Basic Data

- Name: 李xx
- Age: 40
- Gender: male
- Occupation: 公車司機
- Date of admission: 95/02/10
- Nativity: 本省

Chief Complaint

- Intermittent cramping abdominal pain attacked 10 days ago

Present Illness

- He was an alcoholism (100mL of 高粱 per day).
- Ten days ago(2/2), the patient had sudden onset of abdominal pain.
- The pain located at epigastric area and was intermittent and cramping in character.
- Each attack lasted about 20 minutes of duration and was not related to meal.
- No radiation pain, no aggravating or relieving factor, no nausea or vomiting, no diarrhea

Present Illness

- The pain worened and the interval between each attack shortened that he visited ER of 縣立板橋醫院.
- Anti-flatus agent was given at first but the symptom could not be relieved.
- Later, lab data showed **WBC :19800 with left shift, amylase : 421, lipase: 3685**
- Acute pancreatits was impressed and the patient was admitted for further treatment. NPO and IV fluid supply were given.

Present Illness

- During the hospitalization, passage of melena was noted.
- Panendoscope showed gastric ulcer. Abdominal sonography and abdomen CT were also done.
- Transferred to TMUH for further treatment. (2/10)
- Physical examination revealed positive Grey Turner's sign, diffuse abdominal tenderness.
- He denied having flank pain, sweating, chest tightness, radiation pain.

Past History

- Medical:

  HTN for 8+ years with poor medical control

- Surgical history：nil

Personal History

- Smoking: 1.5 PPD for 25 years
- Alcohol: 100 mL of 高粱 per day
- Food allergy: denied
- Drug allergy: denied
- Betel nut eating: (+)

Lab data (2/10)

WBC [4.0-11.0 x10.e3/uL]	18.99	GOT(血液) [0-40 IU/L]	69
RBC [4.2-6.1 x10.e6/uL]	3.29	GPT (血液) [0-40 IU/L]	52
HGB [12-18 g/dL]	9.7	Bilirubin D(血)[0.0-0.4 mg/dl]	1.4
HCT [37-52 %]	29.4	Bilirubin T(血)[0.2-1.2 mg/dl]	2.6
MCV [80-99 fL]	89.4	Uric acid(血液) [2.5-8.0 mg/dl]	2.3
MCH [26-34 pg]	29.5	**Chol(血液)[130-200 mg/dl]**	142
MCHC [33-37 g/dL]	33.0	**TG (血液) [<200 mg/dl]**	149
RDW [11.5-14.5 %]	13.1	ALK-P (血液) [40-129 IU/L]	155
PLT [130-400 x10.e3/uL]	580	r-GT (血液) [5-61 U/L]	133
%NEUT [40-74 %]	85.6	**Amylase (血液) [25-125 IU/L]**	**53**
%LYM [19-48 %]	6.7	**Lipase (血液)[7-58 U/L]**	**48**
%MONO [2.0-10.0 %]	7.0	CRP (血液)[0.0-0.8 mg/dl]	25.7
%EOS [0-7 %]	0.4	Albumin (血液)[3.5-5.3 g/dl]	2.0
%BASO [0-1.5 %]	0.3	Na (血液)[135-158 meq/L]	124.0
Glucose(血液)1 [70-110 mg/dl]	121	K (血液)[3.5-5.3 meq/L]	4.40
BUN (血液) [7-18 mg/dl]	8	**Ca** (血液)[8.4-10.2 mg/dl]	7.9
Creatinine(血)[0.5-1.3 mg/dl]	0.7	CEA/AFP (2/3)	0.93/2.28

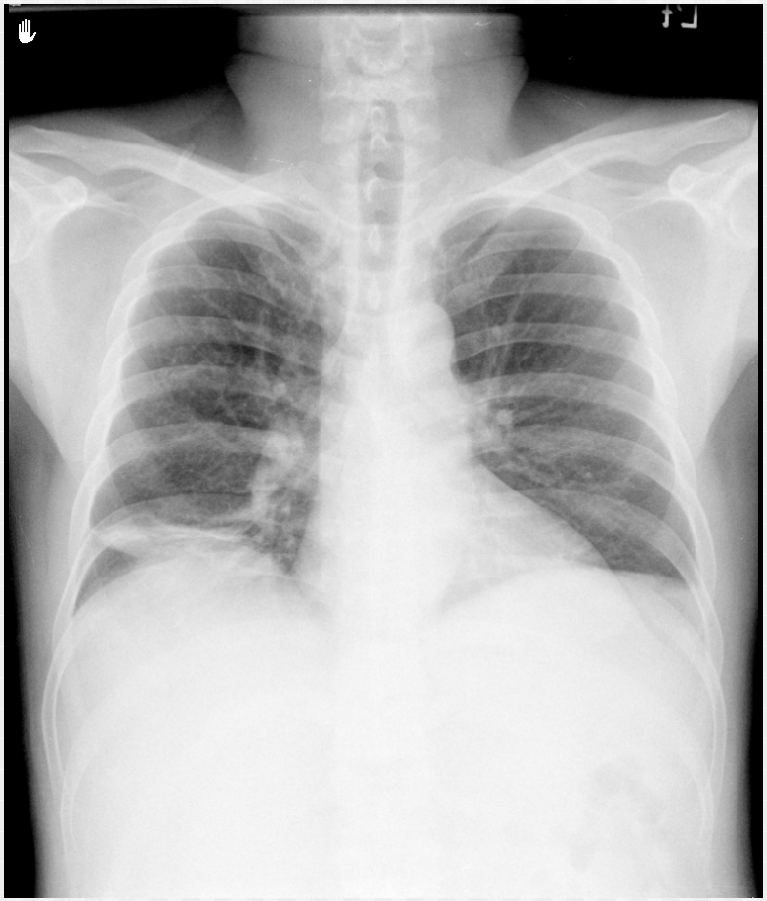
Lab data (2/12)

