



DEPARTMENT OF THE AIR FORCE
59TH MEDICAL WING (AETC)
JOINT BASE SAN ANTONIO - LACKLAND TEXAS

14 FEB 2017

MEMORANDUM FOR 959 CSPTS 44E1A
ATTN: CAPT BRIAN P. MURRAY

FROM: 59 MDW/SGVU

SUBJECT: Professional Presentation Approval

1. Your paper, entitled Bloating and Abdominal Pain in a 21-year-old Male presented at/published to Academic Academy of Emergency Medicine Conference 2017, Orlando, FL, 16-20 March 2017 in accordance with MDWI 41-108, has been approved and assigned local file #17069.
2. Pertinent biographic information (name of author(s), title, etc.) has been entered into our computer file. Please advise us (by phone or mail) that your presentation was given. At that time, we will need the date (month, day and year) along with the location of your presentation. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center (WHASC) internship and residency programs.
3. Please know that if you are a Graduate Health Sciences Education student and your department has told you they cannot fund your publication, the 59th Clinical Research Division may pay for your basic journal publishing charges (to include costs for tables and black and white photos). We cannot pay for reprints. If you are 59 MDW staff member, we can forward your request for funds to the designated wing POC.
4. Congratulations, and thank you for your efforts and time. Your contributions are vital to the medical mission. We look forward to assisting you in your future publication/presentation efforts.

Linda Steel-Goodwin

LINDA STEEL-GOODWIN, Col, USAF, BSC
Director, Clinical Investigations & Research Support

PROCESSING OF PROFESSIONAL MEDICAL RESEARCH/TECHNICAL PUBLICATIONS/PRESENTATIONS

INSTRUCTIONS

USE ONLY THE MOST CURRENT 59 MDW FORM 3039 LOCATED ON AF E-PUBLISHING

1. The author must complete page two of this form:
 - a. In Section 2, add the funding source for your study [e.g., 59 MDW CRD Graduate Health Sciences Education (GHSE) (SG5 O&M); SG5 R&D; Tri-Service Nursing Research Program (TSNRP); Defense Medical Research & Development Program (DMRDP); NIH; Congressionally Directed Medical Research Program (CDMRP) ; Grants; etc.]
 - b. In Section 2, there may be funding available for journal costs, if your department is not paying for figures, tables or photographs for your publication. Please state "YES" or "NO" in Section 2 of the form, if you need publication funding support.
2. Print your name, rank/grade, sign and date the form in the author's signature block or use an electronic signature.
3. Attach a copy of the 59 MDW IRB or IACUC approval letter for the research related study. If this is a technical publication/presentation, state the type (e.g. case report, QA/QI study, program evaluation study, informational report/briefing, etc.) in the "Protocol Title" box.
4. Attach a copy of your abstract, paper, poster and other supporting documentation.
5. Save and forward, via email, the processing form and all supporting documentation to your unit commander, program director or immediate supervisor for review/approval.
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For presentations before professional societies and like organizations, the 59 MDW Public Affairs Office (PAO) will provide the needed review to ensure proper disclaimers are included and the subject matter of the presentation does not create any cause for DoD concern.

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"The experiments reported herein were conducted according to the principles set forth in the National Institute of Health Publication No. 80-23, Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act of 1966, as amended."

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5. PROTOCOL TITLE: (NOTE: For each new release of medical research or technical information as a publication/presentation, a new 59 MDW Form 3039 must be submitted for review and approval.) N/A			
6. TITLE OF MATERIAL TO BE PUBLISHED OR PRESENTED: Bloating and Abdominal Pain in a 21-year-old Male			
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16. AUTHORSHIP AND CO-AUTHOR(S) List in the order they will appear in the manuscript.			
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26. DATE REVIEWED February 09, 2017	27. DATE FORWARDED TO 502 ISG/JAC	
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Bloating and Abdominal Pain in a 21-year-old Male

Brian P. Murray DO, Capt, USAF, MC; Jamie Roper, DO, Capt, USAF, MC, Emily Fleming, DO, Capt, USAF, MC
San Antonio Military Medical Center, Fort Sam Houston, TX



History

HPI: 21 yo M presented with achy, full, 2/10, bilateral upper abdominal pain that became acutely worse after eating a cheeseburger yesterday. He has had mild abdominal distension and pain for the past 3 yrs that progressively worsened over the past 3 weeks. Denies fever or trauma.

