Hodgkin Lymphoma Presenting as a Cholestatic Liver Disease with Portal Venous Infiltration: A Rare and Unusual Presentation

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Presentation of Case

Dr Sunil Taneja (hepatologist): A 40-year-old male presented with fever and jaundice for 3 months duration. Fever was high grade, intermittent, up to 103°F, with evening rise of temperature associated with night sweats, not associated with chills or rigors, and relieved with medication. There was no history of sore throat, headache, altered mental status, skin rash, joint pains, bowel, or urinary complaints. A history of jaundice for 3 months, insidious onset, gradually progressive was present. No history of clay-colored stools, pruritus, pain abdomen, or feeling of lump abdomen. There was loss of appetite and weight loss (documented as 12 kg over the last 6 months). No history of melena, hematemesis, abdominal distension, or decreased urine output. Additionally, history of pulmonary tuberculosis (TB) in 2020 was present, which was treated with antitubercular therapy (ATT) for 6 months. There is no history of diabetes, hypertension, or thyroid disease. This patient was evaluated for fever and abdominal lymphadenopathy in January 2024 and was started on ATT by an outside hospital, stopped after 10 days due to worsening of jaundice, for which he visited PGIMER.

On general examination, he was conscious, oriented, cooperative, and thin built. Pulse rate was 84/minute. Blood pressure (BP) of 100/60 mm Hg with respiratory rate of 20/minute and saturation was 97 at room air. He had pallor and icterus with bilateral pitting pedal edema. Lymphadenopathy present (inguinal region). Cyanosis and clubbing were not seen. Jugular venous pressure (JVP) was not raised. Respiratory and cardiovascular system (CVS) examination was essentially normal. On per abdomen examination, liver was palpable 6 cm below the right costal margin. It was firm, smooth, and nontender. Central nervous system (CNS) examination was normal. The investigations showed pancytopenia with normal sodium level of 136 mEq/L (135–145 mEq/L) and creatinine of 0.47 mg/dL (0.6–1.1 mg/dL). There was conjugated hyperbilirubinemia. AST and ALT showed mild elevation with marked rise in alkaline phosphatase levels. Serum albumin was 1.85 gm/dL (3.4–5.4 gm/dL), and there was significantly high alkaline phosphatase level of 3,362 U/L (44–147 U/L). Lipidogram showed cholesterol of 201 mg/dL (<200 mg/dL), triglycerides 189 mg/dL (<150 mg/dL), LDL 148 mg/dL (<100 mg/dL), and HbA1c of 5% (<5.7%). TSH was normal, and vitamin D was on the lower side, and vitamin B12 was 1,836 pg/mL (200–9,000 pg/mL). Peripheral blood smear showed normocytic normochromic red cells with few macrocytes, microcytes, tear drop cells, and elliptocytes. The blood and urine culture were sterile, and urine examination was normal. There was no proteinuria. ABG reports, before demise, showed metabolic acidosis. The excision biopsy from the right inguinal lymph node was suggestive of Hodgkin lymphoma (investigations detailed in Tables 1 and 2).

Radiology (PET-CT) Dr Rajender K Basher: Whole-body MIP image showed a diffuse uptake in the lower abdomen and focal uptake in the inguinal region. On the transaxial images, there was a fibrocalcific change in the lung fields, without uptake. A few calcified lymph nodes in the mediastinum were seen. Apart from this, single lymph node in the right hilar region with mild uptake (SUV max of 4.3) was noted. Liver is grossly enlarged and measures 21 cm in craniocaudal dimension. Spleen is also enlarged, measuring 14 cm in craniocaudal dimension. There were multiple lymph nodes in the retroperitoneum, of which few were calcified, though showed no FDG uptake. The periaortic and para-aortic lymph nodes showed intense FDG uptake with SUV max of 12.7, and most of them were enlarged up to a maximum dimension of 2 cm. Pelvic cavity and inguinal region showed multiple lymph nodes with intense FDG uptake. A few of the lymph nodes in the pelvic cavity showed necrosis, possibly old TB. There is a focal uptake in the inferior pubic ramus with moderate FDG uptake of SUV max 5.7. In addition, spleen showed a cystic lesion without any FDG uptake. The image-based diagnosis is FDG-avid lymph nodes on both sides of the diaphragm along with marrow-based lesions, suggestive of lymphomatous involvement (Fig. 1).

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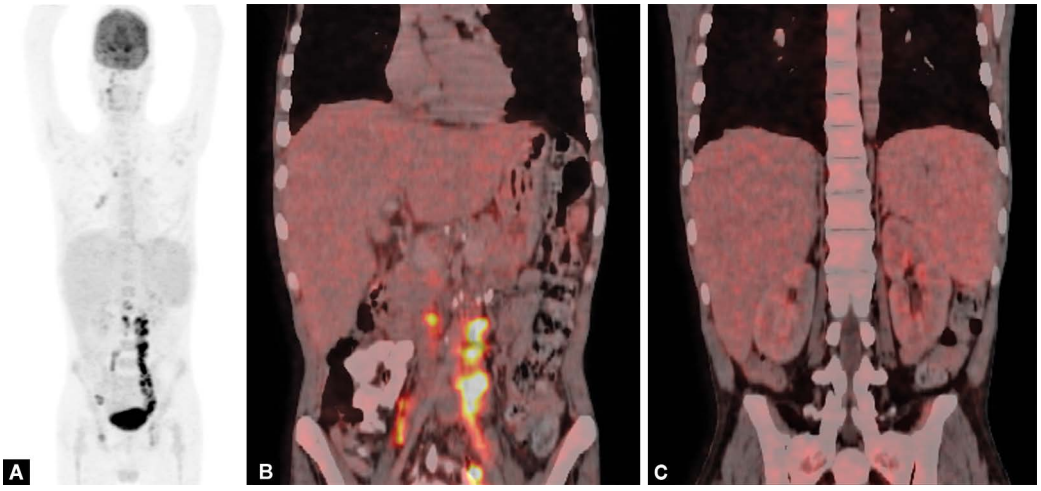
Table 1: Lab investigations