Sp.Gr(Ascitic)	1.03
Glucose (Ascites)	98
LDH (Ascites)	14072
Protein(T) (Ascites)	5.1
Amylase (Ascites)	**325**
Lipase	**1946**
RBC *10/9	11000
WBC *10/9	152
N:L	53:47
Rivalta	+

取様日期	950211
HBsAg results(0.0-2.0 S/N)	0.91
HBsAg (血液)	Negative
Anti-HCV results[0-1.0 S/CO]	0.33
Anti-HCV (血液)	Negative

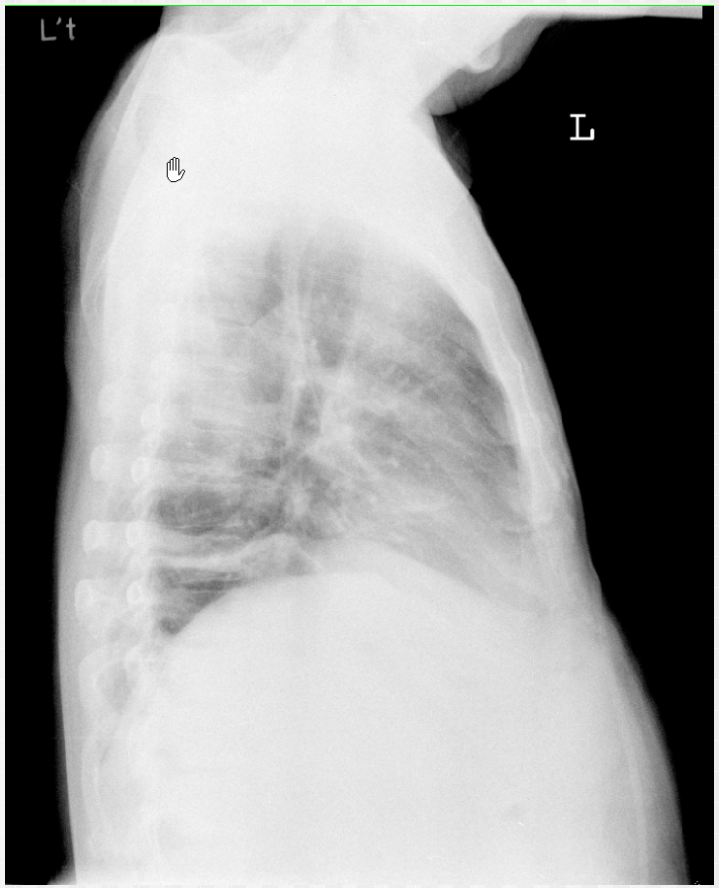
取様日期	950211	950211
Blood culture (第一套)		No Growth to date
Blood culture (第二套)	No Growth to date	

CXR (2/10)



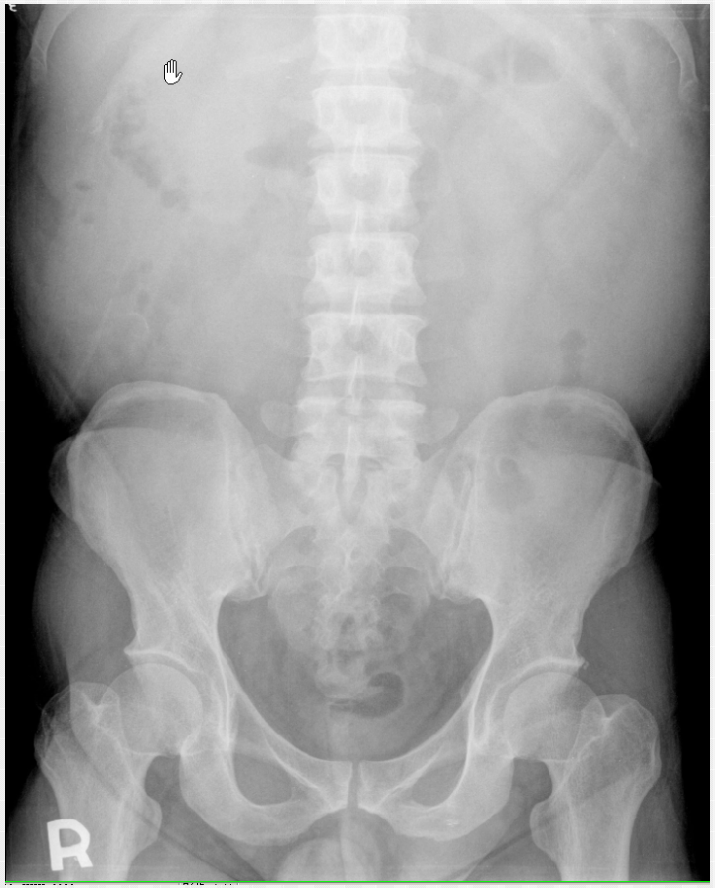
- Linear shadows and partial consolidation in right basal lung may represent plate atelectasis or inflammatory process.
- Normal cardiac shadow.
- Mild blunting of right costo-phrenic angle.

