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Case Report

ART Induced Hepatitis

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ABSTRACT

Antiretrovirals (ARVs) are the cornerstone of HIV/AIDS management, as there is currently no cure nor vaccine available for HIV. Examples of mild side effects include headache, nausea, fatigue, diarrhoea, abdominal pain, fever and rash. Examples of more severe side effects associated with ARVs include acute pancreatitis, hypersensitivity reactions, lactic acidosis, Stevens-Johnson syndrome and lipodystrophy.

Hepatitis means inflammation of the liver. It can be caused by several viruses. The common symptoms include Loss of appetite, Nausea and vomiting, Diarrhea, Dark-colored urine and pale bowel movements, Stomach pain, Jaundice, yellowing of skin and eyes.

We are reporting a case of 36yrs female patient who was admitted in general ward of Maxcure hospital, with the chief complaints of anorexia, swelling of lower limbs since 2 to 3 days, decreased urine output, yellowish discolouration of eyes since one and half month. Her past medical history revealed that she was a known case of RVD and hypothyroid and on ART. She was diagnosed as Antiretroviral therapy induced Hepatitis. During the course treatment of antiretroviral therapy she developed hepatitis which has a sequential relationship. Treatment was given for hepatitis.

Key words: Antiretroviral, ARV, ART induced hepatitis.

INTRODUCTION

Antiretrovirals (ARVs) are the cornerstone of HIV/AIDS management, as there is currently no cure nor vaccine available for HIV. [1] If an individual with a non-resistant strain of HIV takes the appropriate antiretroviral treatment as directed, the replication of HIV will be effectively suppressed in about 80% of cases. Some individuals may have trouble tolerating ARV treatment due to side effects, or they may not work effectively for that individual, requiring them to change to a second- or third-line treatment regimen. ARV drugs work by inhibiting the various viral enzymes critical to the HIV replication cycle, specifically reverse transcriptase, integrase and protease. [2] Like many medications ARVs are not without side effects. Most of the side effects are mild and manageable, while some are severe, warranting stopping of therapy and moving to an alternate regimen. Examples of mild side effects include headache, nausea, fatigue, diarrhoea, abdominal pain, fever and rash. Examples of more severe side effects associated with ARVs include acute pancreatitis, hypersensitivity reactions, lactic acidosis, Stevens-Johnson syndrome and lipodystrophy. [3]

The contribution of each particular drug to the development of hepatotoxicity in a HAART regimen is difficult to determine. Possible pathogenic mechanisms involved in hepatotoxicity are multiple, including direct drug toxicity, immune reconstitution in the presence of HCV and/or HBV co-infections, hypersensitivity reactions with

liver involvement, and mitochondrial toxicity. Other pathogenic pathways may be involved, such as insulin resistance caused by several antiretrovirals, which may contribute to the development of steatohepatitis. The management of liver toxicity is based mainly on its clinical impact, severity and pathogenic mechanism, the prescribing information for all PIs approved by the US Food and Drug Administration (FDA) includes the following warning: (1) hepatitis, including cases resulting in hepatic failure and death, has been reported in patients taking PIs; and (2) there may be an increased risk for alanine aminotransferase and/or aspartate aminotransferase (ALT/AST) elevations in patients with pre existing liver disease or underlying hepatitis B virus (HBV) or hepatitis C virus (HCV) infection. An increased frequency of AST/ALT monitoring should be considered for these patients.

Hepatitis refers to an inflammation to the liver. It's commonly caused by a viral infection, but there are other possible causes of hepatitis. These include autoimmune hepatitis and hepatitis that occurs as a secondary result of medications, drugs, toxins, and alcohol. Autoimmune hepatitis is a disease that occurs when your body makes antibodies against your liver tissue. [4] The common symptoms include fatigue, flu-like symptoms, dark urine, pale stool, abdominal pain, loss of appetite, unexplained weight loss, yellow skin and eyes, which may be signs of jaundice. The complications include chronic liver disease, cirrhosis, when your liver stops functioning normally, liver failure can occur. Complications of hepatitis include bleeding disorders a buildup of fluid in your abdomen, known as ascites increased blood pressure in portal veins that enter your liver, known as portal hypertension, kidney failure, hepatic encephalopathy, which can involve fatigue, memory loss, and diminished mental abilities due to the buildup of toxins, like ammonia, that affect brain function, hepatocellular carcinoma, which is a form of liver cancer, death. [5]

