Case Discussion – Splenic Abscess
Personal Data

- Gender: male
- Birth Date: 1928/Mar/06th
- Allergy: Mefenamic
- Smoking: 0.5 PPD for 55 years
- Alcohol: negative (?)
4 Months Ago

- Abdominal pain: epigastric area and LUQ of the abdomen
- Denied trauma
- Frequency: once every 3 to 4 days
- Abdominal sonography in 国泰 H.:
  - Gall stone
  - Renal cyst
  - Hydronephrosis
  - Deformed spleen r/o tumor
End of This July

- Hospitalization in 嘉義長庚
- Impression: gall stone
- Laparoscopic cholecystectomy
End of September

- Sudden persisted epigastralgia
- Elevated amylase and lipase levels
- CT scan of the abdomen:
  - Blurred outline of the spleen with several hypodense areas in it
  - Close contact of the pancreatic tail with the spleen
  - Left pleural effusion, bil. Pleural thickening, inflammation in left lower lung
Mid-October

- Transferred to our ED
- Abdominal pain:
  - Epigastric, LUQ and periumbilical areas
  - Radiation to the left shoulder
- Frequency: once a day
- Cold sweating, pale face
- Body weight loss: 60 → 46 Kg in 3 months
- Knee-chest position
- Trauma history: denied
Laboratory Studies

- **2006-10-13**
  - AST: 43 IU/L
  - Amylase/Lipase: 746/422 U/L

- **2006-10-17**
  - CRP: 1.40 mg/dL

- **White count, CEA, CA 19-9: WNL**
Pleural thickening
2006-10-14 CXR, Lateral

Pleural effusion
Hypodense lesion with ill-defined border
Inflammatory process
Pleural effusion
Pre-CM
Post-CM

Pleural effusion
Multiple hypodense lesions with ill-defined borders and heterogeneous contents.
Hypodense lesion without enhancement
Inflammatory process

Lesion without enhancement

Inflammatory process
Enlarged pancreas with relatively decreased density
Differential Diagnosis

- Cystic lesion
  - With or without cell debris?
  - Solitary or multiple?
  - With or without enhancement?
  - Other associated findings?
  - Correlating patient’s data and history
Hematoma or Abscess

- Heterogenous content with relatively higher density than pure fluid
- Inflammatory process of the peripheral tissues
- Infective vs. trauma: denied histories of trauma
Hemangioma

- Mostly similar to hemangiomas of the liver
- Delayed enhancement
- Mostly detected incidentally
- MRI
  - T1: low signal intensity or iso-intensity
  - T2: high signal intensity
Lymphangioma

Usually:
- Cystic in spleen
- Asymptomatic
- Multiple
- Thin-walled
- Well-marginated
- Subcapsular in location
- Attenuation: between 15-35 HU
Lymphoma

- Most common splenic malignancy
- Diffusely affected
- Splenomegaly
- Necrosis → cystic lesion
Metastasis

- Most common: breast, lung, melanoma
- Cystic lesion: ovary, breast, endometrium, melanoma
  - Melanoma: usually hypervascular
  - Breast cancer
Diagnosis & Management

- Splenic abscess, suspecting secondary to chronic pancreatitis
- Cefamezine + Gentamicin
- Splenectomy
- Pus culture: no growth
Discussion

Splenic Abscess
Clinical Presentation

- Fever: 95%
- Abdominal pain: 60%
- LUQ pain: 38%
- Left chest pain: 17%
- Left shoulder pain: 10%
- RUQ pain: 6%
- Weakness: 22%
- Chills: 22%
- Nausea/Vomiting: 16%
- Anorexia: 15%
- Diaphoresis: 12%
- Weight loss: 11%
- Change in bowel habits: 9%
- Abdominal tenderness: 59%
- Splenomegaly: 54%
- Hepatomegaly: 16%
- Abdominal distention: 13%
- Ascites: 7%
- Costovertebral angle tenderness: 5%
- Friction rub: 3%
Dullness at left thoracic base: 33%
Left basilar rales: 21%
Elevated left diaphragm: 18%
Left pleural friction rub: 5%
Lab Studies

- Leukocytosis: 70%
  - Immunocompromised patients with fungal abscesses
- Elevated alkaline phosphatase level
- Positive blood culture: 60%
Image Studies

- **CXR**
  - Abnormal in 80% of patients
  - Elevated left hemidiaphragm: 33%
  - Pleural effusion: 28%

- **Abdominal radiograph**
  - Abnormal soft tissue density or gas pattern: 35%

- **Radioisotope scanning**: of little value
Ultrasound
- Repeatable for interval change
- Nonspecific
- Highly variable and not easy to interpret

CT
- Test of choice
- Sensitivity: ~100%
- Low-density lesions without enhancement
- CT-guided aspiration
Diagnostic procedure

- CT-guided or ultrasound-guided aspiration
- Proper antibiotic treatment
Indication

Once identified, always treated!
http://www.medcyclopaedia.com/library/topics/volume_iv_1/a/abscess_splenic/gabscess_splenic_fig1.aspx
Treatment

- **Medical treatment**
  - Interventional treatment involving antimicrobials
  - Primary medical management: controversial

- **Surgical treatment**
  - Percutaneous drainage or splenectomy + antimicrobial therapy
Percutaneous drainage

- Uniloculate solitary abscess
- Not contraindicated
- Splenic flexure of the colon and the pleural space → risk of injury
- Patients with cavities that have calcified walls or patients with a history of travel to endemic areas → Echinococcus
Percutaneous drainage

- Complications:
  - Hemorrhage
  - Pleural empyema
  - Pneumothorax
  - Fistula formation

- Contraindications:
  - Contiguous process
  - A phlegmonous or poorly differentiated lesion on CT scan
  - Multiloculated or debris-filled abscess
  - Uncontrollable coagulopathy
Splenectomy

Splenotomy:
- Reserved for only the sickest patients who have contraindications to both splenectomy and percutaneous drainage
Complications

- Mortality rate: 100% if left untreated
- Rupture:
  - Most common → peritoneal cavity: 6.6%
  - Rupture into the bowel, bronchus, or pleural space
- Colon obstruction
- Splenocutaneous fistula
Complications of Treatment

- Atelectasis
- Left-sided pleural effusion
- Pneumonia
- Subphrenic abscess
- Pancreatic injury with fistula or pseudocyst
- Thrombocytosis
- Overwhelming postsplenectomy sepsis