CXR(2/11)



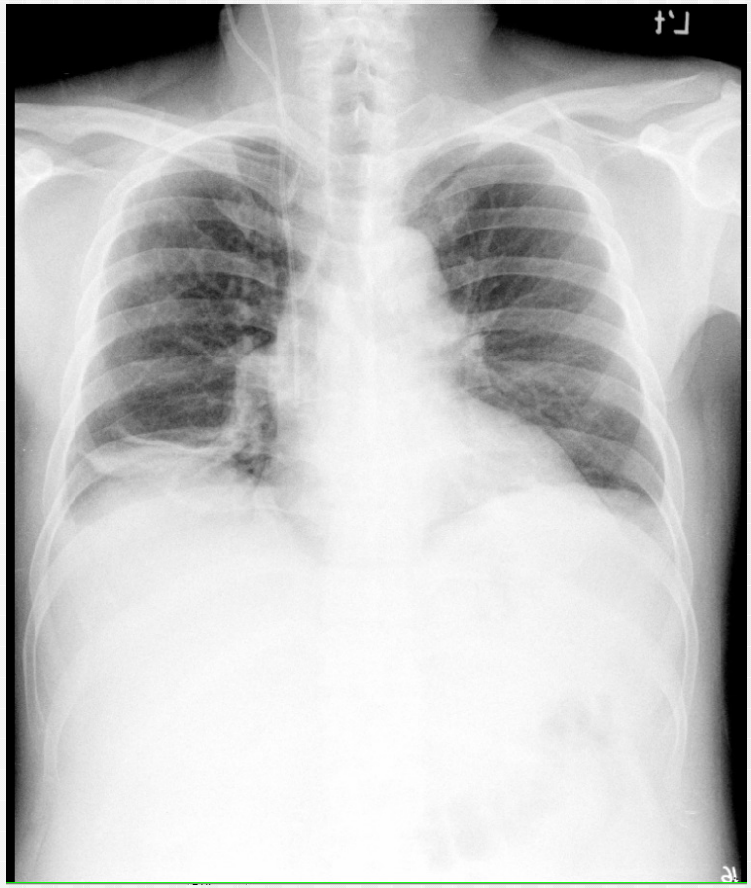
- Linear shadows and partial consolidation in right basal lung may represent plate atelectasis or inflammatory process.

KUB(2/10)



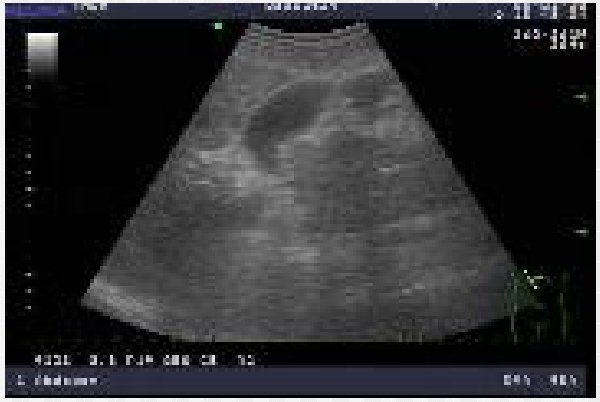
- Increased density over abdomen and mild obliteration of bil. psoas shadows.
- Non-specific bowel gas pattern.
- Spina bifida occulta at S1.

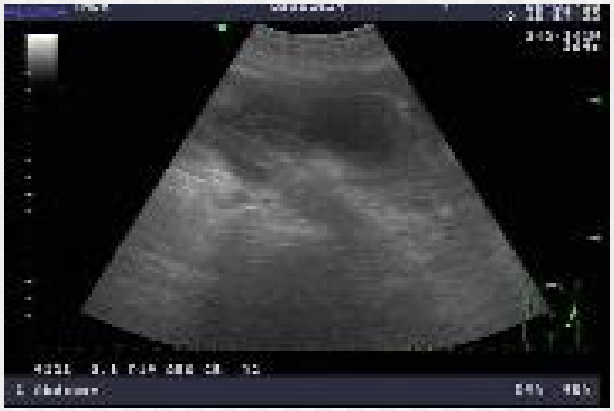
CXR(2/13)



- Linear shadows and partial consolidation in posterior aspect of right lower lung may represent plate atelectasis or inflammatory process.
- Normal cardiac shadow.
- Mild blunting of right costo-phrenic angle.
- CVP line insertion to the right jugular vein

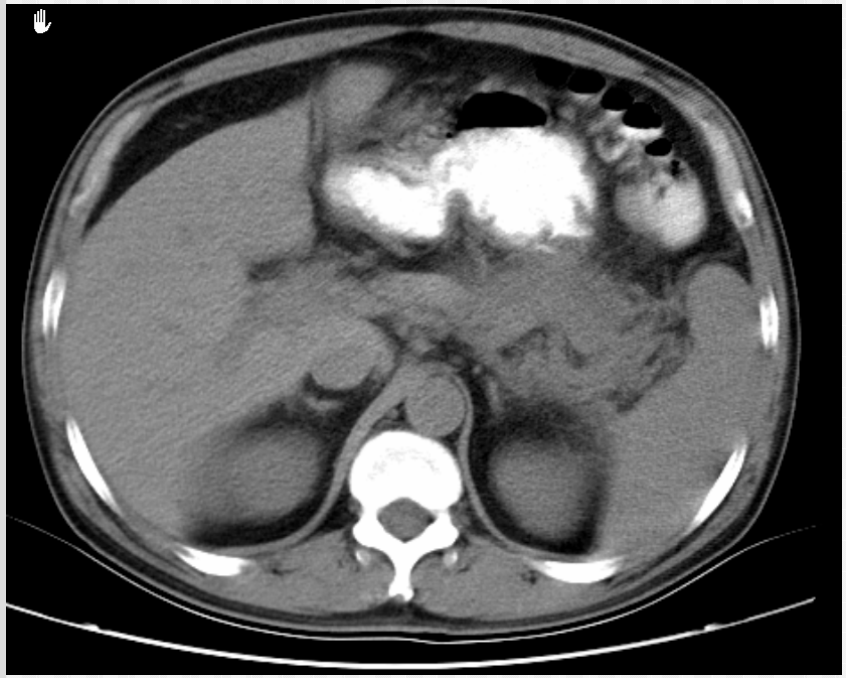
Abdominal sono(2/10)





