Case Report

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Case Study of Acute Liver Failure Due to Large B-Cell Lymphoma

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Abstract

This case study is about a 72 yrs elderly woman as for acute liver failed due to huge b-cell lymphoma diffusion. The patient was diagnosed with the disease in the past and was on treatment for it. However, she started showing symptoms of fatigue and jaundice which led to hospitalization. The study looks at her medical history and current condition as well as how her disease has progressed over time. It also discusses the various treatments that have been tried so far and their effects on her. A CT scan indicated a huge B-cell lymphoma diffusely involving the liver. The patient underwent an emergency laparotomy and resection of the liver lesion because her condition was deteriorating rapidly. The woman had an enlarged liver (10 cm) with a nodular surface and diffusely increased attenuation on CT scan. She also had a gallbladder wall thickening on ultrasound examination. She has been hospitalized for the further assessment as well as organization of her acute liver fail due to huge B-cell lymphoma dispersion. The seventy two yrs elderly women acute liver problem due to huge B-cell lymphoma dispersion has been hospitalized for such a liver transplant. The patient has been given a diagnosis with huge B-cell lymphoma, that have distributed to her liver. The patients condition worsened incredibly quickly but she was admitted for a liver transplant. Acute liver failure can be caused by many different conditions, including poisoning, drug-induced hepatitis, viral hepatitis, alcoholic hepatitis, autoimmune hepatitis, and hepatic malignancies. Acute liver failure is usually reversible if it is caused by an identifiable cause and if that cause can be treated.

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INTRODUCTION

Acute liver failure (ALF) is indeed a life-threatening condition that is characterized through rapid deterioration of liver, the liver cannot perform its normal functions. The cause of ALF varies from person to person. In some instances, the cause of ALF is unknown or idiopathic [1].

Other causes include viral hepatitis, drug toxicity, autoimmune diseases, and metabolic disorders. Acute liver failure (ALF)is indeed a rare complication fatal condition that occurs when the liver fails to perform its normal functions. ALF can occur suddenly from any cause, including viral hepatitis, drug toxicity, alcohol abuse, autoimmune disease, metabolic disorders, trauma, surgery, or idiopathic causes. Most cases of ALF are caused by acute hepatic necrosis, or acute damage to liver cells.

In some cases, however, the liver may fail to regenerate after injury. This type of ALF is referred

to as acute liver failure. Diffuse large B-cell lymphoma (DLBCL) would be the most familiar method od non-Hodgkin's lymphoma, financial reporting for approximately 20% of all NHLs [2, 3]. DLBCL typically presents with systemic side effects which include fever, tiredness, losing weight, night sweats, and/or bone pain. Patients usually have a history of chronic infection or immunosuppression, such as HIV/AIDS, organ transplantation, chemotherapy treatment, or other immune suppressing conditions. Large B cell lymphomas (LBCL) are aggressive types of non-Hodgkin lymphomas (NHL). LBCL accounts for approximately 20% of NHL cases and has a poor prognosis. Patients with LBCL usually present with advanced disease at diagnosis [4]. A case report describes a patient who presented with acute hepatic failed secondary to dispersion of huge B-cell lymphoma. This case highlights the importance of considering LBCL as a potential etiology of ALF.