MECHANISM: Liver toxicity is more frequent among subjects with chronic HCV and/or HCB co-infections and alcohol users. Complex immune changes that alter the response against hepatitis virus antigens might be involved in the elevation of transaminase levels after suppression of the HIV replication by highly active antiretroviral therapy (HAART) in patients co-infected with HCV/HBV. The contribution of each particular drug to the development of hepatotoxicity in a HAART regimen is difficult to determine.

CASE REPORT

A 36yrs female patient was admitted in general ward of our Hospital, with the chief complaints of anorexia, swelling of lower limbs since 2 to 3 days, decreased urine output, yellowish discolouration of eyes since one and half month. Her past medical history revealed that she was a known case of RVD and hypothyroid and on ART - Tab. Tenofovir-300mg, Tab.Lamivudine-300mg, tab.Efaverinz-600mg and Tab.Eltroxin-100mg.

On general examination the patient was conscious and coherent.

On Physical examination, her vitals found to be BP-120/80mm of Hg, HR-85bpm, temperature-96.4*F, RR-19cpm, pallor-+, Icterus-+.

On systemic examination, CVS-S1 S2-+, RS-BLAE+, all systems were found to be normal.

On laboratory examination the blood profile reveals the following data. Haemoglobin-11gm%, blood urea-25mg/dl, BUN-11.21mg/dl, Sr.Creatinine-1mg/dl, Sr.Iron-165ug/dl, Liver function tests shows T.B-22.1mg/dl, DB-15.5mg/dl, IB-6.60mg/dl, SGPT-525U/L, SGOT-1290U/L, Alk.Phos-310IU/ml, Gamma-Glutamy transferase-64IU/L.

Based on all the above examinations she was diagnosed as DRUG INDUCED HEPATITIS, and was treated as follows

On day 1 She was treated with TAB.PANSEC 40MG TABLET 1-0-0, TAB.URSOCOL

300MG 1-0-1, TAB.HEPTRAL 400MG 1-0-1, SYP.BEVON 5ml1-0-1, TAB.ELTROXIN 100MG 1-0-0, IVF 100ML/HR DNS/RL.
On day 2 Along with the above medication, INJ. BUSCOPAN IV STAT, INJ.ZOFER IV STAT was prescribed.
On day 3 Syp.Lacsyp-100ml, Tab.Dirifa-550mg, Tab. Dytor plus-10mg was added to above medication.
On day 4 same treatment was continued along with INJ MONOCEF 2gm IV BID.
On day 5 same treatment was continued.
On day 6,7,8,9 as the patient's symptoms were slowly subsiding same treatment was continued.
On day 10 the patient's bilirubin levels were decreased and the symptoms were subsided and feeling better so, she was discharged with the following medication, TAB.PANSEC 40MG TABLET 1-0-0, TAB.URSOCOL 300MG 1-0-1, TAB.HEPTRAL 400MG 1-0-1, SYP.BEVON 5ml1-0-1, TAB.ELTROXIN 100MG 1-0-0 and asked to review after 1 week.

DISCUSSION

Thus the above defined hepatitis has a sequential relationship to Antiretroviral therapy administration. However, re challenge is not justified due to ethical constrains. This adverse reaction is dose related and can be labeled as type-A class of adverse effect. It can be considered as probable (or) likely adverse drug reaction as per causality assessment of suspected adverse drug reactions. The appraised incidence of hepatitis was 2-18% with antiretroviral therapy. There are many reports of Antiretroviral therapy induced Hepatitis. Drug as an etiology was recognized in all most all the studies.

CONCLUSION

The hint of this written report is to create awareness about the chronic diseases like hepatitis with Antiretroviral therapy which is ordinarily used for the treatment of HIV/AIDS. Thus we may suggest regular monitoring of lipid profile tests during the course of antiretroviral therapy.

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