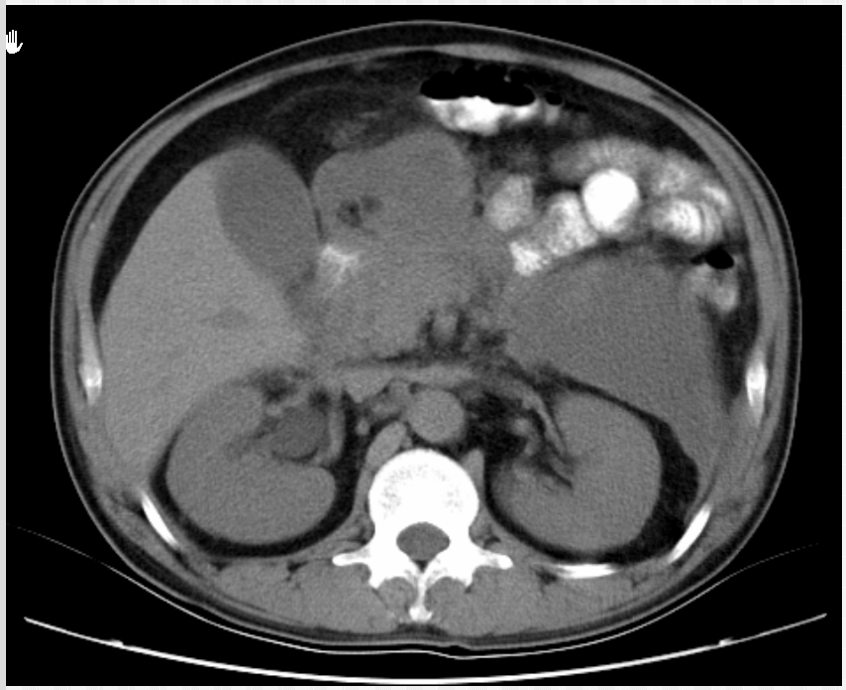
- Part of body and whole tail were obscured by bowel gas.
- Some fluid accumination with fibrin in peri-pancreatic space

Abdominal CT (3/6)



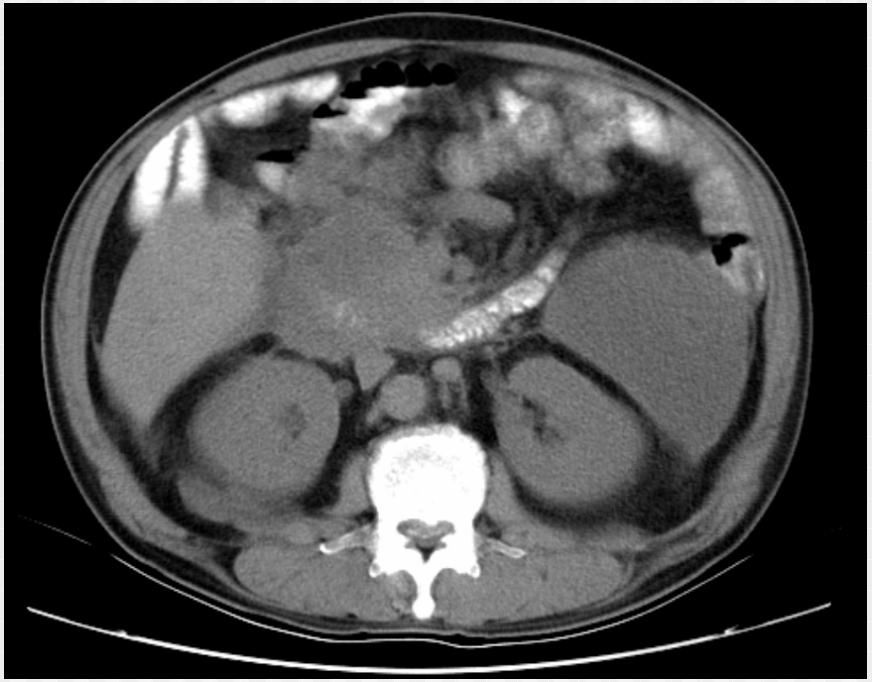
- ill-defined, edematous pancreas, surrounding acute fluid collection
- Peripancreatic inflammatrory change

Abdominal CT (3/6)

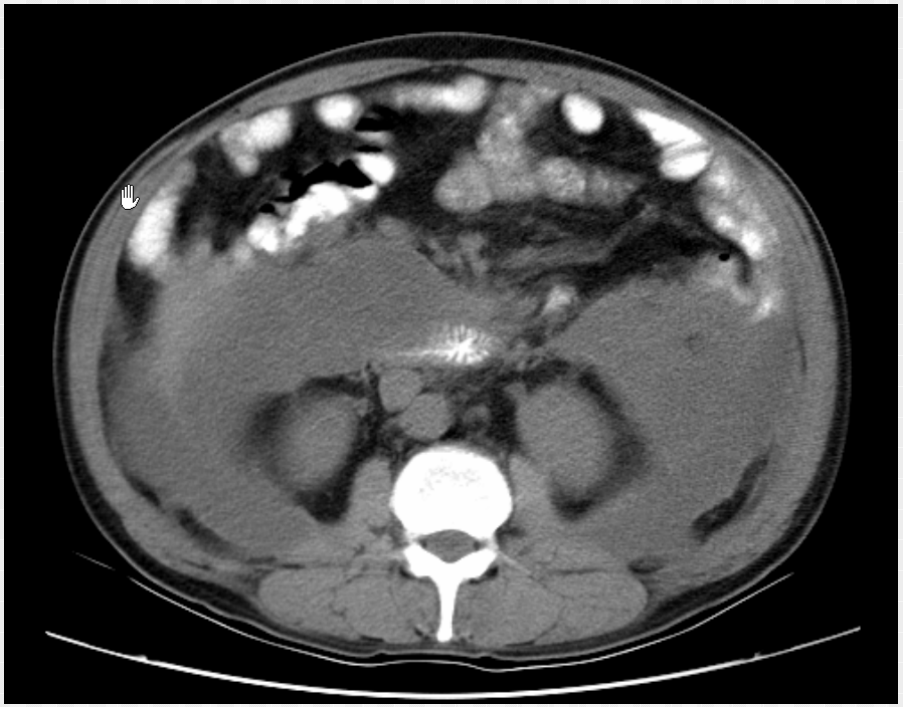


- Extensive exudative fluid collection within bil. anterior para-renal spaces with swelling of the pancreatic body and tail.