Case Study

A 72-year-old woman with acute liver failed of about huge B-cell lymphoma dispersion has been did admit here to intensive care. She has been noticed to have an elevated level of serum aminotransferases and bilirubin, and her albumin level decreased. The patient's laboratory findings are consistent with acute liver failure secondary to dispersed huge B-cell lymphoma. This research project is all about a seventy two yrs elderly woman as for acute liver failure due to huge B-cell lymphoma diffusion, the patients admitted here to health centre as well as given supportive care while waiting for a liver transplant. The patient had an abdominal bruit, and her abdomen muscles has been lightly delicate. The patient had to have an increased number of white blood cells, low red blood cell level, elevated alkaline phosphatase level, and high bilirubin level. A CT scan of such abdominal muscles had shown enlarged loops of bowel with air-fluid stages inside the peritoneal cavity. A breast x-ray had shown dispersed bilateral pulmonary infiltrates [Figure 1]. The patient has been given a diagnosis as well as the acute liver failed due to large B-cell lymphoma diffusion. She had no previous medical history and her family history was unremarkable. She had a past medical history of hypertension and hyperlipidemia. Treatment included supportive care, such as fluids, oxygen, and nutrition support, as well as chemotherapy. The patient's condition improved after 3 weeks following admission. The patient with a history of chronic alcohol abuse was admitted to the hospital for acute liver failure. She had an elevated white blood cell count and a high level of B cells, which were consistent with the diagnosis of large B-cell lymphoma. It is important to note that the patient's prognosis is guarded because she has not made any changes in her lifestyle to prevent future episodes of acute liver failure. The patient's laboratory results were as follows: Hemoglobin: 7.3 g/dL, Platelet count: 50,000/mm^3, WBC count: 15,000/mm^3, Eosinophils: 0%, Lymphocytes: 45%, Monocytes: 8%, Neutrophils: 51%.

The patients received a computed tomography but also abdomen sonogram. She had such an abdomen sonogram and it had shown expanded liver and spleen. The abdomen sonogram had shown a volume with in right lobe of a liver or a 2^{nd} volume with in left lobe of a liver. The patient had such an acute liver inability due to large B-cell lymphoma diffusion. She underwent chemotherapy and radiation therapy. The patient was admitted to the hospital and was given IV fluids, HEPARIN, and IVIG for her liver failure. She underwent surgery for removal of the tumor which was found to be a huge B-cell lymphoma in her abdomen. The patient is currently recovering from surgery and is expected to make a full recovery with no signs of recurrence.

DISCUSSION

Acute liver failure is indeed a life-threatening situation. It occurs when the liver fails to produce enough of the proteins that allow it to work properly and break down toxins. Acute liver failure seems to be a severe condition which can cause death if it is not treated immediately [5]. The most typial causings are viral hepatitis, drug-induced hepatitis, alcoholic cirrhosis and toxic injury from drugs or chemicals. Symptoms include nausea, vomiting, abdominal pain, jaundice (yellowing of the skin), fever and fatigue [6]. The severity of acute liver failure ranges from mild cases that resolve quickly on their own to severe cases with complications including coma and death within hours. B-cell lymphoma is just a specific cancer and it began inside this immune system cells. The B-cell lymphomas are both a diverse group of neoplasms, with different clinical and immunophenotypic features. They can be classified as either Hodgkin's or non-Hodgkin's lymphomas, and within these groups there are further subtypes. One of the most common types of B cell lymphoma is diffuse large B cell lymphoma (DLBCL). DLBCL is often treated with chemotherapy [7, 8], radiation therapy, or both [9–11].

The most common cause of acute liver failure is due to large B-cell lymphoma diffusion. Acute liver failure can be classified into two categories: early and late stage, which are determined by the time it takes for the patient to experience symptoms. Early stage is when the patient experiences symp-

