.2	14.0/1.2	14.0/1.2	14.0/1.2	14.0/1.2

Case No :3

A 22 yrs. old married female presented with fever, yellowish discoloration of eyes & urine for 7 days, altered sensorium for 5 days, abdominal distension for 4 days. On examination patient was febrile, Icterus present, cervical and axillary tender lymphadenopathy. Blood parameters shows raised serum bilirubin, leukocytosis along with deranged INR. All viral serology came within normal limits. (Anti HbsAg: non-reactive, AntiHCV: non-reactive, HIV I &II: non-reactive, igm HAV & HEV: Non-reactive. In view of suspecting autoimmune hepatitis & metabolic disease i.e wilsons disease, we did ANA & autoimmune hepatitis profile and report shows no abnormality. All features were suggestive of acute liver failure. In view diagnostic dilemma we did serology of non- hepatotropic viruses and igm EBV came positive. USG(w/a) shows moderate ascites. Treatment was started in the form of iv antibiotics, iv albumin. No improvement even after 7 days of treatment. Iv acyclovir was started and gradually fever subsided, and lab parameters shows resolving trends. Patient was discharged in a hemodynamically stable condition.

Hb	9.4	9.2	8.8	9.1	9.5
TLC	26000	19000	18600	14000	11000
DC (N/L/E)	78/21/01	76/22	72/26	68/26	72/24
PLATELET	1.4				
TOTAL BILIRUBIN	48	54	42.2	26.3	11.8
DB/IB	29/19	36/18	24/18.2	16/10.3	4.6/7.2
AST	986	2300	1790	1200	430
ALT	882	1980	1460	950	226
ALP	428	386	296	310	390
TOTAL PROTEIN	6.1	6.0	5.9	6.2	6.3
ALBUMIN	2.9	3.0	2.8	3.2	3.6
GLOBULIN	3.2	3.0	3.1	3.0	2.7
PT/INR	17.1/1.9	18.4/2.6	16.0/1.7	14.8/1.2	14.2/1.1
Na/K	137/3.6	140/5.3	138/4.8	138/3.9	136/4.1
Urea/Creatinine	18/.7	43/1.7	32/1.2	25/.7	16/.6

References

1. Timothy J. Schaefer; Savio John. Acute hepatitis: Stat Pearls Publishing LLC.2023 Jan.
2. Dancygier H. Viral Infections by Non hepatotropicViruses.clinical Hepatology.2010:823 - 30.
3. Wang R; Xie Z. Non-hepatotropic viral hepatitis and its causative pathogens: The ongoing need for monitoring in children with severe acute hepatis unknown etiology. Pediatr Investig.2022 Aug;6:151-155.10.1002/ped4.12340.
4. Zahid M,Ali N, SaadM,Kelly P, Ortiz A. Acute Cytomegalovirus (CMV) Hepatitis in an Immunocompetent Adult. Am J Case Rep.2020Jul16; e25495.
5. Gupta E, BallaniN, KumarM, sarin S K. Role of non-hepatotropic viruses in acute sporadic viral hepatitis

and acute-on-chronic liver failure in adults. Indian J Gastroenterol.2015 Nov.

6. Klein A N, Mabie W C, Shaver DC, Latham PS, AdamecTAPinstei ML &RielyCA.Herpes Simplex virus H epatitis in Pregnancy. Gastroenterology 1991; 100:239-244.
7. Goodman Z D et al. Herpes Simplex Hepatitis in Apparently Immuno-competent Adults. AJCP.1986 June:85(6).
8. Kimura H et al, Severe Hepatitis caused by Epstein-Barr Virus without infection of Hepatocytes.Humn Pathology. 2001 July:32(7).