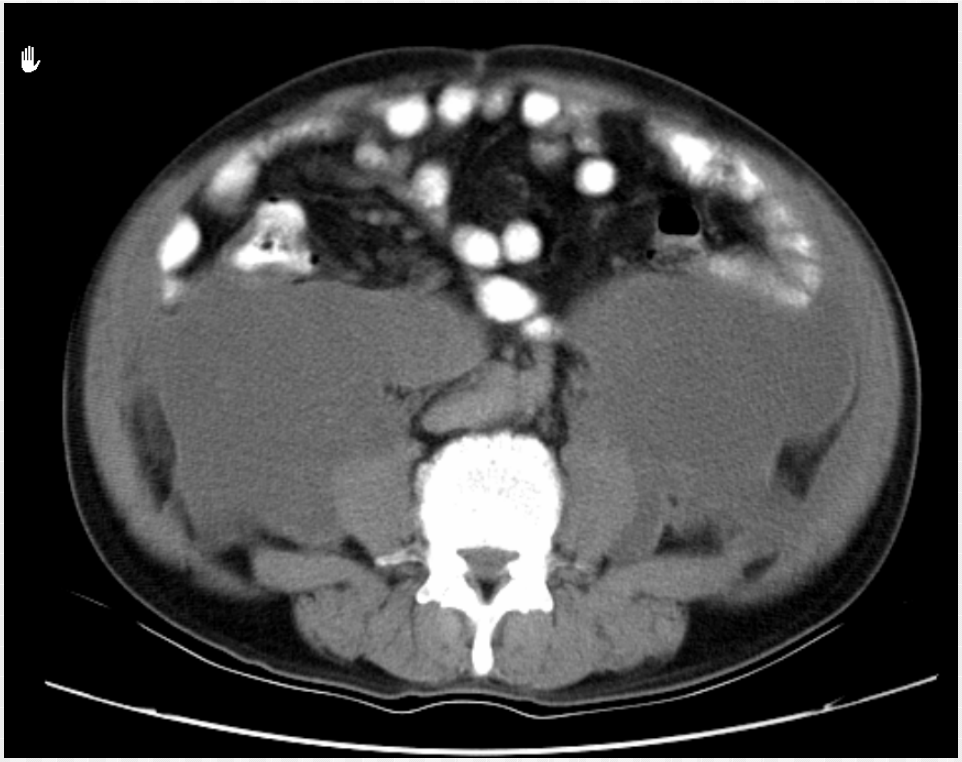
Abdominal CT (3/6)



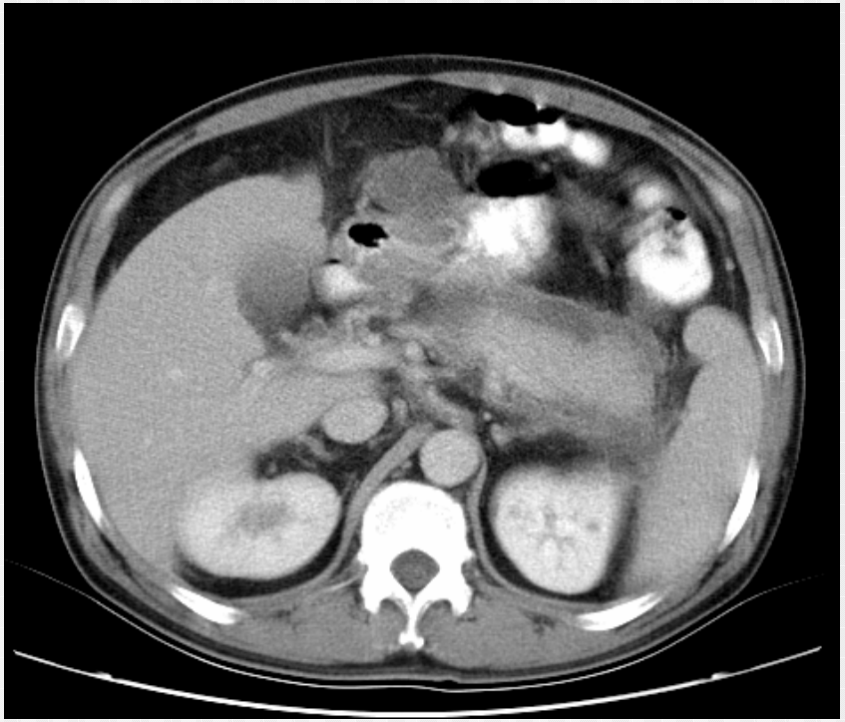
Abdominal CT (3/6)



Abdominal CT (3/6)

