

Case Conference

2012/06/13
R3 徐英洲/連楚明主任

Patient Profile

- Age/Sex: 87 y/o Male
- Date : DAY1 09:37
- T/P/R: 36.5/66/15 BP:129/64 SpO2: 99%
- Triage II
- C.C.: 腹痛便秘

Chief Complaint

- Abdominal pain since last night

Present Illness

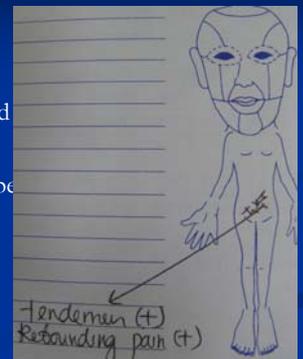
- 昨天半夜開始一陣一陣腹痛
- 想大便但解不出來
- Cramping , no radiation to back
- Periumbilical area
- No fever
- No vomiting / No diarrhea
- 最近3天沒有便秘，解便都很順

Past History

- Hypertension with medication control
- No DM , No CAD history
- Allergy : denied
- Abdominal operation history : denied

Physical examination

- Conscious: clear
- Neck: supple
- Chest: clear breathing sound
regular heart beat
- Abdomen: rebound tenderness (+)
- Extremities: warm, freely



Tentative Diagnosis

- Acute abdomen,
→ r/o pancreatitis
r/o appendicitis

Order

- 0940 NPO (8AM)
Hb、WBC/DC/PLT
PT/aPTT
Glucose/Crea/AST/Lipase
CXR/KUB
IV: D5S run 60 ml/hr

CXR



KUB



Laboratory Data

| Blood | DAY1 | Blood | DAY1 |
|--------------------------|------|---------------|------|
| WBC ($\times 10^3$ /ul) | 8.7 | Sugar (mg/dl) | 138 |
| Hb (g/dl) | 11.8 | GOT (IU) | 20 |
| Segment (%) | 85.5 | Crea (mg/dl) | 1.1 |
| Lymph (%) | 10.9 | Lipase (U/L) | 21 |
| Mono (%) | 3.5 | PT (sec) | 10.4 |
| Eosin (%) | 0 | PTc (sec) | 10.5 |
| Baso (%) | 0.1 | INR | 0.99 |
| Band (%) | 0 | aPTT (sec) | 27.1 |
| Plt ($\times 10^3$ /ul) | 179 | aPTTc (sec) | 32.8 |

ER course

- 1119
DRE → no stool
EVAC enema 1 bot st
- 1235
大便解不出來，肚子仍很痛
rebound tenderness (+)
→ Arrange abdominal CT with and without contrast

Abdominal CT

ER course

- 1418
B/C x II
primperan 1 Amp iv st
Cefmetazole 1 g iv st
on NG with decompression
Consult GS doctor

ER course

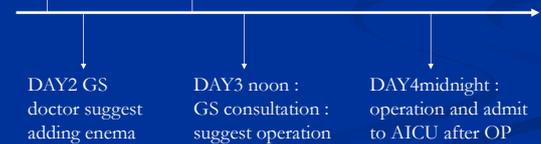
- GS consultation :
suspect ileus with internal herniation
suggest NG decompression 、 enema
observation of symptom → inform operation
possibility if persistent pain or still ileus
- 1936
轉EC床位

ER course

DAY1 night :
EC床
Primperan &
Cefmetazole

DAY3 morning : Stool
passage(+) faltus (-)
adbominal pain (-)
follow **KUB**
NG OB(+) → add PPI

| DAY2 | Blood |
|-------------|-------|
| Na (mEq/L) | 142 |
| K (mEq/L) | 3.3 |
| CRP (mg/dl) | 1.71 |

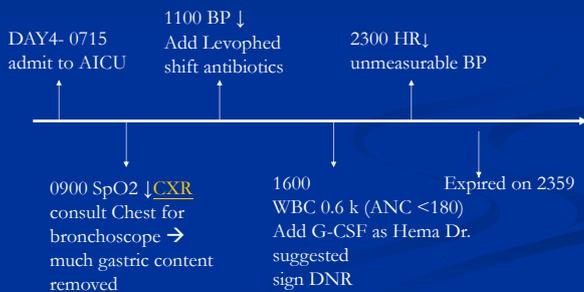


OP finding

1. Almost whole small bowel dilataion, preserved proximal 10 cm and distal 30 cm of small bowel
2. Much ascites (250-300 ml)
3. 2 transitional zone of small bowel
4. Ecchymosis of small bowel with impending ischemia
5. Ischemia patch scattered at most dilated small bowel, after discussion with family, preservation not to perform segmental resection to prevent short bowel syndrome and much complication

