Spontaneous Splenic Infarct: Report of Two Cases

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Introduction

The spleen is a hematopoietic organ which functions as a filter for the removal of aging blood products. Splenic infarction occurs when blood flow is compromised causing tissue ischemia and eventual necrosis.[1] The presentation varies from asymptomatic to hemorrhagic shock and it frequently occurs in patients with an underlying disease. Splenic infarcts are considered a rare cause of abdominal pain, although the exact prevalence is unclear.[2] We present two cases of spontaneous splenic infarcts, one of idiopathic etiology and one secondary to reactivation of mononucleosis.

Case #1

42 y/o male with PMH of T2DM, admitted for abdominal pain for 2 days associated with subjective fever, malaise, and nausea. Patient denied cough, diarrhea, constipation, tarry stools, dysphagia. Physical exam remarkable for fever 100.6F, tachycardia (110 bpm), clear pharynx, upper left abdominal tenderness without guarding, no lymphadenopathies palpated. Work up results in Table 1. CT abdomen showed hepatosplenomegaly with multiple splenic wedge-shaped opacities likely representing splenic infarcts (Image 1 and 2). Patient was started on Ceftriaxone. TTE, Lower extremity venous doppler, blood / urine cultures, and hypercoagulopathy workup resulted negative. Patient was discharged after 4 days with EBV panel still pending. Patient was seen at continuity clinic one week after discharge, abdominal pain was resolved. At that time the EBV panel was reviewed showing: Positive Virus Capsid IgG and IgM AB, Nuclear antigen IgG AB, and positive Early antigen IgG AB, consistent with the diagnosis of reactivated mononucleosis.

Table 1. Initial Work up results

WBC 8.31 K/u; NEU 70.2%; Lymphocyte 23%; MONO 4.5%	Chest Xray: Heart, bones and lungs are unremarkable for age.
D-Dimer 6490 ng/ml (<250)	ESR 38 mm/Hr (0-20)
COVID-19 PCR negative x 2	Sodium 132 mmol/L; Potassium 4 mmol/L; Chloride 92 mmol/L Anion Gap 14 mmol/L
BUN 7 mg/dL; Creatinine 0.76 mg/dL, Glucose 338 mg/dL	Alkaline Phos 226 U/L (40 – 120); AST 59 U/L (<39); ALT 110 U/L (<40); Total Bilirrubin 0.8 mg/dL (0.4 – 2.0)

Image 1

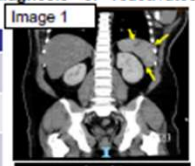
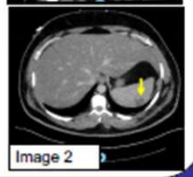


Image 2



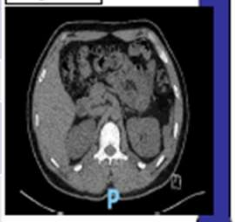
Case #2

26 y/o male with no significant PMH admitted for LUQ abdominal pain associated with subjective fever, chills, nausea and vomiting. Per patient, abdominal pain started a few hours after drinking a red bull. Patient drinks at least 3 red bulls per week. Patient denied any trauma, recent upper respiratory illness, diarrhea, blood in urine or stool, weight loss. No pertinent FMHx or Surgical History. Social history includes occasional EtOH use and patient works in a market as a meat cutter. Physical exam was unremarkable except for LUQ abdominal tenderness on palpation. Vital signs were stable. EKG NSR at 79bpm. Work up results in Table 1. CT abdomen and pelvis with IV contrasted showed multiple splenic infarcts. Patient was started on Zosyn and full dose Lovenox. Hypercoagulopathy work up was done which were negative for conditions such as sickle cell disease, protein c and s deficiencies, antithrombin III deficiency and antiphospholipid syndrome. Blood cultures were negative and leukocytosis resolved after 1 dose of Zosyn. Patient was evaluated by Hematology, unclear etiology of splenic infarcts. Prior to discharge on day 6, patient was bridged with Coumadin and instructed to follow up with Academic Center Hematology Clinic for further evaluation.

Table 2. Initial Work up results

WBC 16.84 NEU 92.9%; PLT 297 Lymphocyte 3.6%	CT chest with contrast: Multiple old calcified granulomas in right lung, calcified LN in R hilium and mediastinum
AST 37 ALT 28	Lipase 6
COVID-19 PCR and antibody negative	Sodium 140 mmol/L; Potassium 3.9 mmol/L; Bicarb 25 mmol/L Anion Gap 15 mmol/L
Procalcitonin 0/09 CRP 0.9 ESR 2	HIV negative Vitamin D, 25: 10.4 ACE wnl

Image 3



Conclusion

Splenic infarction, is a rare cause of abdominal pain and is often found on incidental imaging. Both case reports illustrate the various ways in which splenic infarction can present. In the first case, the etiology was secondary to the reactivation of infectious mononucleosis while in the second case, the etiology was unclear. Though the initial presentation is usually non-specific, splenic infarction should be considered as a differential diagnoses in patients with abdominal pain. Additionally, further research is needed to bring more awareness in the clinically outpatient and inpatient settings.

References

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2. Chun-Han C, et al. Spontaneous Splenic Infarction as an Uncommon Cause of Fever in a Cirrhotic Patient. Int Journal of Gastroenterology, 2017, 11(2):121-124 https://doi.org/10.1016/j.ijge.2016.09.005

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