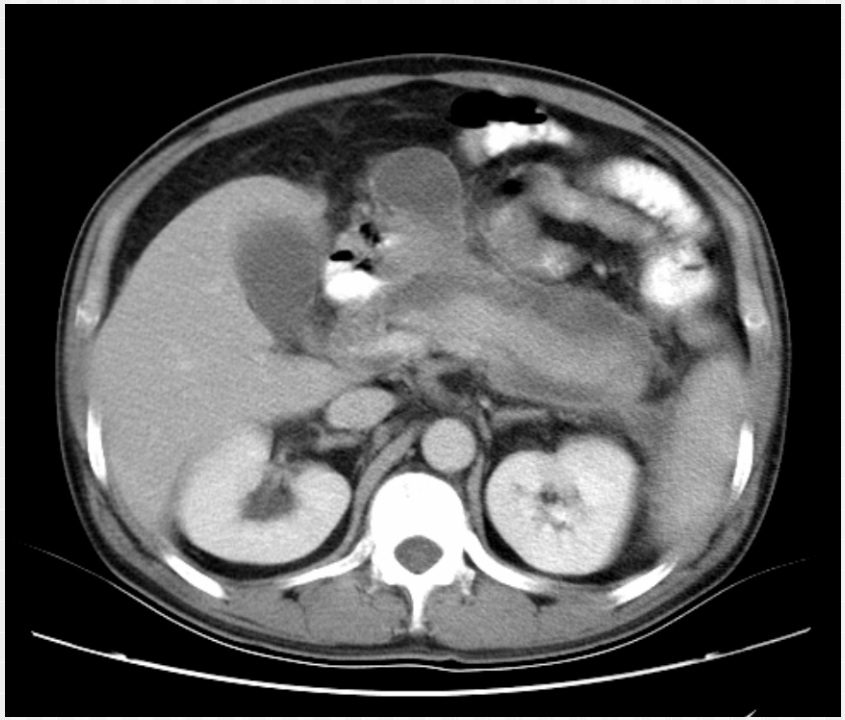


Abdominal CT (3/6)

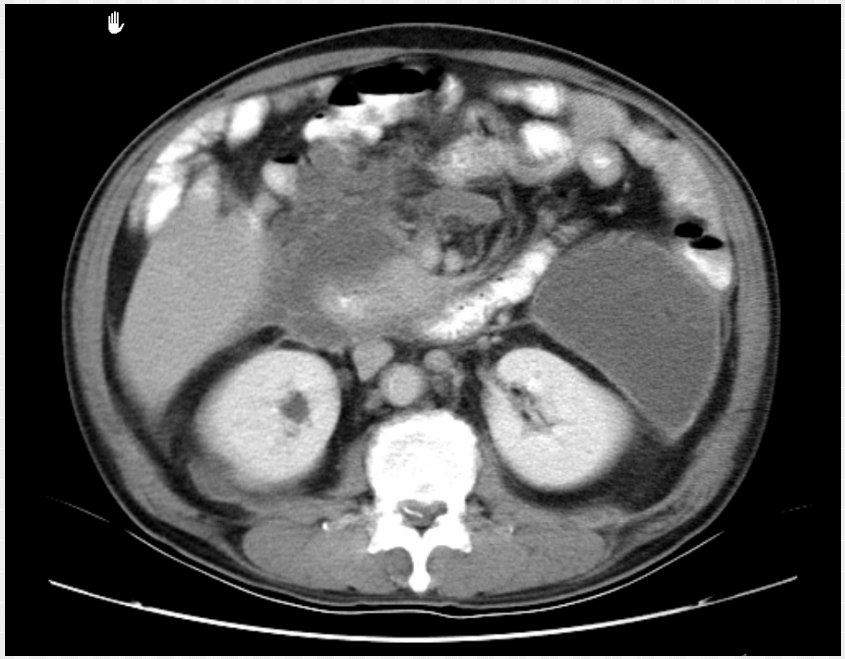


- The pancreas exhibits normal density on the precontrast images, whereas homogeneous enhancement on the post-enhancing images.

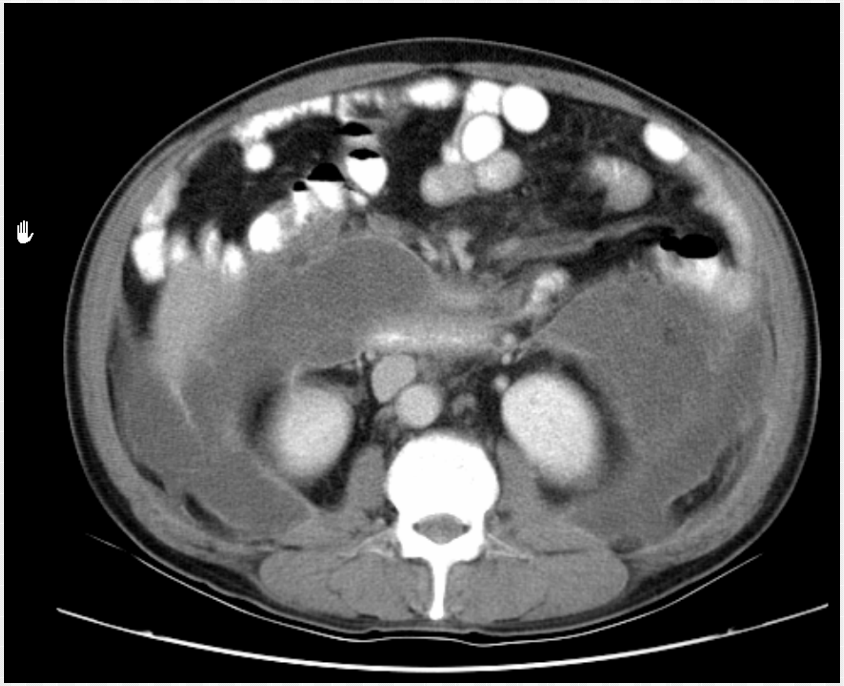
Abdominal CT (3/6)



