Case Conference

R3周光緯
Supervisor VS林立偉

2013/04/30

Patient Profile

- 55 y/o F
- 09:04
- Sent by 119
- T/P/R: 36.6/58/18 BP: 91/41 mmHg
  SpO2: 100 %
- E4V5M6
- 檢傷主訴: 病人來診為腹痛，洗PD
- Triage 2

History

- Abdominal pain since this morning
- No fever
- Cloudy of dialysate fluid
  - 有上皮組織

Past history

- ESRD on PD
- Menopause
- Allergy : IV contrast

Physical examination

- Conscious : E4V5M6
- Neck: Supple
- Chest: clear breathing sound
  RHB
- Abdomen : soft, diffuse tendeness
  rebound tenderness
- Extremities: warm

Impression

- CAPD peritonitis
  - r/o pancreatitis

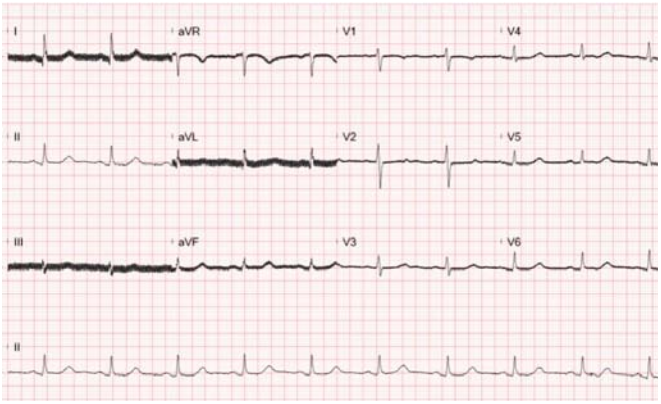
Initial order

- CBC
- Glu, BUN, Cr, GOT, lipase
- VBG (G6)
- Dialysate routine, Gram's stain, culture
- EKG
- CXR
- N/S 200 cc st
- IV lock
- Cefmetazole 1g iv QD + st

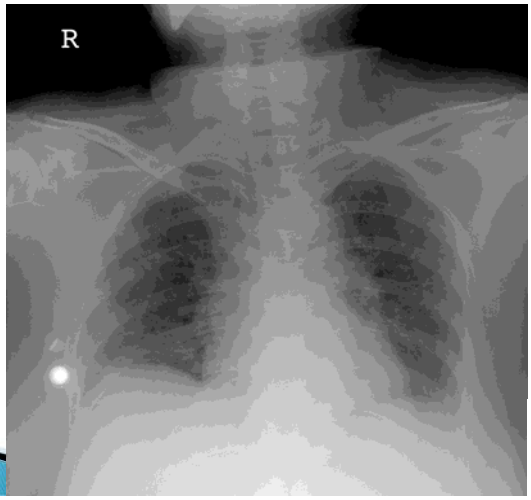
VBG (G6)

- PH=7.308
- PCO2=51.7 mmHg
- PO2=20 mmHg
- BE=0 mmol/L
- HCO3=25.9 mmol/L
- TCO2=27 mmol/L
- SO2=28 %
- NA=129 mmol/L
- K=4.5 mmol/L
- HCT=30 %PCV
- HB=10.2 g/dL

EKG



CXR



Lab

Hb	10.3	gm/dl
WBC	15.0	x1000/ul
Differential count		
Segmented Neutro.	79.0	%
Lymphocyte	9.0	%
Monocyte	6.0	%
Eosinophil	5.0	%
Basophil	0.0	%
Atypical lymphocyte	0.0	%
Band	1.0	%
Platelet	195	x1000/ul

PT	10.5	second
Normal control	10.2	second
INR	1.03	Ratio
APTT	34.4	second
Normal control	33.3	second
APTT ratio	1.03	

Glucose	106	mg/dL
BUN	91	mg/dL
Creatinine	10.6	mg/dL
eGFR	3.78	
Lipase	81	U/L

10:32

- Lipase 81
- 無大於120
- May due to CRI / ESRD

Dialysate analysis

Color	Colorless	
Appearance	Cloudy	
Sp.gr.	1.008	
Rivalta's test	Negative	
RBC	65	X10/9ul
WBC	130	X10/9ul
L:N	12%:88%	

Gram(+) Cocci	Not Found
Gram(+) Bacilli	Not Found
Gram(-) Cocci	Not Found
Gram(-) Bacilli	Not Found
Yeast	Not Found
Fungi	Not Found