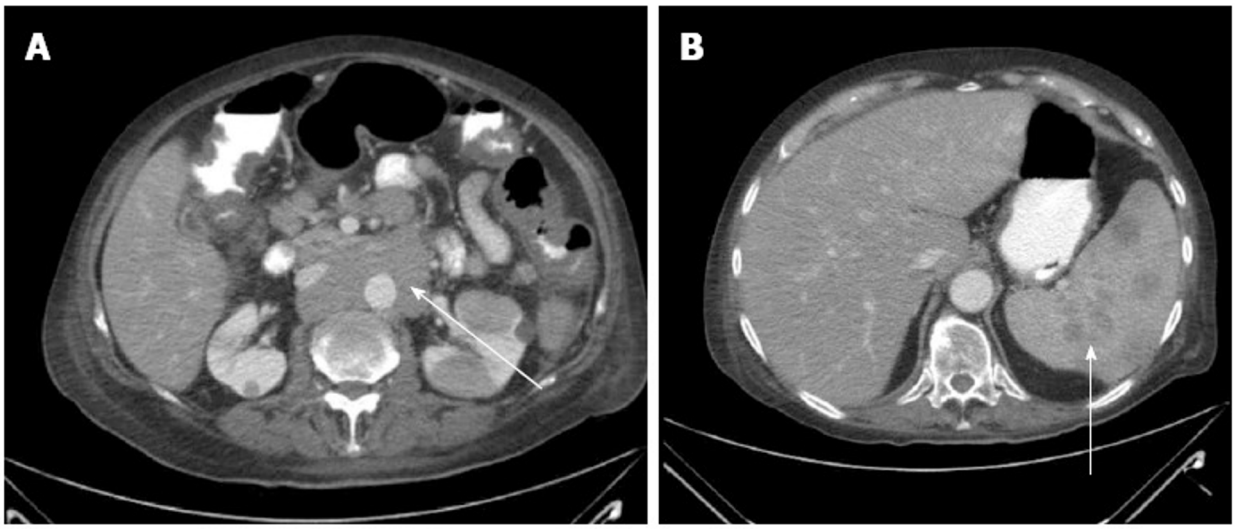

Figure 1: CT Scan of the Abdomen. A: Confluent and Non-Compressing Mass Visible in the Abdominal Aorta (arrow) B: Multiple and Hyperdense Lesions can be Seen Scattered Throughout the Entire Spleen

toms within one month after diagnosis, while late stage is when they experience symptoms more than one month after diagnosis. Acute liver failure is a rare but serious complication of lymphoma [12]. It occurs in less than 1% of all patients with lymphoma. The risk factors for developing acute liver failure include: having large B-cell lymphoma (more than 25% of the tumor is made up of large cells). It having a low platelet count (less than 100,000 per microliter). It having a low albumin level (less than 3.5 grams/deciliter) -having an enlarged spleen or liver tumor due to the spread of the cancer to these organs. Liver failure is a serious condition that can lead to death. It is caused by acute liver injury or chronic liver disease. Acute liver failure can be the result of a viral infection or an overdose of medications, such as acetaminophen [13]. Liver failure can also be due to a number of other causes, including toxic substances and alcohol abuse. This is a rare form of liver failure. It is caused by the spread of large B-cell lymphoma cells to the liver. The symptoms are similar to other forms of liver failure and include nausea, vomiting, weight loss, and jaundice. There is no specific treatment for this type of liver failure but it can be managed with supportive care. Acute Liver Failure due to large B-cell lymphoma diffusion is a rare and often fatal complication of chronic lymphocytic leukemia.

The symptoms of acute liver failure are similar to those of many other diseases and can be difficult to diagnose in the early stage. When the liver does not work properly, it cannot do its job of removing toxins from the blood [14]. This can lead to life-threatening complications such as acute liver failure. Acute liver failure is usually caused by a viral infection or an injury to the liver. It can also be caused by drugs or alcohol abuse. Acute Liver Failure is a life-threatening condition that can be caused by many different medical conditions. It is a common complication of acute lymphoblastic leukemia and large B-cell lymphoma. Acute Liver Failure can occur in as little as 12 hours and is often fatal if not treated quickly [15].

The diagnosis of Acute Liver Failure requires laboratory tests, imaging studies, and clinical evaluation to determine the underlying cause of the liver injury. The diagnosis of Acute Liver Failure due to large B-cell lymphoma diffusion will depend on the clinical presentation, laboratory findings, and imaging studies. Imaging studies are important for determining whether there are any masses in the liver or other organs that may be causing Acutes Liver Failure. Acute Liver Failure is a condition that happens when the liver cannot process toxins and chemicals [16]. It can be caused by viral infections, certain drugs, alcohol abuse, or cancer. There are four stages of Acute Liver Failure and they are categorized by the severity of symptoms.