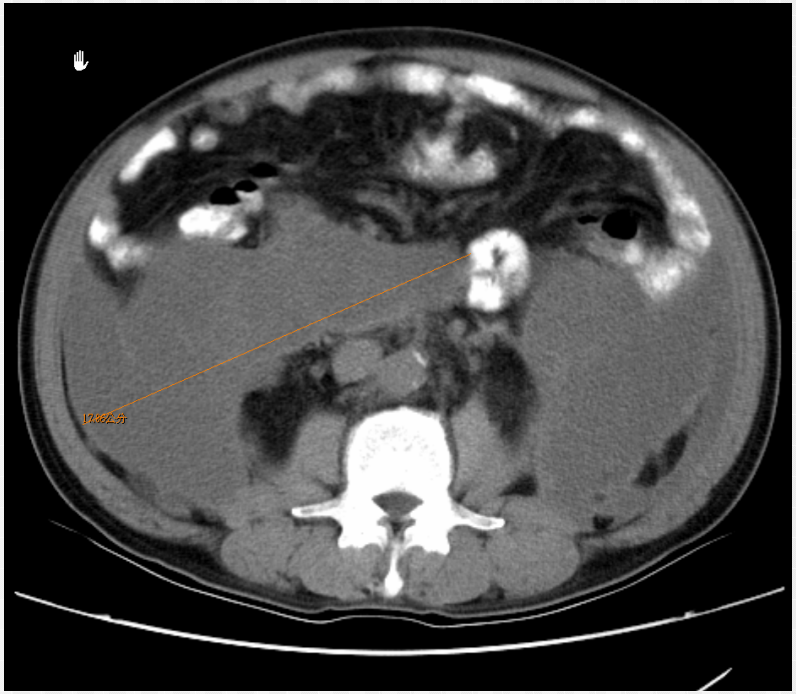
Abdominal CT (3/6)



Abdominal CT (3/6)

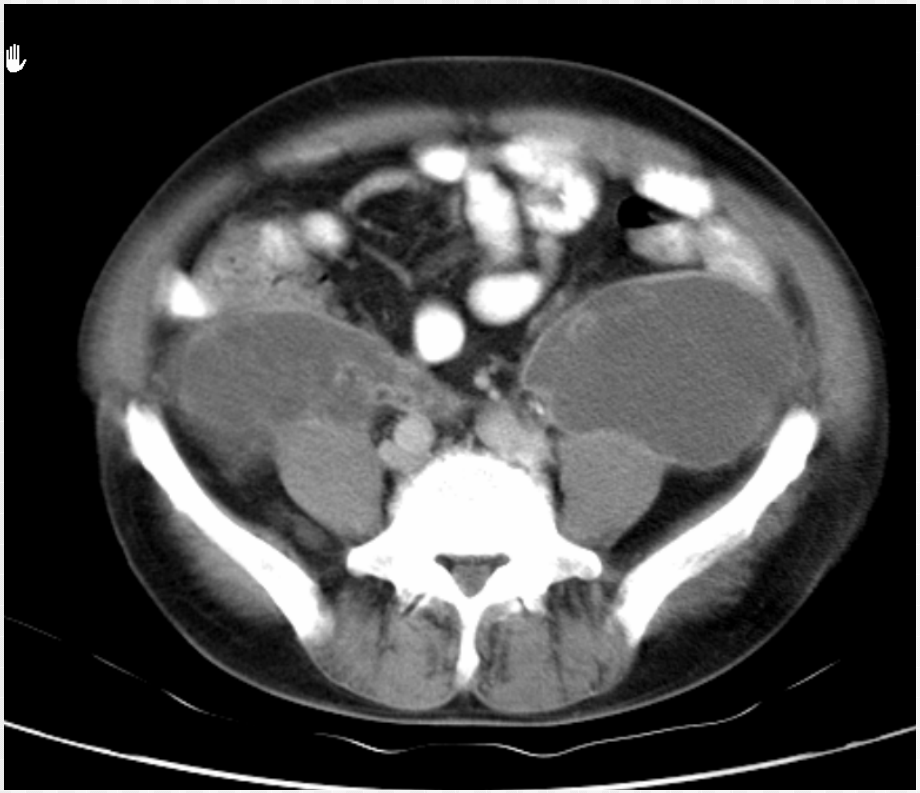


Abdominal CT (3/6)

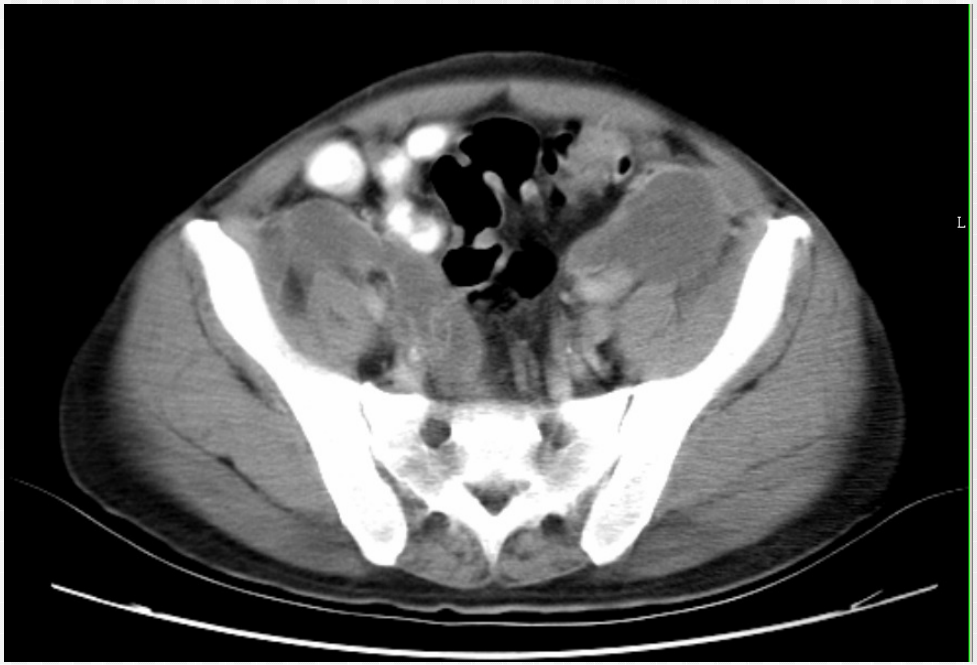


Diameter : 17.85cm > 6 cm

Abdominal CT (3/6)



Abdominal CT (3/6)