AICU course

※ DAY4 chart record : vomiting at OR before anesthesia and intubation

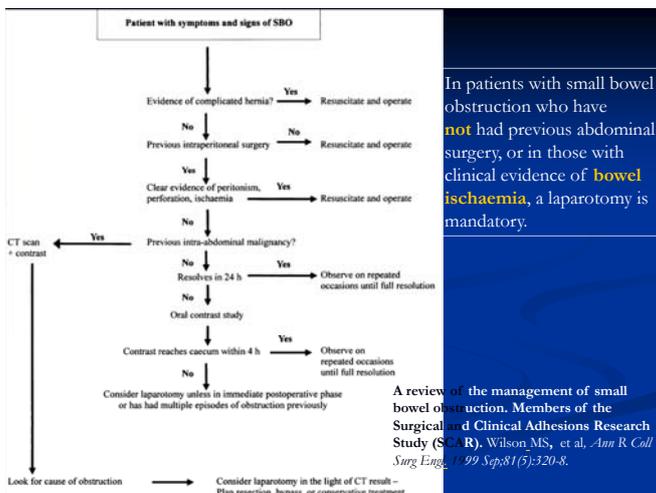


Final Diagnosis

- Adhesion ileus with internal herniation and bowel strangulation and impending ischemia s/p exploratory laparotomy & enterolysis and bowel decompression
- Aspiration pneumonia, bilateral
- hypertension

Non-operative Management

- NG and IV fluids
 - requires that **small bowel strangulation** be ruled out to the extent possible.
 - Mortality with gangrenous **strangulated obstruction** is substantially higher than for patients with simple mechanical obstruction relieved within 24 hours (4.5 to 31 versus approximately 1 percent)
- ~Critical operative management of small bowel obstruction. Stewardson RH et al, *Ann Surg*. 1978 Feb;187(2):189-93.



Non-operative Management

- In the **absence** of peritonitis, it is generally safe to proceed with nonoperative management
 - Improvement is seen in the vast majority (85–95%) **within 48 hours** of initiating nonoperative therapy
 - Prospective, randomized studies illuminating the optimal operative timing for small bowel obstruction **do not** exist.
- ~Small bowel obstruction: the eternal dilemma of when to intervene Sarraf-Yazdi S, et al, *Scand J Surg* 99: 78–80, 2010.

Small bowel strangulation

- **signs of strangulation** : increasing pain 、 distension
、 persistent high NG output ~UpToDate
- Exploratory laparotomy should be performed when unexplained disparities exist between equivocal CT findings and a **deteriorating clinical condition** in patients with possible small bowel obstruction or mesenteric infarction

~ Intestinal ischemia in patients in whom small bowel obstruction is suspected: evaluation of accuracy, limitations, and clinical implications of CT in diagnosis. Balthazar EJ, et al, *Radiology*, 1997 Nov;205(2):519-22.

Table 3 Sensitivity, Specificity, and Likelihood Ratios of Parameters Found in the Multivariate Analysis to be Significant Indicators of Bowel Strangulation

| Findings | Sensitivity | Specificity | Likelihood ratio |
|---|-------------|-------------|------------------|
| CT: reduced enhancement only | 56% | 94% | 9.3 |
| Guarding only | 39% | 86% | 2.8 |
| WBC >12 only | 45% | 74% | 1.7 |
| WBC >12 and CT: reduced enhancement | 20% | 100% | Infinite |
| WBC >12 and guarding | 18% | 97% | 6.0 |
| Guarding and CT: reduced enhancement | 16% | 100% | Infinite |
| WBC >12, guarding, and CT: reduced enhancement | 4% | 100% | Infinite |

Reduced wall enhancement on CT, peritoneal signs, and elevated WBC are the only variables independently predictive of bowel strangulation in patients with SBO.

~ Predicting strangulated small bowel obstruction: an old problem revisited. Janczewicz T, et al, *J Gastrointest Surg*, 2009 Jan;13(1):93-9. Epub 2008 Aug 7.

Small bowel strangulation

- **Repeat CT** scans may be helpful to detect early signs of bowel ischemia such as thickening of the small bowel wall and/or mesentery, air in the bowel wall, or ascitic fluid.
- There is little role for repeated plain abdominal films, given that such x-rays can only detect the **latest stage of obstruction** (ie, perforation with free air).

UpToDate

summary

- Initial management : volume resuscitation 、 correct metabolic abnormalities 、 assessment of need for operation
- Non-operative : usually successful in patients with partial small bowel obstruction
- Patients with suspected, impending, or ongoing strangulation require prompt operative intervention

Thanks for your attention !