	3/5/2024	*6/5/2024*	
Hb (gm/dL)	9.4	9.8	Lipid profile (6/4/2024): Cholesterol 201 mg/dL, TG 189 mg/dL, LDL 148 mg/dL, HDL 15.36 mg/dL HbA1c: 5% T3: 0.96 ng/mL T4: 8.36 µg/dL TSH: 3.307 µIU/mL Total Fe: 38.63 µg/dL; TIBC: 166 µg/dL; % saturation: 23% Vitamin D level: 16.4 ng/mL Vitamin B12: 1836 pg/mL HIV, HBsAg, anti-HCV: nonreactive
TLC	3,000	2,860	
DLC (N/L/M/E)	N: 68%, L: 23.1%	N: 87.8%, L: 7.8%	
Platelets (10^3/µL)	37 k	50 k	
Na^+/K^+ (mEq/L)	121/3.6	136/3.6	
Urea/S. Cr. (mg/dL)	15/0.47	20/0.75	
Bilirubin T/C (mg%)	3.69/1.89	3.23/2.96	
S. Protein T/A (gm/dL)	5.2/1.94	5.77/1.85	
ALT/AST/ALP (U/L)	80/38/–	33/33/3362	
PT/INR/PTI/aPTT	14.3/1.21/83/38.1	16.4/1.17/–	
LDH/CRP (mg/L)		309/–	

Table 2: Lab investigations after hospital admission

Parameter	*10/5/2024*	*11/5/2024*	*12/5/2024*	*14/5/2024*
Hb (gm/dL)	8	6.2	6.2	8.8
TLC	2150	1420	1100	1670
DLC (N/L/M/E)	ANC: 1940	90/2.1/7.0	92/2.8/4.2	92/3.6/–
Platelets (10^3/µL)	13 k	9 k	9 k	10 k
Na^+/K^+ (mEq/L)	127/4.15	129/3.8	131/3.6	131/3.84
Urea/Creatinine (mg/dL)	18/0.34	19/0.4	22/0.49	20/0.66
Bilirubin T/C (mg%)	5.9/4.63	7.4/5.6	8.8/5.4	16/10
AST/ALT/ALP (U/L)	35/27/1843	38/31/1516	37/37/–	61/53/1492
Protein T/A (g/dL)	4.3/1.66	3.7/1.68	3.6/1.57	4.2/2.16
$Ca^{2+}/PO_4^{3+}/Mg^{2+}$ (mg/dL)	6.58/2.98/1.89	6.8/2.7/1.73	6.8/–	6.7/3.2
Uric acid (mg/dL)	0.4	0.9		0.6
PT/INR/PTI/aPTT				19.4/1.64/61/63
LDH (U/L)	145	138		269
CRP (mg/L)	65	76		
Procalcitonin (ng/mL)				1.16
Vitamin B12 (pg/mL)	1836.2			



Figs 1A to C: (A) PET CT shows diffuse uptake in the lower abdomen and inguinal region; (B) Enlarged liver and intense FDG uptake in the retroperitoneal and para-aortic lymph nodes; (C) PET CT shows hepatomegaly and splenomegaly

Dr Sunil Taneja: Patient was diagnosed with classic Hodgkin lymphoma, stage 4, with suspected liver and bone marrow infiltration. Investigations revealed pancytopenia with conjugated hyperbilirubinemia and markedly raised alkaline phosphatase. Intravenous albumin and tumor lysis syndrome prophylaxis including hydration and allopurinol was started. For prephase

chemotherapy, he received oral prednisolone, along with a single dose of cyclophosphamide on the same day. Post-therapy, the fever spikes improved. The night sweats decreased; however, his hyperbilirubinemia worsened. On May 11, the patient developed fever again, and with possibility of sepsis, blood and urine cultures were sent, and intravenous piptaz was started. On May 13, the patient started having worsening of hemodynamic parameters. Injection vancomycin and caspofungin were added. He developed septic shock with hypoxia, requiring oxygen supplementation. An ultrasound done ruled out biliary obstruction. There was worsening hypotension and shortness of breath. The patient was put on mechanical ventilation. He experienced a cardiac arrest on May 14, from which he was revived. There was worsening of shock, and subsequently, the patient succumbed to his illness on May 15.

Differential diagnosis: There is hardly any doubt on the basic disease in this patient, as it is a biopsy-proven case of classic Hodgkin lymphoma with classical presentation of fever, night sweats, anorexia, weight loss, painless lymphadenopathy, hepatosplenomegaly, pancytopenia, and increased LDH. The oddity for Hodgkin lymphoma was jaundice, which is more common in NHL. Presentation with jaundice is rare, seen in around 10% of the patients only. Could this be a primary hepatic lymphoma versus secondary hepatic lymphoma? Primary hepatic lymphoma is defined as lymphoma confined to the liver and prehepatic lymph nodes without distant involvement at the time of presentation. Though uncommon, in 1% of the Hodgkin lymphomas, the presentation can be with jaundice, similar to this patient. There were hepatomegaly and palpable liver, which can be a presentation of primary hepatic lymphoma. It usually presents as a solitary lesion rather than multiple lesions or diffuse lesions in the liver. Therefore, it looks like a secondary lymphoma. Nearly 20% Hodgkin lymphoma can have secondary involvement of the liver. This patient started with B symptoms, lymphadenopathy, hepatosplenomegaly, and likely bone marrow involvement. The lesions in the PET scan were suggestive of diffuse infiltration and not a solitary lesion, likely a secondary lymphoma. Liver appears to have cholestatic injury, with markedly raised alkaline phosphatase, and the INR value was <2. Now, how to approach a patient with cholestatic injury? It can be intrahepatic or extrahepatic. I am not considering extrahepatic in this patient except secondary sclerosing cholangitis, which can have a similar presentation. The ultrasound might miss intrahepatic bile duct dilation and strictures. Within intrahepatic causes, I am not considering viral hepatitis, drug-induced, primary cholestatic liver. It looks like an infiltrative liver disorder. The liver involvement in lymphoma can be due to direct infiltration, paraneoplastic (vanishing bile duct syndrome), bile duct obstruction from enlarged lymph nodes. There was no history of chemotherapy, drugs, or radiation. There was no reactivation of viral hepatitis; hepatitis B and C were negative in this patient. Sinusoidal obstruction syndrome will not have this kind of presentation, and Budd–Chiari is unlikely in this patient.