12:40

- Still diffuse tenderness + rebound pain
- Dialysate WBC 130
  N : L = 88%:12%
  Gram's stain : no bacteria
- r/o secondary peritonitis
- Arrange non-contrast CT
- 因為病人仍有小便

Abdominal CT without contrast

13 : 49

- CT : RLQ localized infiltration with free air
  by radiologist 吳
- NPO
- D5S run 40 cc/hr
- Consult GS
  - Small bowel perforation is not likely but cannot be rule out
  - Suggest consult nephrologist for PD evaluation

Nephro's opinion

- Keep PD
- IV cefmetazole
- Consider IP antibiotics if symptom worsens

17:00

- HR 60, BP 90/49 mmHg

- Still abdominal pain
- Extremities warm
- Usually SBP 80+ ~ 120+
- Pain control with morphine

Night shift

- Radiologist 吳來電
  - Favor small bowel perforation by fish bone
- Consult GS
- Arrange OP

- P't to OR at 05:00 the next day

OP findings

- GS VS高
- Laparotomy
- Enterolysis, segmental resection + primary

1. Adhesion band and loop located at RLQ
2. Small bowel perforation by fishbone at antimesenteric side
3. Mesetery side inflammation and induration

Hospital course

- consult CVS for perm-cath and start hemodialysis
- PPN use
- Abx with Cefmetazole
- 5 on diet
- 9 MBD
  - Oral abx with Cero

Final diagnosis

1. Small bowel perforation by fishbone s/p enterolysis + segmental resection of small bowel
2. ESRD on PD
3. H/D since 1/30 via perm-cath
4. CAD
5. HTN
6. Depression

Discussion

PD Peritonitis

In PD patients

- Peritonitis may be PD-related or secondary (enteric)
- Intraabdominal pathology is < 6%

Clinical features

- Abdominal pain — 79 to 88 percent
- Fever (> 37.5ºC) — 29 to 53 percent
- Nausea or vomiting — 31 to 51 percent
- Cloudy effluent — 84 percent
- Hypotension — 18 percent

Dialysate analysis

- WBC > 100 cells/mm3
- Usually neutrophil predominance
- Lymphocyte predominate in fungal / mycobacteria infection
- APD : > 50 percent polymorphonuclear cells

- SBP
  - > 250 cells/mm3
- uninfected patients
  - < 8 cells/mm3

Peritoneal fluid amylase and lipase levels

- PD – related peritonitis
  - Normal level
- Secondary peritonitis
  - Some times elevated
- Amylase is a large molecule and diffuses very slowly

Peritoneal fluid cultures

- PD-related :
  - Most : Gram positive organisms, in particular coagulase negative *Staphylococcus* species
- Secondary :
  - Enteric organisms (such as Bacteroides)

Secondary peritonitis

- Patients with a bowel perforation causing secondary or enteric peritonitis may have stool in the dialysate
- May need CT scan
- Sugical consultation

When to consider CT

- Patient develops systemic symptoms
- Fungal peritonitis
- Fail to respond to initial therapy by day 3
- Relapse after therapy is completed

Discussion

Foreign Body Ingestion

Common FBs

- Fish and chicken bones
- Medication packaging
- Dentures
- Coins

Intervention

- > 80 % FBs may pass without intervention
- Intensional ingestion :
  - Endoscopic intervention in 76 % of patients
  - Surgical intervention in 16 % of patients

Complications

- Ulcer formation
- Lacerations
- Perforation
- Intestinal obstruction
- Aortoesophageal fistula formation
- Tracheoesophageal fistula formation
- Bacteremia

Perforation

- Oropharynx or proximal esophagus
  - Neck swelling, tenderness, erythema, or crepitus
- Mid or distal esophagus
  - Retrosternal chest and/or upper abdominal pain, tachypnea, dyspnea, cyanosis, fever, and shock

Perforation

- Stomach, small bowel, or colon
  - Signs of peritonitis :
    - Abdominal pain
    - Rebound
    - Guarding
    - Tachycardia
    - Hypotension
    - Fever

Diagnosis

- Plain film (CXR, KUB)
- Endoscope
- CT scan (hign sensitivity and specificity)

Who needs Emergent endoscopy?

- Complete esophageal obstruction (evidenced by an inability to handle oral secretions)
- Disk batteries in the esophagus
- Sharp-pointed objects in the esophagus