Identification

- Name:江X理
- Chart Num:0233405-7
- Birthday:1966.08.14.
- Age:37
- Sex:female
- Marital status:married
- Occupation:商
- Date of admission:
- 2003.2.11.
- Date of discharge:
- 2003.3.24.

Chief Complain

- Postprandial fullness for half a month

Present Illness

- This 37-yrs-old lady has felt postprandial fullness for half a month. She also found that there seems to be a palpable mass over epigastric area.

Present Illness

- She didn’t pay much attention to it and she didn’t go to see a doctor.
- As time went by, the mass became bigger and bigger progressively. The postprandial fullness sensation became more and more obvious, too.
- Besides, pain on touch over LUQ after meal made her have anorexia in recent days.
- Abdomen. sonography on 2003.2.11. found a mass, so she was admitted.

Past History

- nil

Family History

- nil

Physical Examination

- Vital signs:BP:130/86 mmHg
- BT:37.1C PR:74/min RR:16/min
- Abdomen:liver size 11cm over RMCL
- a palpable mass over epigastric area
- about 7x5 cm, uneven surface,
- non-tender, movable(?),
- non-pulsation

Lab Data

- CA199:1.47
- CEA:2.48
- CBC:WNL
- GOT:336
- GPT:249

Abdominal Sonography

- 2003.2.11.
- Retroperitoneal (tumor) mass


233405
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11/02/03 10:49:10
TMUH
P90 3MHz C358
B11
GE
CN0
18cm
DR72
G 56
+ 56.5mm x 42.2mm
MI=0.6