Could this be vanishing bile duct syndrome, the paraneoplastic manifestation? Again, this is an acquired condition characterized by progressive destruction and disappearance of intrahepatic bile ducts and ultimately cholestasis. A rare but well-known complication, and often develops at the same time or after diagnosis of Hodgkin lymphoma and typically presents with progressive jaundice and pruritus. Pruritus is seen in 100% of such patients with vanishing bile duct syndrome. This patient did not have the clinical cholestasis, though there were significant weight loss and markedly elevated alkaline phosphatase. So, this remains a possibility, but I would prefer direct infiltration rather than vanishing bile duct in this patient. Now, could this be biliary obstruction? Lymphoma accounts for 1–2% of all cases of malignant biliary obstruction, and it is usually due to compression by the lymph nodes. Ultrasound showed no evidence of obstruction, but MRCP was not done in this patient. Sometimes sclerosing cholangitis can present like this, and the ultrasound might not pick up the strictures, which are intrahepatic and extrahepatic. However, this is unlikely, though secondary sclerosing cholangitis can happen with Hodgkin lymphoma.[1]

There are a lot of points in favor of HLH including fever, anemia, leukopenia, thrombocytopenia, elevated triglycerides, hepatosplenomegaly, elevated AST and ALT. Lymphoma is the most common underlying condition which is associated with HLH.[2] Ferritin value and fibrinogen values are not known, and also bone marrow examination was not done in this patient. On calculating H score, the probability of having HLH is 70–80% in this patient. So, worsening in this patient could be because of HLH.

Can there be reactivation of TB along with lymphoma in this patient? Which remains a possibility and can typically present with fever, jaundice, and constitutional symptoms. There was history of ATT intake in 2020 for pulmonary TB. Granulomatous hepatitis, especially, can present with fever, jaundice, and hepatomegaly. In this patient, the jaundice was not very high initially; however, concomitant Hodgkin lymphoma with TB has been reported in number of case reports.[3] So, I would like to consider reactivation of TB and infiltration by lymphoma in this patient.

Again, disseminated fungal infections can present with fever, jaundice, anorexia, and weight loss. There are reports of concomitant fungal infections along with lymphoma.[4] I am not really considering fungal infection in this patient, and imaging was not suggestive of it. Can there be secondary amyloidosis in this patient? This patient had bilateral pitting edema, hepatomegaly, very low albumin level, raised ALP, and an enlarged liver, favoring amyloidosis. Lymphoma and amyloidosis can happen together.[5] Against amyloidosis is presentation with fever and jaundice, lack of other organ involvement, absence of proteinuria in urine, and no biopsy to suggest or confirm secondary amyloidosis in this patient. Could this be a drug-induced liver disease along with lymphoma? Yes. Cholestatic injury is well known with drugs. And there are a lot of patients who take CAM and herbal preparations, which leads to worsening of the disease. However, we do not have records of this patient from January to April before he came to PGI. He did not improve after stopping whatever drugs he was getting, and we do not have a liver biopsy to support the diagnosis. Did the patient have portal hypertension before demise? There was edema, splenomegaly, ascites, pleural effusion, cytopenia, and low albumin. There was a report of ultrasound which showed a dilated portal vein with diameter of 16 mm. In lymphomas, there can be portal hypertension either due to massive infiltration or nodular regenerative hyperplasia, which can coexist with lymphoma and further leads to development of portal hypertension.

What was the terminal event in this patient? Looks like refractory septic shock, most likely bacterial. There was a sudden worsening and persistent cytopenia after getting steroids and cyclophosphamide. The procalcitonin and CRP were raised in this patient. The INR and LFTs worsened. He required lot of fluids and gradual increase in need of vasopressors. Required mechanical ventilation due to hypoxia and finally succumbed to the illness.

So, what do we expect on autopsy? The basic disease appears to be Hodgkin lymphoma without any doubt. What was this cholestatic injury? Looks like direct infiltration by Hodgkin lymphoma, and another possibility is vanishing bile duct syndrome.

The worsening is because of HLH, which could be secondary to lymphoma. I am not ruling out reactivation of TB, as there was history of TB in 2020. He had severe sepsis and multiorgan failure, and cause of death was refractory septic shock, and I suspect some findings of sepsis on autopsy also.

