

Introduction

Cytomegalovirus (CMV) is commonly known to affect those who are immunosuppressed.

CMV is a common differential in post-transplant patients, those on active chemotherapy or patients with HIV/AIDS.

However, this herpesvirus may also affect those with different types of immunosuppression, such as advanced age or hematologic malignancies.

This case presents CMV infiltration of the biliary tract in an elderly patient with two hematologic malignancies.

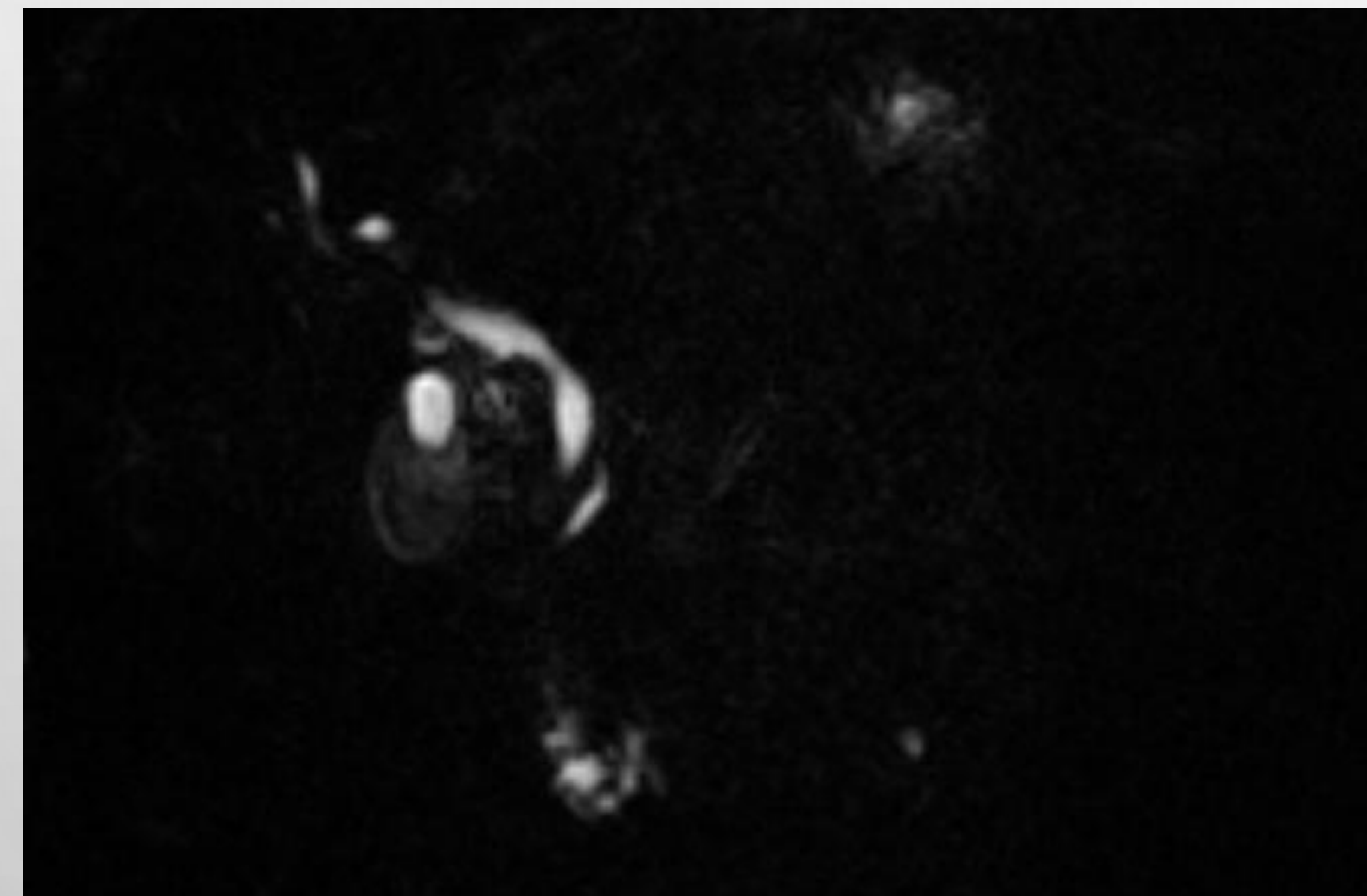


Figure 1: Common bile duct is mildly dilated measuring up to 8mm. Mild contour irregularity of the common bile duct and intrahepatic biliary ducts.

Case Description

A 74-year-old male with PMHx of tobacco use and chronic alcohol abuse who underwent evaluation with GI and hematology for anemia.

- EGD and colonoscopy: unremarkable
- Bone marrow biopsy: myelodysplastic syndrome (MDS) and B cell lymphoma

While at a follow up appointment with GI, patient had new onset scleral icterus and notable jaundice. Labs were as below:

- Total bilirubin 10.4
- Alkaline phosphatase 1077
- AST 107
- ALT 131

MRCP: Dilated CBD and a filling defect within the CHD extending to the left hepatic duct with contour irregularity and narrowing in the left hepatic duct giving a beaded appearance

ERCP: Dilated CBD and CHD in addition to mild left and right hepatic duct dilatation with no definitive strictures or filling defects as was suspected on the MRCP

- Plastic bile duct stent was placed due to poor drainage of contrast

Repeat MRCP obtained due to concern for cholangiocarcinoma versus biliary involvement of the lymphoma

