Case Report

Huge Hepatic Spontaneous Sub-Capsular Hematoma: A Case Report

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Received: 3 July, 2023; Accepted: 14 October, 2023

Abstract

Background: Hepatic spontaneous sub-capsular hematoma is uncommon. This is a life-threatening condition because the rupture of this hematoma is accompanied by uncontrolled intra-abdominal hemorrhage.
Cases Report: We presented a 71-year-old man with a huge hepatic sub-capsular hematoma without any history of trauma or coagulopathy. The patient received heparin due to a neglected myocardial infarction. Blood pressure and hemoglobin levels decreased. The drug was discontinued, an abdominal computed tomography (CT) scan was done for him, and a huge hepatic sub-capsular hematoma was detected.
Conclusion: Spontaneous liver subcapsular hematoma may be found in patients with a history of surgery on the liver site and those with a history of COVID-19. In these patients, hemodynamic instability should increase the doubt of physicians about a rupture of hepatic hematoma.
Keywords: Spontaneous, Subcapsular hematoma, liver, COVID-19

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Please cite this article as: Zarghami A, Tajik A, Ahmadi A. Huge Hepatic Spontaneous Sub-Capsular Hematoma: A Case Report. Novel Biomed. 2024;12(1):43-5.

Introduction

Nontraumatic hepatic sub-capsular hematoma is a sporadic hepatic involvement. It is a life-threatening condition due to the risk of hematoma rupture, late diagnosis, and challenges in management. There are some etiologies for developing nontraumatic hepatic sub-capsular hematoma, such as severe hemolytic anemia, pre-eclampsia, low platelet count syndrome, elevated liver enzyme levels, ruptured hepatic tumor, and iatrogenic conditions like surgery[1-5]. There is little literature about nontraumatic hepatic sub-capsular hematoma. Most reported cases of nontraumatic hepatic hematoma were diagnosed due to severe pre-eclampsia, adenoma, HELLP syndrome, rupture of hepatocellular carcinoma, hemangioma, and focal nodular hyperplasia[6-8]. In this report, we presented a 71-year-old man with a huge hepatic sub-capsular hematoma without any history of trauma or coagulopathy.

Case Report

A 71-year-old man was referred to the emergency department of our hospital and was admitted to the cardiology department of our hospital due to a neglected myocardial infarction (MI). In past medical history, he had diabetes mellitus, chronic kidney disease, bilateral lung fibrosis, and COVID-19 involvement. The patient had a history of cholecystectomy six years ago. He received aspirin,

clopidogrel, and rivaroxaban one year ago. There was no history of trauma or hepatic involvement.

In the cardiology department, heparin with a dose of 700 units/hour was prescribed due to neglected MI. After 1 hour of receiving heparin, blood pressure decreased, pulse rate increased, and hemoglobin level decreased by two units. Heparin was discontinued, and 2-unit packed cell, low dose norepinephrine was administered.

Laboratory studies also showed a ten-fold increase in liver function tests (AST and ALT). Bedside ultrasonography was done, and irregularity on the liver surface and distortion of liver parenchyma on the right and caudate lobes were found.

Then, an abdominal CT scan was done for the patient, and a sub-capsular hematoma with a size of 2*2.5 centimeter was found in the right lobe with limited free fluid around the liver and pelvis. The CT scan report mentioned that the hematoma was ruptured, and the free fluids were the blood of the hematoma, presumably. There were no other findings in the abdominal CT scan.

The patient received a drug for controlling hematoma, but due to the patient's condition, angiography and surgery could not be done. A cardiologist did a cardiac assessment, and they mentioned that his cardiovascular system was normal; thus, they discharged him. The patient was hospitalized for three days, and after this time, he was discharged in good condition with the recommendation of every six-month follow-up.

Discussion

Spontaneous hepatic hematoma with no underlying liver disease is a sporadic medical condition. In this condition, blood is accumulated between the liver parenchyma and the Glisson capsule. It frequently occurs in the right lobe[1, 9], like in our case.

The causes of non-traumatic hepatic hematoma are biliary surgery, coagulopathies, and even COVID-19 involvement[10, 11]. Our patient had a history of both causes. He had a cholecystectomy six years ago, and he was involved with COVID-19 during the pandemic. Failed embolization during biliary surgery can increase the risk of non-traumatic hepatic hematoma [11]. Fusco et al. mentioned that a small blood vessel injury between Renek's capsule and the hepatic parenchyma during cholecystectomy by pulling the gallbladder may increase the risk of hepatic sub-capsular hematoma[12].

The theory that introduces the pathogenesis of COVID-19 for developing spontaneous sub-capsular hematoma of the liver is that the liver has an angiotensin-converting enzyme two receptors (ACE2-R). Coronavirus uses ACE2-R for penetration of human cells. The virus blocks ACE2-R expression and increases intra-vascular pressure, leading to hemorrhages. It should be noted that this theory is not confirmed[11, 13]. As mentioned, our patient was at risk of non-traumatic hepatic hematoma because he received anticoagulants in his drug history, surgery on a live site, and COVID-19 involvement.

Although the main cause of hepatic hematoma is unknown, we guess cholecystectomy and involvement with COVID-19 are the leading causes of non-traumatic sub-capsular hematoma in our patient.

Conclusion

In conclusion, spontaneous liver subcapsular hematoma may be found in patients with a history of surgery on the liver site and those with a history of COVID-19. In these patients, hemodynamic instability should increase the doubt of physicians about a rupture of hepatic hematoma.

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