Autopsy Findings Presentation

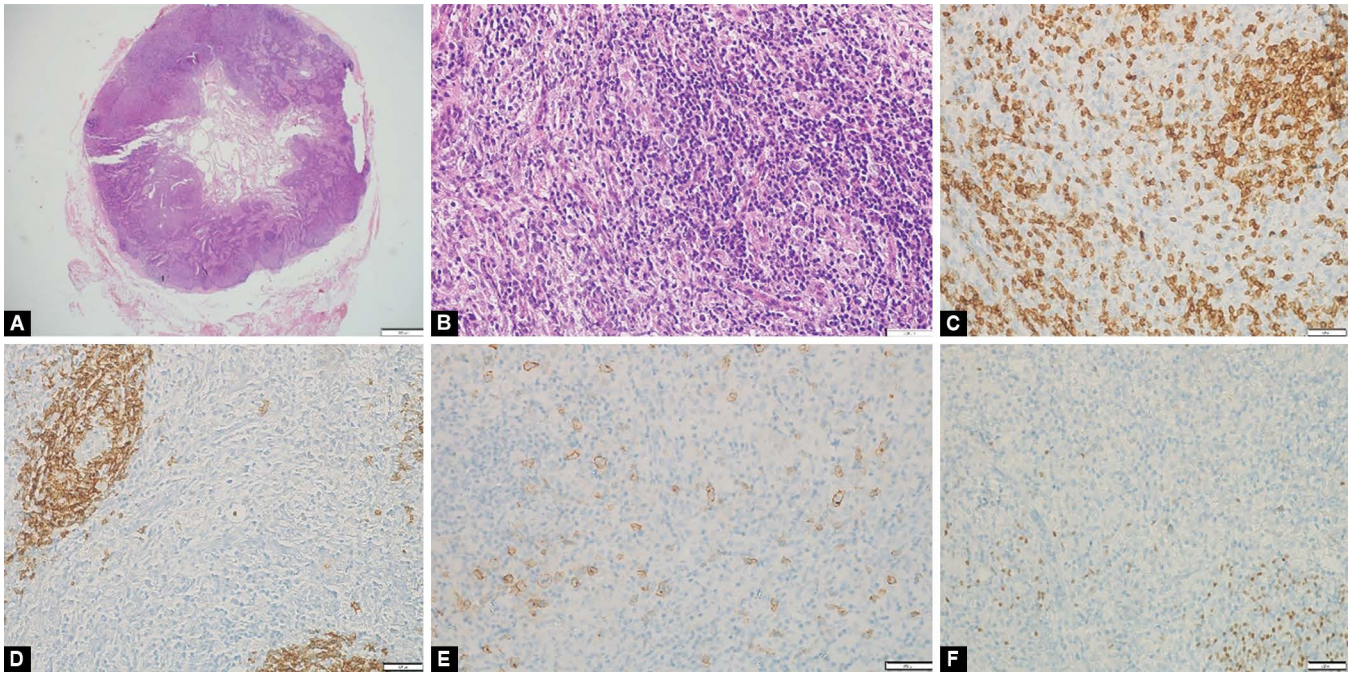
Dr Subashini: In this patient, we received antemortem inguinal lymph node excision biopsy, and this lymph node measured almost 0.8 × 0.5 × 0.5 cm. The lymph node showed partial effacement of the architecture by polymorphous population of cells. On higher magnification, we can see that polymorphous population was composed of lymphocytes, plasma cells, histiocytes, along with many large atypical cells which showed mononuclear and binucleated morphology. The nuclei showed vesicular chromatin and very prominent eosinophilic nucleoli. On performing IHCs, these large atypical cells were negative for CD3 and CD20. While the background reactive T-cell population was highlighted on CD3. CD20 showed few reminiscent B-lymphoid follicles. CD30 immunostain showed strong membranous expression along with Golgi zone accentuation in the neoplastic cells. PAX5 immunostain showed dim nuclear positivity in these large atypical cells. So, overall morphologic and immunohistochemical findings are of classic Hodgkin lymphoma (Fig. 2).

A complete autopsy was performed, and the prosectors noted that the patient was thin built and icteric. Pleural cavities yielded 100 mL fluid on each side, and peritoneal and pericardial cavity yielded 100 and 60 mL of straw-colored fluid, respectively.

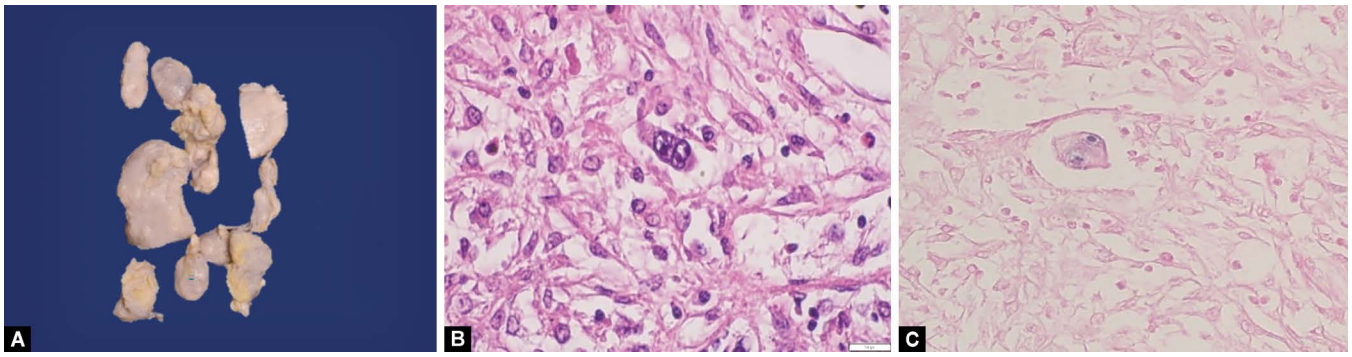
Lymph nodes—The retroperitoneal, para-aortic, iliac, and inguinal group of lymph nodes were enlarged grossly. Few of the lymph nodes were matted together and measured 2–3.5 cm in largest dimension. Cut surface of these lymph nodes appeared homogeneous, gray white, and fleshy. On microscopy, lymph node architecture was completely effaced, and the capsule appeared thick. There was formation of multiple nodules with intervening fibrotic bands. There was polymorphous population of cells along with interspersed areas of fibrosis. These polymorphous population of cells were composed of lymphocytes, plasma cells, along with many large atypical cells, of which a few were mononuclear, binucleate, as well as multinucleated. These cells were having moderate eosinophilic cytoplasm, ovoid nuclei with vesicular chromatin, and very prominent eosinophilic nucleoli. On performing immunohistochemistry, these large cells were negative for CD45, CD20, and CD3, while CD15 and CD30 showed membranous expression with Golgi zone accentuation. These neoplastic RS cells were positive for EBER-ISH. So, based on the morphology and immunohistochemical findings, features are of classic Hodgkin lymphoma, nodular sclerosis, grade I (Fig. 3).