Stage 1: Mild symptoms include nausea and vomiting, lack of appetite, abdominal discomfort, weakness, fatigue and jaundice. These symptoms usually go away with treatment.

Stage 2: Moderate symptoms include fever, diarrhea, confusion and decreased urine output. These symptoms require more intensive care in hospitalization or treatment in an emergency room.

Stage 3: Severe symptoms include delirium or

coma which requires emergency care to stabilize the patient's condition before it worsens any further.

Stage 4: The last stage is death which occurs fatally.

A 72 yrs elderly woman reached at the emergency unit with such a high body temperature, shivers, but also stomach pain, she was already given a diagnosis as well as the acute liver failure (ALF) due to huge B-cell lymphoma dispersion. The patients who are admitted to a health center and bega through a treatment plan of chemotherapy. A blood test confirmed that her ALF was caused by her large B-cell lymphoma diffusion. The patient had an extreme reaction to the chemo drug and she died a few days later. This case study shows how Acute Liver Failure can be caused by large B-cell lymphoma diffusion. This article will explore the statistics of Acute Liver Failure due to huge B-cell lymphoma diffusion, including its prevalence, risk factors, signs and symptoms and treatment options. The prevalence of Acute Liver Failure due to large B-cell lymphoma diffusion varies depending on the population studied but ranges between 1% and 2% in adults with a history of chronic liver disease [17].

The risk factors for Acute Liver Failure due to large B-cell lymphoma diffusion are diverse and include viral hepatitis, drug-induced damage. This is estimated that 1 in every 100,000 people will develop acute liver failure. The most typical causative factor of acute liver failure is viral hepatitis, which accounts for approximately one third of all cases. Other causes include drug toxicity (e.g., acetaminophen overdose), alcohol abuse, and certain medications (e.g., chemotherapeutic agents). Acute Liver Failure due to large B-cell lymphoma diffusion is one of the rarest forms of Acute Liver Failure. It only accounts for about 1% of all cases worldwide [18]. Acute liver failure is a condition where the liver loses its ability to produce enough of the substances that are essential for life. It can be caused by many things, but it's often due to a virus or an infection, or because of some other medical condition. It can also occur as a result of severe alcohol abuse, or from taking too many drugs. Acute liver failure can be diagnosed with blood tests, imaging tests, and other medical procedures. The treatment of acute liver failure depends on the underlying cause of the condition; however, it usually involves supportive care in an intensive care unit (ICU) and sometimes a liver transplant.

CONCLUSION

This research project is from a 72 yrs elderly woman who already had acute liver failed due to huge B-cell lymphoma dispersion. The patient had such a history of high blood pressure as well as diabetes mellitus type 2. She wasn't even taking the crtain medications at the time of specific diagnostic. The patients received chemo treatment as well as the r-chop (rituximab, cyclophosphamide, hydroxydaunorubicin, vincristine and prednisone) for 4 cycles of chemotherapy and her liver function improved after the first cycle of chemotherapy and she is currently in complete remission. She is currently in complete remission but will need to be followed up regularly for her liver function to return to normal levels. A recent study found that Acute Liver Failure is common in patients with high B-cell lymphoma, and this can be caused by the virus causes this type of cancer. Acute failure is a condition with a high mortality rate. It can be caused by diverse etiologies, such as viral hepatitis, drug-induced injury and autoimmune disorders. One of the most common creates is huge B-cell lymphoma diffusion.

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Conflict of Interest

The authors declare that there is no conflict of interest.

REFERENCES

[1] W M Lee, R T Stravitz, and A M Larson. Introduction to the revised American Association for the Study of Liver Diseases position paper on acute liver failure. *Hepatology*, 55(3):965–967, 2011.

[2] L M Morton, S S Wang, S S Devesa, P Hartge, D D Weisenburger, and M S Linet. Lymphoma incidence patterns by WHO subtype in the United States. *Blood*, 107(1):265–276, 1992.

