

# Case Conference

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## 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

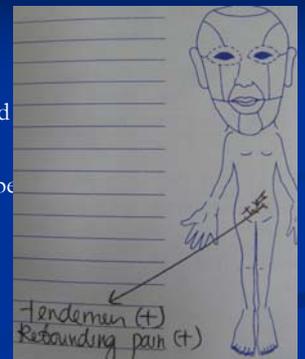
- 昨天半夜開始一陣一陣腹痛
- 想大便但解不出來
- Cramping , no radiation to back
- Periumbilical area
- No fever
- No vomiting / No diarrhea
- 最近3天沒有便秘，解便都很順

## 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

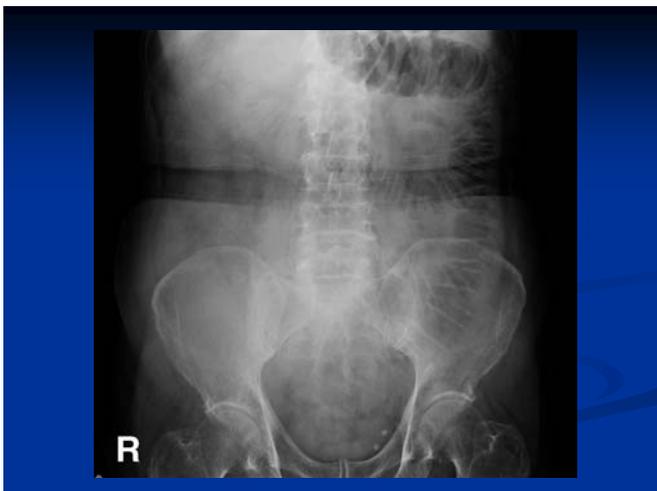
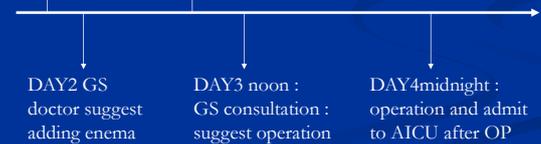
- GS consultation :  
suspect ileus with internal herniation  
suggest NG decompression 、 enema  
observation of symptom → inform operation  
possibility if persistent pain or still ileus
- 1936  
轉EC床位

## 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

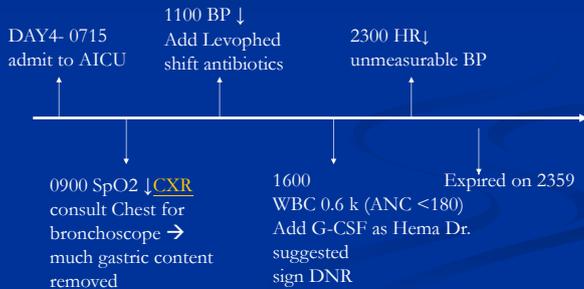


## OP finding

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

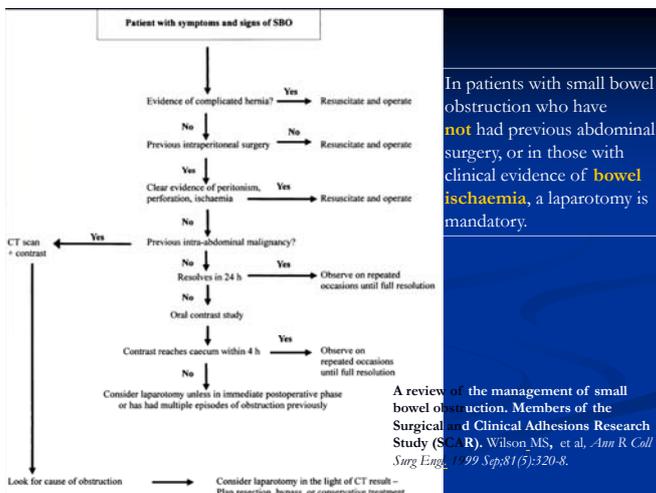


## Final Diagnosis

- 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 !*