Recurrent Abdominal Wall Abscesses

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RAD 4001 Diagnostic Radiology
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Clinical History

- 64yo M with PMH of HTN, DM, COVID+ (8/2020, currently negative), and TB s/p RIPE c/b necrotizing pneumonia requiring R lobectomy and thoracotomy in 2018
- Since 2018, post-operative course has been complicated by recurrent RUQ abdominal wall abscesses requiring multiple hospitalizations for IR drainage
  - June 2020: RUQ wall abscess grew Pseudomomonas
  - August 2020: RUQ wall abscess grew Klebsiella
- Patient has had a documented allergic-like reaction to iodinated contrast
  - Severe anaphylactic reaction which required endotracheal intubation
ED Course

• Patient presented to the ED with worsening abdominal pain, increased foul smelling purulent drainage from RUQ abdominal wall abscess, chills, and fevers
• Empiric Cefepime and Flagyl was started based on culture history
• CT of the Chest/Abdomen/Pelvis without contrast and an Abdominal US were obtained
CT Abdomen/Pelvis w/o Contrast 03/13/20
CT Abdomen/Pelvis w/o Contrast 06/05/20
CT Abdomen/Pelvis w/o Contrast 09/29/20
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Key Imaging Findings

• CT Abd/Pelvis shows inflammation and gas along the right anterolateral abdominal wall defect, which extends to the abdominal cavity with focal fluid collection
  • Comparison to prior images demonstrates interval worsening of the adjacent fat stranding and inflammatory changes with extension of the redeveloping abscess
  • Because of contrast allergy, evaluation was limited, so some question about source of abscess remains

• Abdominal US shows mixed hypoechoic and anechoic complex fluid collection and intraperitoneal extension cannot be ruled out
  • Highly suspicious for abscess and phlegmon formation
Differential Diagnosis

• Soft tissue abscess 2/2 external source
• Enterocutaneous fistula causing recurrent abscesses
• Presence of foreign body
Further Admission Course

• ID workup was negative, including wound, blood, and urine cultures

• General Surgery recommended against surgical intervention

• IR placed an 8Fr drain on 10/05 for drainage, which was pulled when drainage was <10cc/24hrs
Final Diagnosis

Recurrent soft tissue abscess 2/2 external source
Discussion

• Final diagnosis: soft tissue abscess 2/2 external source
  • Wound healing is likely c/b chronic DM

• Foreign body was ruled out by CT

• Enterocutaneous fistula remained a concern, due to previous culture results and because patient was unable to be evaluated with iodinated contrast
  • Wound culture was negative for this admission
  • Decreasing drainage from drain suggests that a fistula is less likely
  • Radiology suggested using dilute barium contrast for a fistulogram, which could be done as future evaluation if abscess recurs
  • Future surgical intervention to debride the wound bed may be required
ACR Appropriateness Criteria [1]

• On initial presentation, the ACR recommends X-ray or US as the initial imaging study.
• Because of the concern for extension into the abdominal cavity, axial imaging is needed.
• Contrast allergy precludes giving IV contrast in this patient.

https://acsearch.acr.org/docs/69434/Narrative/
Continued Discussion

• Contrast Reactions [2]
  • Allergic-like reactions include: urticaria, pruritus, edema, erythema, bronchospasm, hypotension, shock
  • Physiologic reactions include: nausea, vomiting, arrhythmia, seizure

• Prevalence of hypersensitivity reactions to iodinated contrast media is estimated between 0.05-0.1% [3]

• Studies have shown that there is no link between a shellfish allergy and an allergic-like reaction to iodinated contrast [4]

• Cross-reactivity to gadolinium contrast is extremely rare but has been observed [3]

• Patients who have a severe reactions should NOT be given iodinated contrast [2]
  • Mild and moderate allergic-like reactions should be pre-medicated with corticosteroids

Take Home Points

• Abscesses require source control for adequate treatment
• Abscesses that extend into the abdomen should ideally be evaluated using contrast
• Contrast reactions are not uncommon, so these studies should be done in a setting that can manage severe reactions like airway edema or hypotensive shock, should they occur
• Individuals who have had a prior severe reaction to iodinated contrast media should NOT be given iodinated contrast in the future, instead alternate imaging modalities should be considered
References


Questions?