[3] C A Clarke and S L Glaser. Changing incidence of non-Hodgkin lymphomas in the United States. *Cancer*, 94(7):2015–2023, 2002.

[4] J S Bajaj. Defining Acute-on-Chronic Liver Failure: Will East and West Ever Meet? *Gastroenterology*, 144(7):1337–1339, 2013.

[5] R Jalan, P Gines, J C Olson, R P Mookerjee, R Moreau, G Garcia-Tsao, V Arroyo, and P S Kamath. Acute-on chronic liver failure. *Journal of Hepatology*, 57(6):1336–1348, 2012.

[6] J C Olson and P S Kamath. Acute-on-Chronic Liver Failure: What are the Implications? *Current Gastroenterology Reports*, 14(1):63–66, 2012.

[7] R Palta. Hodgkin's lymphoma coexisting with liver failure secondary to acute on chronic hepatitis B. *World Journal of Clinical Cases*, 1(1):37, 2013.

[8] M A Piris. I. Pathological and clinical diversity in diffuse large B-cell lymphoma. *Hematological Oncology*, 31(S1):23–25, 2013.

[9] E Campo, S H Swerdlow, N L Harris, S Pileri, H Stein, and E S Jaffe. The 2008 WHO classification of lymphoid neoplasms and beyond: evolving concepts and practical applications. *Blood*, 117(19):5019–5032, 2011.

[10] C Lettieri. Clinical features of Non-Hodgkins lymphoma presenting with acute liver failure: a report of five cases and review of published experience. *The American Journal of Gastroenterology*, 98(7):1641–1646, 2003.

[11] E S Zafrani, B Leclercq, J. P Vernant, Y Pinaudeau, G Chomette, and D Dhumeaux. Massive Blastic Infiltration of the Liver: A Cause of Fulminant Hepatic Failure. *Hepatology*, 3(3):428–432, 2007.

[12] A Matsumori, M Shimada, and T Obata. Leukocytes are the major target of hepatitis C virus infection: Possible mechanism of multiorgan involvement including the heart. *Global Heart*, 5(2):51–58, 2010.

[13] F Forghieri, M Luppi, P Barozzi, R Maffei, L Potenza, F Narni, and R Marasca. Pathogenetic mechanisms of hepatitis C virus-induced B-cell lymphomagenesis. *Clinical and Developmental Immunology*, page 807351, 2012.

[14] J Peveling-Oberhag, L Arcaini, M. L Hansmann, and S Zeuzem. Hepatitis C-associated B-cell non-Hodgkin lymphomas. Epidemiology, molecular signature and clinical management. *Journal of Hepatology*, 59(1):169–177, 2013.

[15] G F Padilla, M A A Garibay, H N Hummel, R Avila, A Méndez, and R Ramírez. Fulminant non-Hodgkin lymphoma presenting as lactic acidosis and acute liver failure: case report and literature review. *Acta Gastroenterologica Latinoamericana*, 39(2):129–134, 2009.

[16] S K Sarin, A Kumar, J A Almeida, Y K Chawla, S T Fan, H Garg, H J De Silva, S S Hamid, R Jalan, P Komolmit, G K Lau, Q Liu, K Madan, R Mohamed, Q Ning, S Rahman, A Rastogi, S M Riordan, P Sakhuja, and M. F. Yuen. Acute-on-chronic liver failure: consensus recommendations of the Asian Pacific Association for the study of the liver (APASL). *Hepatology International*, 3(1):269–282, 2009.

[17] J C Olson and P S Kamath. Acute-on-chronic liver failure: concept, natural history, and prognosis. *Current Opinion in Critical Care*, 17(2):165–169, 2011.

[18] M F Myszor and C O Record. Primary and Secondary Malignant Disease of the Liver and Fulminant Hepatic Failure. *Journal of Clinical Gastroenterology*, 12(4):441–446, 1990.

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