

## A Case of Persistent Transaminitis and Quadriparesis Due to Entecavir in Hepatitis B Patient with Underlying Chronic Kidney Disease

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### Abstract

**Introduction:** Oral antivirals for Hepatitis B treatment are relatively safe but rarely complications are described. We hereby describe a case of chronic kidney disease (CKD) with Hepatitis B infection who presented with muscle weakness due to rhabdomyolysis after starting on Entecavir which recovered on stopping it.

**Case report:** A 52 year old male, a patient of Diabetic Nephropathy, was initiated on dialysis elsewhere and within few weeks developed jaundice and was screened positive for Hepatitis B with high viral load. Entecavir was initiated, 5 days later he presented to us with leg pains and quadriparesis. On evaluation, he had deranged liver function test (LFT), elevated LDH and CPK levels.

We stopped Entecavir as we noted reports of rhabdomyolysis with Entecavir with statin combination. He was hydrated appropriately. Haemodialysis was continued.

The patient showed gradual improvement in LFT and quadriparesis. The learning point from this case was identifying the complication and taking action for good outcome.

**Conclusion:** This is the first case of drug (Entecavir) induced Rhabdomyolysis in a patient with CKD, Acute Hepatitis B, presenting with quadriparesis. Entecavir may be avoided in CKD patients in whom Tenofovir Alafenamide may be safer.

**Key words:** Entecavir, Hepatitis-B, Chronic Kidney Disease, Rhabdomyolysis

**Key Message:** Entecavir may be avoided or cautiously administered in patients with Chronic kidney disease more so in patients using statin.

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## INTRODUCTION

Oral antivirals for Hepatitis B treatment are known to cause some complications and rhabdomyolysis is rarely described among them in few patients. We hereby describe a case of patient with chronic kidney disease with Hepatitis B infection who presented with muscle weakness with high transaminases due to rhabdomyolysis.

## CASE REPORT

A 52 year old male, a patient of Diabetic Nephropathy, was initiated on dialysis and within few weeks, he developed jaundice and was screened positive for Hepatitis B with high viral load and raised transaminitis. Entecavir was initiated elsewhere, 5 days later he presented to us with leg pains and quadriparesis. He also had complained of itching and anorexia. On evaluation, he had elevated liver enzymes, LDH and CPK levels.

### Parameters baseline

Creatinine(mg/dL): 7.5

LFT: 2.5/1.2/120/180/120/6.5/3.2

PT with INR: 19/1.45

USG abdomen: Chronic renal changes, Mild Hepatomegaly

HBV DNA(IU/mL): 2x10<sup>6</sup>

Antiviral Dose: Entecavir 0.5mg

He was suspected to have Rhabdomyolysis as there was flaccid quadriparesis with muscle tenderness along with elevated CPK (Creatinine Phosphokinase), LDH (Lactate Dehydrogenase) and high colour urine. We stopped Entecavir and monitored his progress. Intravenous Normal saline with sodium bicarbonate was given guided by IVC diameter. He was initiated on Tenofovir Alafenamide and liver supportive medication along with Levocarnitine. Haemodialysis was continued initially daily followed by thrice a week. There was gradual recovery in his symptoms. Jaundice improved and weakness in the limbs improved more slowly and was discharged in a stable condition.

**Table 1:** Temporal data of Liver enzymes (SGOT,SGPT) and Creatinine Phosphokinase (CPK)

Date	SGOT	SGPT	CPK
D1	1024	960	7240
D4	782	630	4790
D7	450	386	3560
D10	320	205	2140
D13	220	110	1020
D16	140	70	540
D19	56	36	250

Repeat LFT, CPK (3 months follow up): Normal, HBV Viral Load: Negative and HBsAg: Negative

## DISCUSSION

Rhabdomyolysis is a serious and potentially life threatening condition.<sup>1,4</sup> Diagnosis can be made if elevated serum CPK >10 times the upper limit of normal,<sup>1,4</sup> followed by a rapid decrease in these levels. Acute renal failure develops due to acute tubular necrosis resulting from myoglobin deposition causing obstruction in tubules. Patient complain of myalgias, weakness and high coloured urine. Hyperkalemia, hypocalcemia, hyperuricemia and hyperphosphatemia is associated which could be lifethreatening.<sup>3</sup> Appropriate management of electrolyte disturbances is important. Coagulopathy like DIC state may be associated in some and Compartment syndrome<sup>3</sup> in patients with trauma which need to be recognised and managed.

Rhabdomyolysis could be acquired or inherited and Traumatic or and non traumatic cause.<sup>3</sup> Most of the times it is acquired and trauma, substance abuse and drugs are the main causes followed by infections, metabolic disturbances, status epilepticus, exercise and excessive heat. Autoimmune myositis and Inherited causes like myopathies are less common.

Our patient complained of leg pains and weakness in limbs making him bed bound. Flaccid quadriparesis was noted with muscle tenderness. CPK and LDH were very high. Serum electrolytes were normal. He was not on other drugs like

statins which could cause rhabdomyolysis. Hence we stopped Entecavir as we have literature search showing reports of rhabdomyolysis with Entecavir though with statin combination<sup>1</sup> and also reports of Telbivudine induced rhabdomyolysis.<sup>4</sup> Stopping antiviral-Entecavir improved the condition. He was also given intravenous Normal Saline with sodium bicarbonate. IVC diameter monitoring was done while administering fluids. Levocarnitine supplement was also given. Haemodialysis was continued initially daily followed by thrice a week.

The patient showed response in terms of reduction in the level of his transaminases which took time to normalise as well as quadriparesis which recovered even more slowly. The learning point from this case was identifying the complication and recognising it's culprit and solving the problem carefully for a good outcome. The complication would have been avoided probably by monitoring CPK levels after starting on antiviral in this patient.<sup>4</sup>

Haemodialysis patients are at risk of HBV and appropriate vaccination helps them prevent it. Regular monitoring for HBV and HCV infection incidence in these patients is needed as they are at risk due to Haemodialysis.

In our case, acute severe Hepatitis B was needing antivirals and was started elsewhere on Entecavir with dose adjustment. He was referred to our centre for further management in view of the limb weakness. He improved over time with conservative management and stopping of the culprit drug. Till date there have been no case reports of rhabdomyolysis induced by Entecavir alone. There have been case reports of rhabdomyolysis induced by combination of Entecavir and Rosuvastatin<sup>1</sup> and with Telbivudine.<sup>4</sup> Several other drugs<sup>5</sup> are also implicated in causing rhabdomyolysis but patient was not on any of them. Risk of complications

including Rhabdomyolysis with antivirals have to be discussed with the patients. TAF was opted in this case with which eventually the virus got cleared.

## CONCLUSION

We hereby describe the first case of drug (Entecavir) induced Rhabdomyolysis in a patient with Acute Hepatitis B, presenting with quadriparesis. Entecavir may be avoided in Chronic Kidney disease patients in whom Tenofovir Alafenamide may be safer option. Patients of CKD on dialysis who are initiated in antivirals should be monitored for serum CPK level regularly.

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