Liver—Liver weighed 2.74 kg and was markedly enlarged with smooth capsular surface. The cut surface of liver showed diffuse alternating pale and congested areas. No focal lesion. Portal vein did not show any thrombus. On microscopy, the pale areas were actually the portal tracts with a surrounding thin rim of preserved hepatocytes, better appreciated on Masson trichrome stain. The rest of the hepatic parenchyma beyond this showed hemorrhagic necrosis (Figs 4A to D). Most of the portal tracts showed infiltration by neoplastic RS cells, and this infiltration was mainly on the walls of the portal vein causing portal venulitis and endothelitis. This was the dominant pattern of infiltration in most of the portal tracts. In addition, other patterns of infiltration include nodular aggregates of these large atypical cells in the porta and, very occasionally, portal fibrohistiocytic collections with interspersed RS cells, and sinusoidal infiltration were seen.

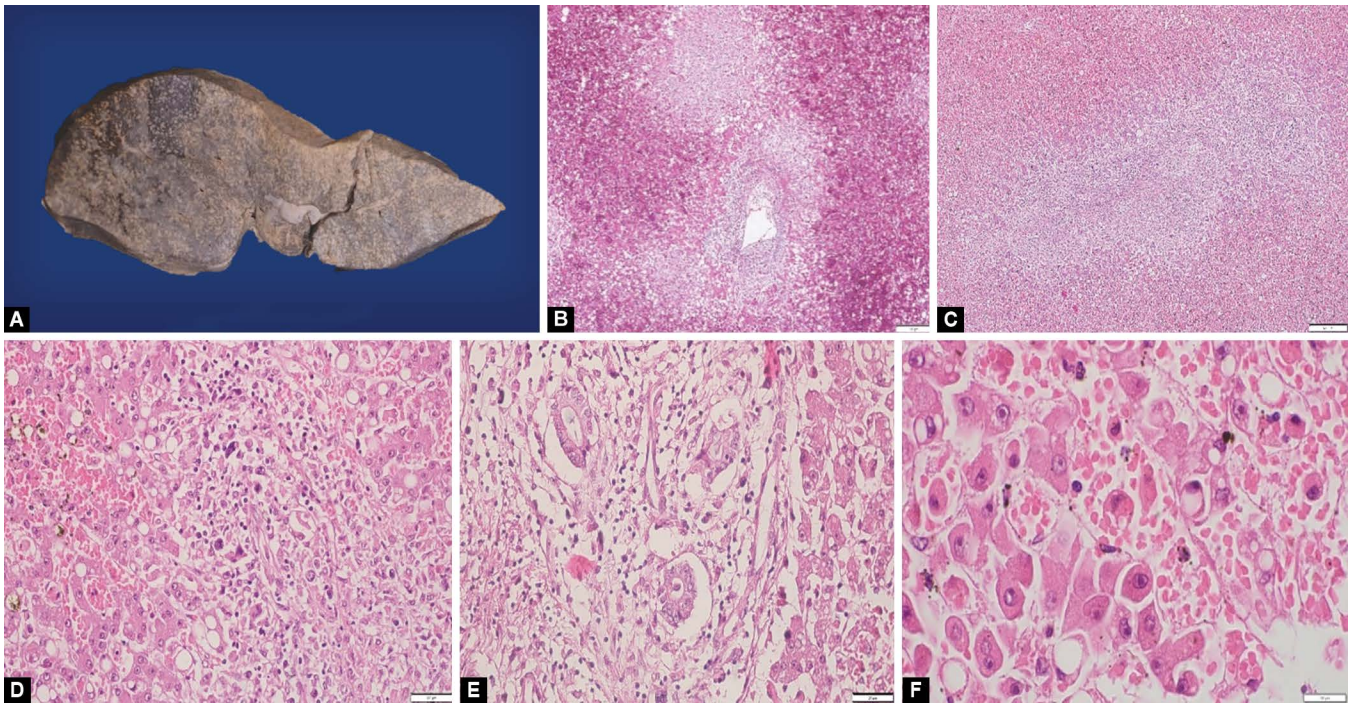
Due to the involvement of portal tract by this lymphomatous process, the bile ducts were also getting damaged, seen as nuclear



Figs 2A to F: (A) Antemortem biopsy of inguinal lymph node excision biopsy showing partially effaced lymph node architecture, 40x; (B) Polymorphous population of cells comprising of lymphocytes, plasma cells and neoplastic RS cells with binucleate and multinucleated morphology, 200x; (C) RS cells are negative for CD3 and CD20; (D) RS cells are positive for CD30 (membranous expression with Golgi zone accentuation); (E, F) PAX5 shows dim nuclear positivity in these neoplastic RS cells



Figs 3A to C: (A) Multiple enlarged and conglomerated lymph nodes (retroperitoneal, para-aortic and inguinal groups); (B) Classic Reed–Sternberg cells with binucleate morphology and prominent eosinophilic nucleoli, 400x; (C) RS cells show positive staining in EBERISH