Impression

- Acute pancreatits with pseudocyst (Grade E, no necrosis)
- Serous cystadenoma
- Mucinous cystic neoplasms
- Intraductal papillary mucinous tumor
- Solid and papillary epithelial neoplasm

Pancreatic pseudocyst

- Localized amylase-rich fluid collections located within the pancreatic tissue or adjacent to the pancreas, surrounded by a fibrous wall that doses ***not*** possess an epithelial lining.
- CT findings : round or oval fluid collection with a thin, barely perceptible wall or thick wall that shows evidence of contrast enhancement.
- Complication of acute or chronic pancreatitis and secondary to pancreatic trauma or surgery

Serous cystadenoma

- Women (>60y/o) with nonspecific complaints
- Typical CT: multiple cysts (honeycombed appearance) varying in size from 0.2 to 2.0 cm, the size of the tumors ranges in greatest dimension from 1.4 to 27 cm
- A *central* stellate scar with *calcification*
- US: solid low echogenicity mass due to interfaces produced by the numerous cysts

Mucinous cystic neoplasms

- The most common cystic tumors of the pancreas
- Typical findings: multiple enhancing septations and solid intramural nodules
- *Peripheral calcification* is an important characteristic for mucinous cystic neoplasms (serous cystadenoma: *central calcification*)
- US: the cyst mass, including internal septa and tiny solid components

Intraductal papillary mucinous tumor

- Cystic dilatation of a main or a side branch duct that contains thick mucoid secreations
- Main duct type, branch duct type, combined type
- Typical location (uncinate process)
- Typical appearance (grapelike locular appearance)
- Typical feature (markedly dilated unicate branch filled with mucus)

Solid and papillary epithelial neoplasm

- Low malignant potential with a favorable prognosis
- Young women and Asian and black patients
- A variety of internal appearances, from purely cystic to completely solid, but is usually surrounded by a thick, well-defined rim
- The internal architecture typically depends on the degree of hemorrhage and necrosis of the tumor

Acute pancreatits

Clinical manifestations

- Epigastric abdominal pain, radiating to the back, constant, little change with position
- Nausea, vomiting, fever is common

Physcial examination

- Abdominal tenderness and guarding, bowel sounds ↓ (adynamic ileus), ± palpable abdominal mass, ± jaundice if biliary obstruction
- Signs of retroperitoneal hemorrhage (Cullen's , Grey Turner's) rare
- ± hypotension or shock

Laboratory

- **Amylase ↑ 3 × ULN (48~72hrs),** level ≠ severity

  - false ⊕: other abd. or salivary gland process, acidemia, renal failure, macroamylasemia (amylase binds to other proteins in serum, cannot be filtered out)

  - false ⊖: acute on chronic (e.g.alcoholic); hypertriglyceridemia (↓ amylase activity)

- **Lipase: may be more specific than amylase (7~14days)**
- ALT > 3 × ULN, gallstone pancreatitis
- Bili not helpful, other labs depending on severity: ↑ WBC, ↓ Hct, ↑ BUN, ↓ Ca, ↑ glucose

Imaging study

- **Abdominal CT**: exclude other abdominal processes, stage severity, and look for complicatons (necrosis may ***not*** be radiologically apparent for 48-72 hrs)

  (edematous pancreas and ill-defined, acute fluid collection surrounding the tail of the pancreas ,with peripancreatic inflammatory changes)

- **Abdominal ultrasound**: evaluation for gallstones, ascites, pseudocyst, pancreas often obscured by bowel gas, if seen → ***enlarged, hypoechoic***

Imaging study

- **<u>Abdominal plain films</u>** : “sentinel loop” or Ca 2^{o} to chronic pancreatitis

Treatment

- Supportive therapy :

  -**fluid resuscitation**: may need up to 10L/day if hemodynamically severe pancreatitis

  -**NPO**; NG suction if protacted vomiting; nutrition support & electrolyte repletion, consdier feeding by day 3 if non-severe with no pain and near normal amylase

  -**analgesia** with meperidine

- Antibiotics : **imipenem** in Pts with severe necrotizing pancreatitis (>30% necrosis by CT) may ↓ mortality
- **ERCP** : ↓ biliary sepsis in gallstone pancreatitis, no effect on local or systemic pancreatitis complications; only effective in those with **obstructive jaundice**

Complication

- Metabolic : hypocalcemia, hyperglycemia, hypertriglycemia
- **Acute fluid collection(30-50%):** seen early, low attenutation, no capsule, no Rx required
- **Pseudocyst(10-20%) :** fluid collection that persists for 4-6wks & becomes encapsulated suggested by persisent pain or persistent elevation of amylase or lipase, most resolve spont.; **if >6cm or persists >6wks + pain→** ***internal/precutan. Drianage***

Prognosis

- Severe pancreatitis = organ failure or local complications (necrosis, abscess, pseudocyst) or $\geqq$3 Ranson's criteria

Ranson's criteria	
At diagnosis	At 48 hours
Age>55	Hct $\downarrow$ >10%
WBC >16000/mm^3	BUN $\uparrow$ >5 mg/dl
Glucose >200 mg/dl	Base deficit >4 mEq/L
AST >250 U/L	Ca <8 mEq/L
LDH >350 U/L	PaO_2 <60 mmHg
	Fluid sequestration >6L

Prognosis

Of criteria	Mortality
$\leqq 2$	<5%
3-4	15-20%
5-6	40%
$\geqq 7$	>99%

CT grade

CT grade	Description
A	Normal pancreas consistent with mild pancreatitis
B	Focal or diffuse enlargement of the gland, including contour irregularities and inhomogenous attenuation but without peripancreatic inflammation
C	Grade B + peripancreatic fluid collections
D	Grade C + associated single fluid collection
E	Grade C + ≧2 peripancreatic fluid collections or gas in the pancreas or retroperitoneum