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11/02/03 10:58:07
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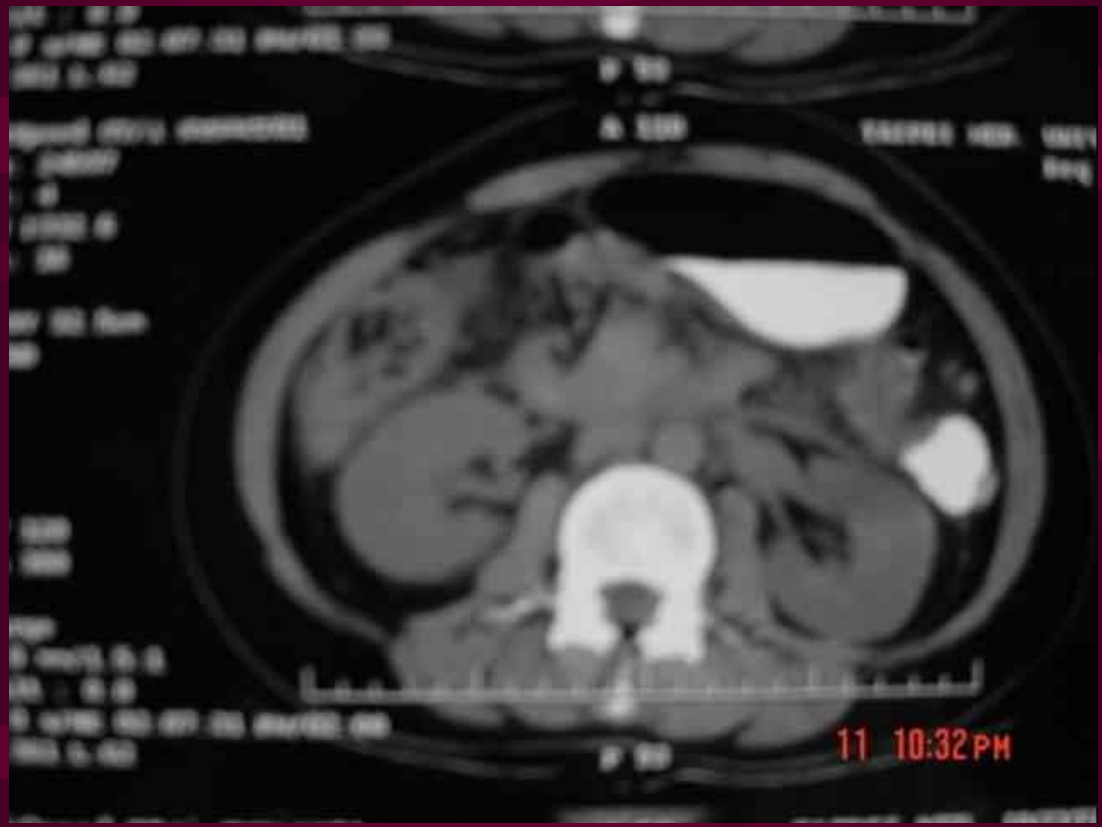
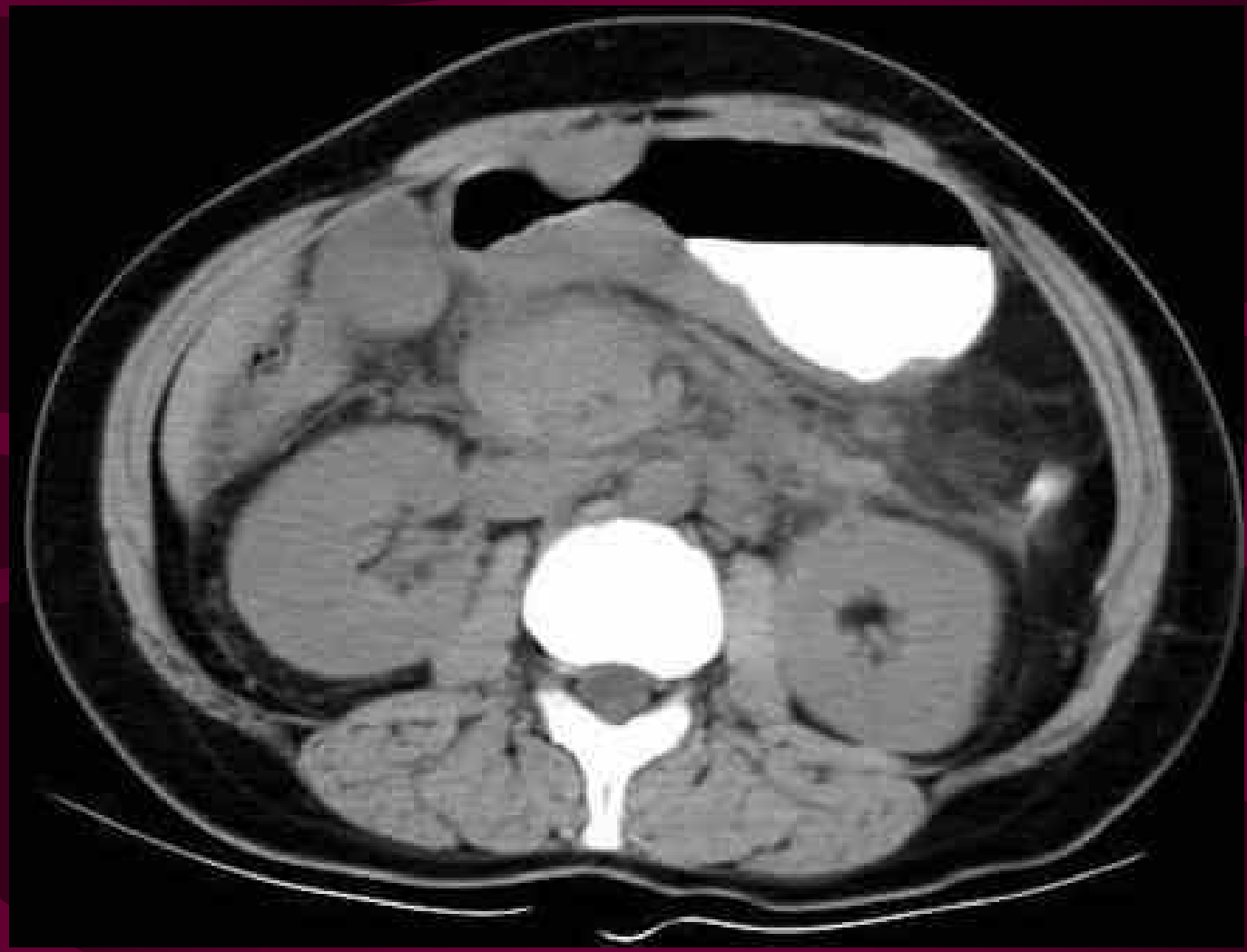
P90 3MHz C358
B11
GE
CBD
PV
M
CN0
18cm
DR72
G 56
MI=0.6

- Liver: Homogenous echogenicity of parenchyma No space-occupying lesion Portal vein: Patent Biliary system: 1. Gall bladder: Negative 2. IHD: dilated bilateral IHDs 3. CBD: 6 mm in diameter Pancreas: There was a 4 x 6 cm hypoechoic tumor at the position of pancreatic head, and SMA was encased by this tumor. Besides, diffuse hypoechoic change and enlargement of panceratic body and tail were also noted. Spleen: Negative
- Comment: Thicken gastric wall was noted. Minmial amount of ascites was found at splenic fossa.
- IMP: Retroperitoneal tumor R/O Carcinoma, Pancreas [175] R/O lymphoma Thicken gastric wall
- Advice: Nil Reported by : 栗發滿 醫師

Computer Tomography

- 2003.2.12.