Figs 4A to F: (A) Liver appears enlarged. Cut surface of the liver shows alternate dark and pale areas; (B) Masson trichrome stain highlights the destruction of portal veins and a rim of preserved hepatocytes in the Zone 1, 100x; (C) There is portal venulitis due to infiltration of lymphoma cells in the portal zones, 100x; (D) Portal tracts show large atypical cells with hyperchromatic nuclei, 200x; (E) Bile duct damage in the form of nucleomegaly, cytoplasmic vacuolations, 200x; (F) Kupffer cells show hemophagocytosis, 400x

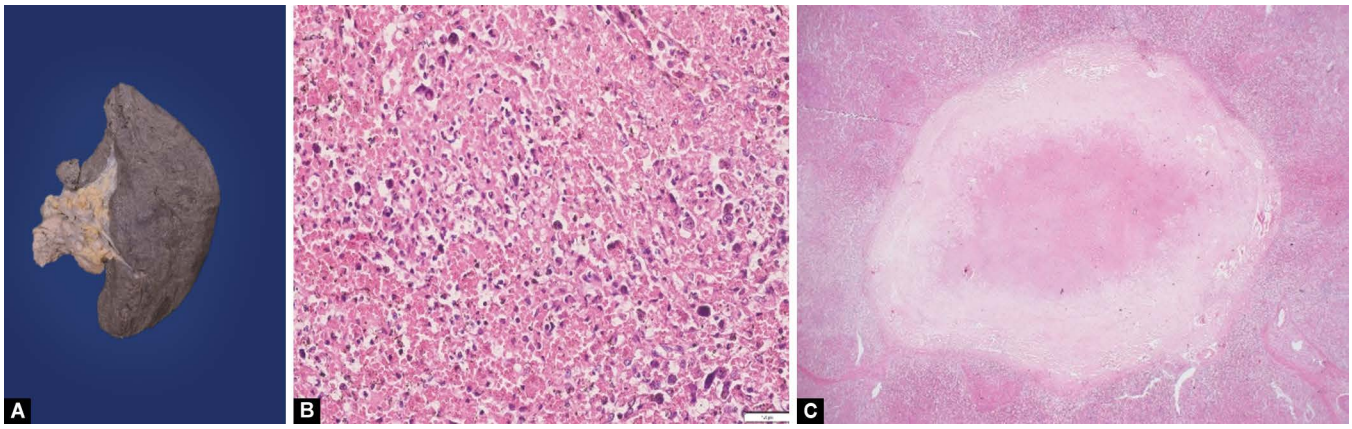
disarray and loss of nuclei (Fig. 4E). The CK7 stain highlighted mild ductular reaction. On immunohistochemistry, CD15 highlighted these neoplastic RS cells, and CD30 showed membranous positivity with occasional Golgi zone accentuation, confirming infiltration by Hodgkin lymphoma in liver.

There was no large vascular or biliary tract obstruction by lymphadenopathy, no extensive sinusoidal pattern of infiltration, no replacement of hepatocytes by lymphoma. Small duct damage and cholangitis were noted to cause this acute liver failure. The portal vein infiltration by lymphoma was the dominant pattern and attributed to the liver failure in our case, as described in few of the case reports.[6] Zones 3 and 2 showed extensive hemorrhagic necrosis and hepatocytic loss. The reticulin stain showed condensation and collapse of reticulin fibers in the areas of hepatocytic loss. The preserved hepatocytes showed macrovesicular steatosis along with Kupffer cell prominence. In addition, secondary hemophagocytosis was also seen (Fig. 4F).

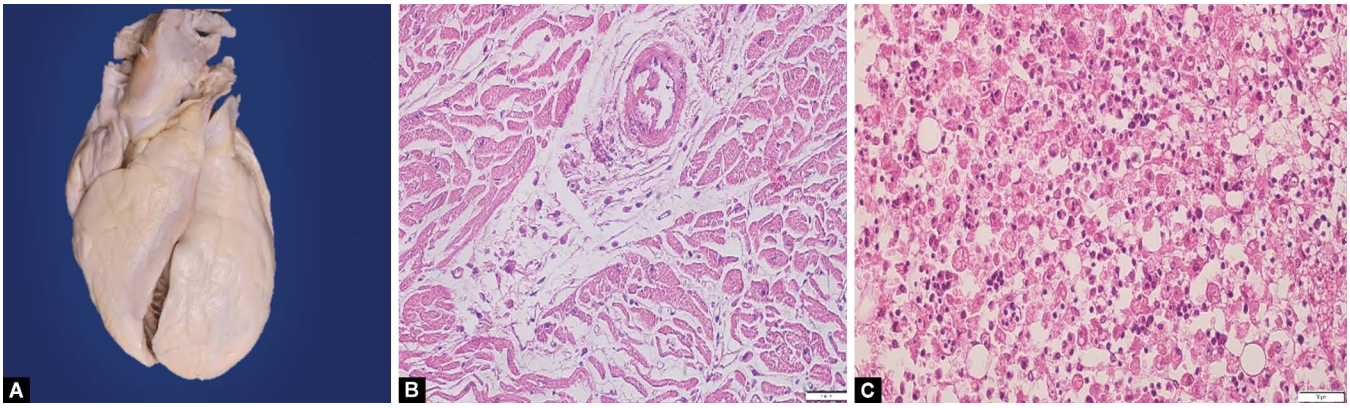
Spleen—The spleen weighed 370 gm with congested capsular and cut surface. On microscopy, spleen showed geographic zones of necrosis, infiltration by Hodgkin lymphoma, and hemophagocytosis. A single focus of old healed TB was seen in the spleen, with central granular eosinophilic necrosis and peripheral thick fibrous capsule. ZN stain performed on this section did not highlight any acid-fast bacilli (Fig. 5).