- Worsening intrahepatic and extrahepatic biliary dilatation
- Subsequent ERCP with cholangioscopy with plastic stent removal
 - Bile duct mucosa had diffuse superficial granular like appearance in the common duct and main hepatic branches, which did not resemble typical previous biliary stent inflammatory changes
 - Biopsies of the bile duct were obtained with subsequent fully covered metal stent placement

Case Outcome

Bile duct pathology: Chronic active inflammation with CMV viral inclusions in the hepatic hilum and left hepatic takeoff

- CMV PCR from the biliary specimen: positive
- Serum CMV IgG: Positive
- Serum CMV IgM: Negative
- Serum CMV PCR: Negative

Patient was started on a 2-week course of Valganciclovir prior to initiation of Rituximab for B cell lymphoma. Plan for serial blood CMV PCR monitoring while on Rituximab for B cell lymphoma

Patient update: Pt was started on Rituximab after 2 weeks of Valganciclovir. He has completed 4 treatments for small cell B cell lymphoma. Subsequent serum CMV PCRs have remained negative. He is undergoing repeat PET CT and bone marrow biopsy to assess lymphoma response and status of MDS.

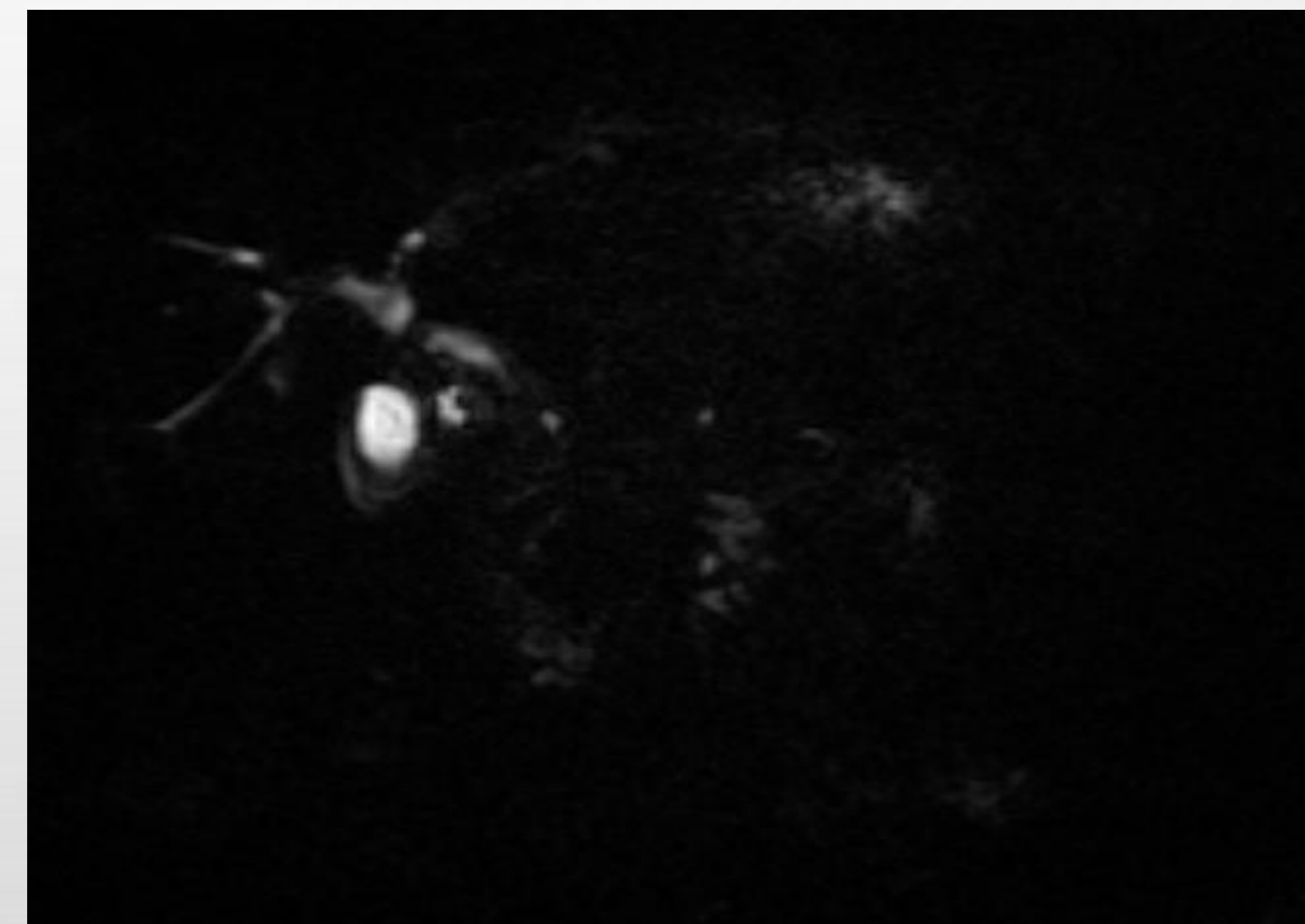


Figure 2. Significant contour irregularity and luminal narrowing of the left hepatic duct giving a "beaded" appearance.

Discussion

Etiologies for this patient's immunosuppression which increased his risk of acquired CMV infection resulting in biliary strictures and dilations

- MDS
- B cell lymphoma
- Advanced age (immunosenescence) causing biliary strictures and dilations

This case raises awareness regarding the possibility of CMV biliary infiltration leading to biliary disease in both elderly and immunosuppressed individuals

It is important to have CMV in the differential as, in this case, CMV PCR from the suspected tissue has been shown to be more sensitive than CMV PCR from the blood.



Figure 3. Superficial granular like appearance of biliary ducts



Figure 4. Biopsy sites of abnormal appearing biliary ducts

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References

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