ROS: Unintentionally lost 40 lbs, intermittent diarrhea, night sweats and fatigue over the past 2 years.

PM/S/FHx: Denies

Physical Exam

Vitals: HR 90, RR 16, BP 140/90, Temp 98.6°F

General: No acute distress

Cardiopulmonary: WNL

Abdomen: Distended, firm and dull to percussion throughout with severe bilateral upper quadrant tenderness with guarding.

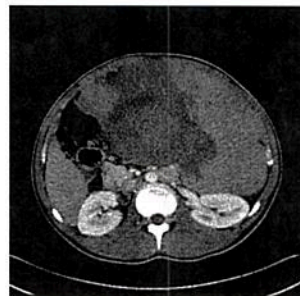
Results

Labs:

WBC:267
H/H: 9.8/31.8
Platelets: 213
BMP:WNL
LFT:WNL

Imaging:

The CT of the Abdomen and Pelvis show massive splenomegaly, with the spleen extending into the right lower quadrant. There is a grade 4 splenic laceration with active extravasation visible, without associated free abdominal fluid.



Case Conclusion / Discussion

Most splenic lacerations are caused by blunt force trauma. Spontaneous ruptures are extremely rare and are most commonly associated with infectious and neoplastic entities of splenomegaly. There are several theories that exist to explain the causes of splenic rupture, including malignant cells directly invading the splenic capsule, splenic infarctions leading to capsular hematomas, and coagulation disorders. Some authors doubt that a splenic rupture can actually be spontaneous and believe the traumatic event might not be known. A cough, rolling over or even straining may have sufficient force to cause rupture of an extremely large spleen. In our case, the inciting event is unknown.

The patient was diagnosed with significant leukocytosis and massive splenomegaly with spontaneous splenic rupture. The patient was admitted to the surgical ICU for hemoglobin and hematocrit trending, which remained stable at 24 hours, likely due to the laceration self tamponading. Hematology/Oncology diagnosed the patient with chronic myeloid leukemia (CML). Splenomegaly is the most common physical finding in CML. Treatment for massive splenomegaly due to CML is targeted oral chemotherapy and/or radiation therapy resulting in spleen shrinkage. If this is ineffective splenectomy may be required. If splenectomy is needed splenic artery embolization by Interventional Radiology can limit the amount of blood loss during surgery. In this patient, surgery was deferred to a later time and the patient was transferred to another institution to start his oral chemotherapy regimen.

Pearls

1. Splenomegaly is caused by a very wide assortment of diseases, most of which cannot be diagnosed in an Emergency Department.
2. Even in the absence of trauma, life threatening rupture may be present.
3. To avoid missing splenic rupture, consider radiologic evaluation of splenomegaly.

Questions

1. What is the differential diagnosis for splenomegaly?
2. What is the most likely diagnosis in this patient?

Answers

1) There is a large heterogeneous list of diseases that cause splenomegaly. These causes include, in order from most common to least common, hematologic causes, hepatic disease, infectious, inflammatory, metastatic neoplasms and primary splenic disease. Within hematologic disorders, the most common cause is lymphoma, followed by chronic myeloid leukemia, hemoglobinopathy, chronic lymphoid leukemia and myelofibrosis. However, the most frequent causes of massive splenomegaly are myelofibrosis, chronic myeloid leukemia and infections by malaria and schistosomiasis.

Table 1. Causes of splenomegaly

Cause	Example
Hematologic	myeloproliferative disorders, lymphoma, thalassemia, sickle cell disease, leukemia, autoimmune hemolysis
Hepatic/Congestive	cirrhosis, splenic/portal/hepatic vein thrombosis, congestive heart failure
Infectious	acquired immunodeficiency syndrome, endocarditis, mononucleosis, viral hepatitis, typhoid, cytomegalovirus, toxoplasmosis, tuberculosis, syphilis, malaria, schistosomiasis, brucellosis, leishmaniasis
Inflammatory	systemic lupus erythematosus, rheumatoid arthritis, sarcoidosis

2) The patient's progressive symptoms over several years, splenomegaly, leukocytosis in the low 200s and lack of transaminase elevation made chronic lymphoid leukemia the most likely diagnosis. This was later confirmed on peripheral smear.

REFERENCES

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