Bone marrow—Showed pronounced hemoerythrophagocytosis. There was no evidence of lymphomatous infiltrate in the section examined.

Heart—Heart weighed 220 gm, and all the valves and chambers were grossly unremarkable. Sections showed normal endocardium; however, the pericardial aspect showed subtle pericarditis with presence of histiocytes and few plasma cells.



Figs 5A to C: (A) Gross examination of spleen shows congested red pulp; (B) RS cells show sinusoidal infiltration pattern, 200x; (C) A focus of old healed tuberculosis is seen with central eosinophilic granular necrosis and peripheral walled-off fibrosis, 100x



Figs 6A to C: (A) Anterior surface of heart, appears unremarkable. (B) Myocardium shows interstitial edema and mild lymphohistiocytic infiltrate, 100x; (C) Marrow spaces show dominance of histiocytes with marked erythrophagocytosis, 200x

The myocardium showed extensive interstitial edema with perivascular histiocytic infiltrate along with scattered plasma cells, possibly related to early drug-induced myocardial injury (Fig. 6). The left anterior descending artery showed 60% occlusion of lumen by a stable atheromatous plaque with a central lipid-rich core and thick fibrous cap.

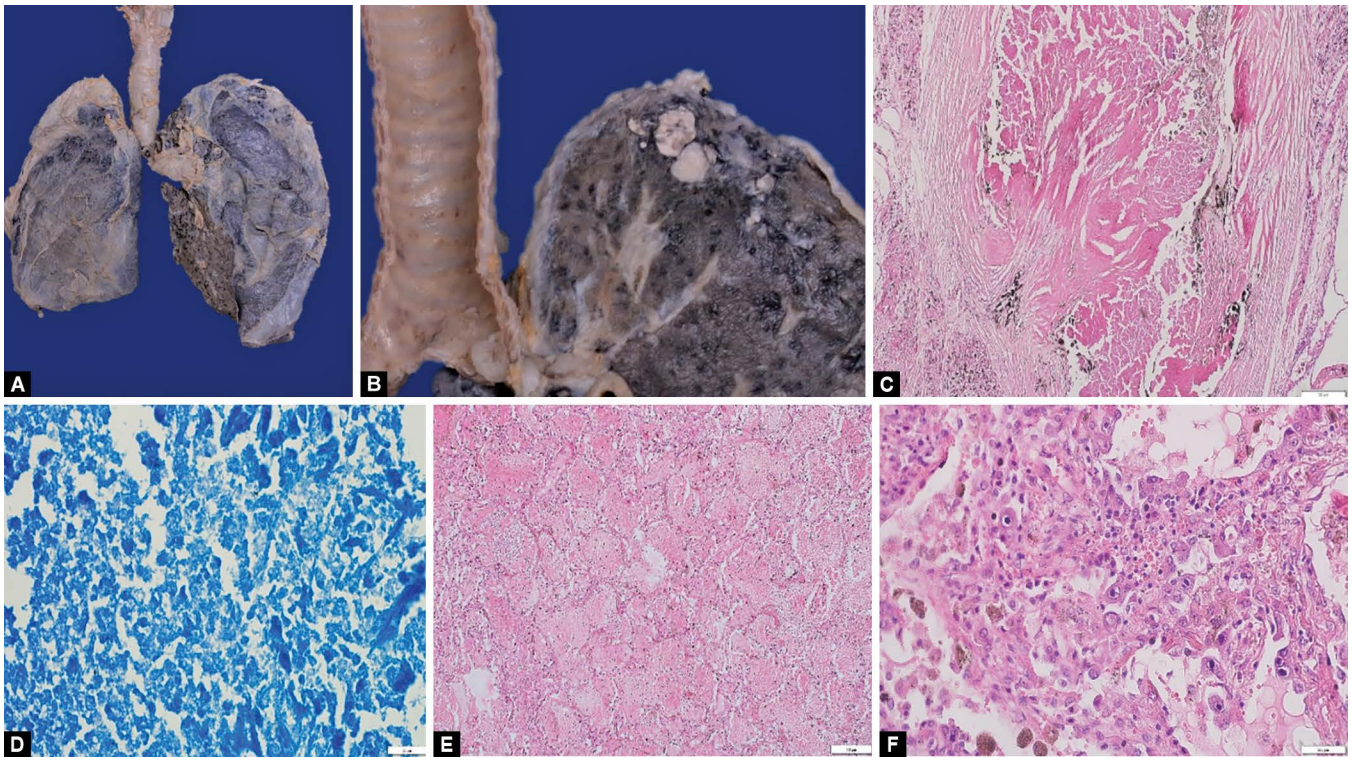
Lungs—Both lungs weighed 1,780 gm with dull pleural surface. Pleura was opaque and showed fibrinous exudates. The tracheobronchial tree appeared unremarkable. Hilar lymph nodes were also enlarged. The lungs were subcrepitant to feel. The apical lobe of right lung showed calcified nodules. The representative sections examined from the apical lobe showed multiple fibrocaseous nodules. On high-power magnification, fibrocaseous nodules showed central granular eosinophilic necrosis with thick fibrotic wall with focal hyalinization and calcification. The ZN stain performed on these sections did not highlight any acid-fast bacilli. However, the lung tissue submitted for PCR for *Mycobacterium* TB was positive. The rest of the lung parenchyma showed diffuse pulmonary hemorrhages accompanied with pulmonary edema. In addition, focally pneumocytes showed large ovoid nuclei with prominent basophilic intranuclear CMV inclusions with accompanying interstitial lymphocytic infiltrate, suggesting CMV pneumonitis (Fig. 7). There was a single incidental pulmonary hamartoma.

Kidney—Right kidney weighed 110 gm, and left kidney weighed 130 gm. Representative sections showed normal-appearing glomeruli; however, the tubules showed moderate acute tubular injury with loss of brush border and shedding of tubular epithelial cells. In addition, few of the tubules showed pale eosinophilic casts which were granular and had a yellowish hue in the periphery, possibly bile casts. These casts were PAS negative to weak positive and negative for DAB and Fouchet stain.

Other organs—The entire GIT was normal both grossly and microscopically. Few peripancreatic lymph nodes were enlarged, and the cut surface showed gray white areas with calcification. The sections examined from these lymph nodes showed central areas of eosinophilic granular necrosis without any epithelioid cell granulomas. Brain weighed 1.2 kg and did not show lymphomatous infiltration. Sections from adrenal, thyroid, testes, skin, and skeletal muscle were normal.

The final autopsy diagnosis (PM-32023): In this 40-year-old male, known case of classic Hodgkin lymphoma involving retroperitoneal, iliac, and inguinal lymph nodes with infiltration in liver and spleen (stage 4) post chemotherapy with:

- Hepatic and splenic infiltration with dominant portal vein involvement.
- Multiacinar confluent hepatic necrosis.
- Secondary hemophagocytosis in bone marrow, liver, and spleen.
- Pigment cast nephropathy.
- Old healed fibrocaseous TB (lungs, lymph nodes, and spleen).
- CMV pneumonitis.
- Diffuse pulmonary hemorrhage.
- Incidental pulmonary hamartoma.



Figs 7A to F: (A) Gross image of lung showed dull appearing pleura with fibrinous tags; (B) Cut surface of the lung showed a few caseous nodules in on the apical lobes; (C) Section from the caseous nodules showed central granular eosinophilic necrosis with surrounding areas of fibrosis, these nodules showed areas of hyalinization and calcification, 100x; (D) ZN stain did not highlight any acid-fast bacilli; (E) Background lung parenchyma showed pulmonary hemorrhage, 100x; (F) CMV inclusions were seen in pneumocytes lining the alveolar spaces with adjacent lymphocytic infiltrate in the interstitium, 400x

Discussion of Case

This 40-year-old man with biopsy-proven classic Hodgkin lymphoma (stage 4) presented with B symptoms, hepatosplenomegaly, pancytopenia, and cholestatic jaundice. Despite prephase chemotherapy, he developed progressive liver dysfunction, sepsis, and refractory shock leading to death. Autopsy showed nodular sclerosis Hodgkin lymphoma with hepatic and splenic infiltration, dominant portal vein involvement causing hepatic necrosis, secondary hemophagocytosis, pigment cast nephropathy, CMV pneumonitis, and old healed TB. The terminal event was refractory septic shock on a background of advanced Hodgkin lymphoma with hepatic failure and HLH.

This case demonstrates the clinical diagnostic challenges in differentiating between direct hepatic infiltration, vanishing bile duct syndrome, secondary cholangitis, or HLH-related cholestasis. The clinicopathological correlation is strong, with progressive cholestasis explained by portal tract and portal vein infiltration by Reed–Sternberg cells, a rare phenomenon with limited reports published. The secondary HLH, CMV pneumonitis, pigment cast nephropathy, and healed TB emphasize concurrent infections and immune dysregulation in advanced lymphoma at autopsy.

Data Availability Statement

All data generated or analyzed during this study are included in this published article. No additional datasets were generated or analyzed.

Authors' Contributions

Subashini Harikrishnakumar drafted the manuscript and performed the literature review. Sunil Taneja contributed to manuscript preparation and critical revisions. Amanjit Bal conceptualized the study, provided pathological expertise, and critically reviewed the manuscript. Uma Nahar Saikia performed the final review of the manuscript. Rajender Kumar contributed to the case presentation and provided clinical inputs. Gaurav Prakash and Sanjay Jain provided clinical expertise, contributed to patient management, and reviewed the manuscript. All authors read and approved the final manuscript.

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AI Disclosure

The authors declare that no artificial intelligence (AI) tools were used to generate, analyze, interpret, or write the scientific content of this manuscript.

Patient Consent Statement

Written informed consent was obtained from the patient's legally authorized representative for publication of the clinical details and accompanying images.

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References

1. Bedi SH, Ghassami M, Molaei M, et al. Secondary sclerosing cholangitis and Hodgkin's lymphoma. Clin Med Insights Case Rep 2015;8:83–87. DOI: 10.4137/CCRep.S23665
2. De Kerguenec C, Hillaire S, Molinié V, et al. Hepatic manifestations of hemophagocytic syndrome: a study of 30 cases. Am J Gastroenterol 2001;96(3):852–857. DOI: 10.1111/j.1572-0241.2001.03632.x
3. Khan FY, Kamel AY, Khalifa M, et al. Tuberculous adenitis with concurrent Hodgkin lymphoma: a case report. Oman Med J 2020;35(3):e143. DOI: 10.5001/omj.2020.62
4. Mundada MC, Ahmed F. Concurrent Hodgkin lymphoma with nodal cryptococcal infection: a rare combination. Indian J Hematol Blood Transfus 2022;38(1):204–206. DOI: 10.1007/s12288-021-01494-x
5. Amir AR, Sheikh SS. Hodgkin's lymphoma with concurrent systemic amyloidosis, presenting as acute renal failure, following lymphomatoid papulosis. J Nephrol 2006;19(3):361–365. PMID: 16874698.
6. Parkhi M, Premkumar M, Bal A, et al. Acute liver failure caused by lymphocyte-depleted Hodgkin lymphoma in tuberculosis and HIV-infected patient. Autops Case Rep 2024;14: e2024490. DOI: 10.4322/acr.2024.490