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Feb 12 03
512
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L
151
kV 120
mA 260
Large
5.0 mm/1.5:1
Tilt : 0.0
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W:346 L:59
P 146
11 10:34 PM


Se: 5
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JIANG MAY-LI
37 F 233405
DFOV 33.4cm
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kV 120
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5.0 mm/1.5:1
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P 146
11 10:34 PM


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37 F 233405
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STND
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512
NF:1.1
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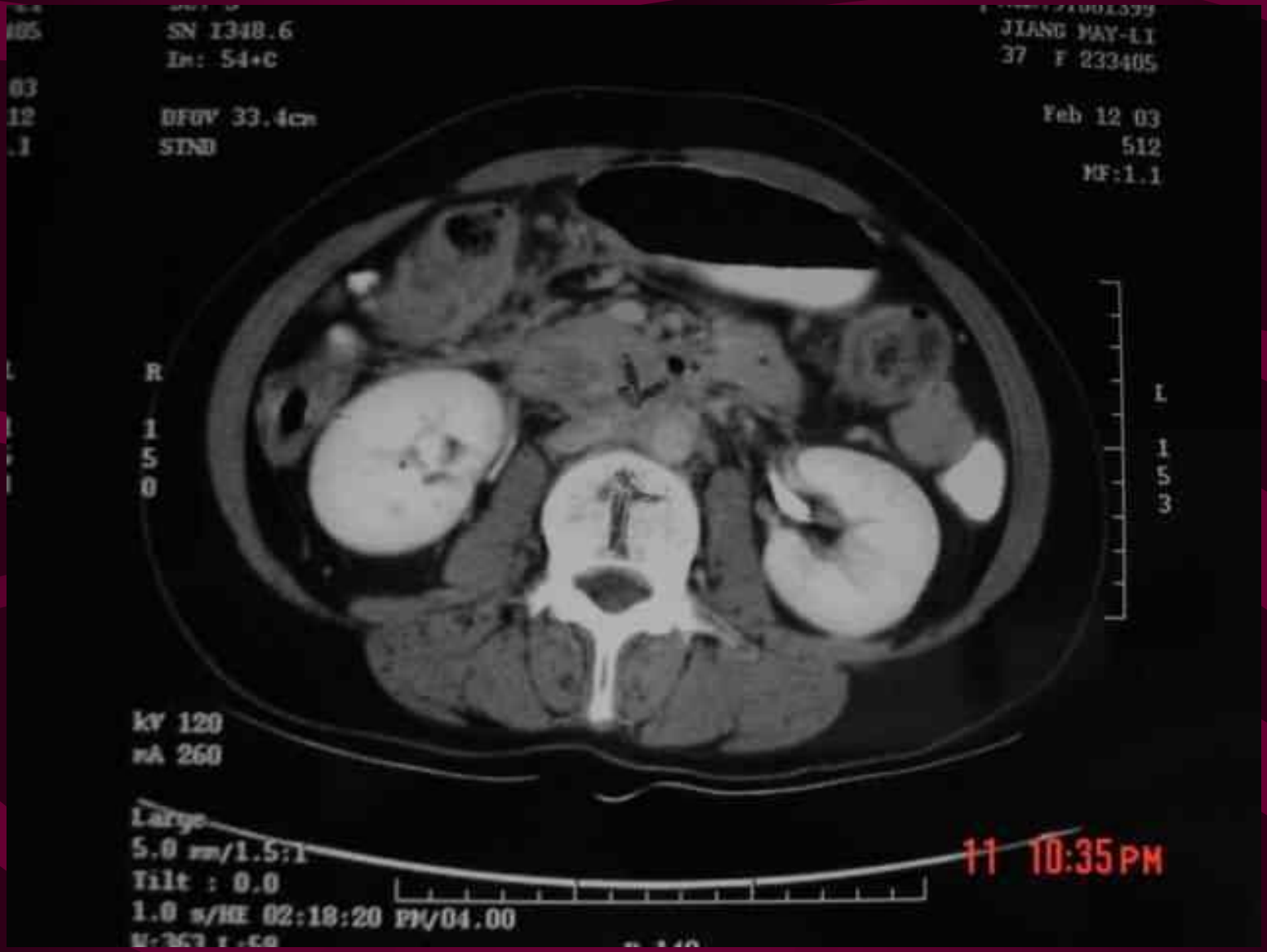
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kV 120
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37 F 233405
Feb 12 03
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kV 120
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Tilt : 0.0
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- Pre-and post-contrast abdomen and pelvis CT study is performed.

- 1. there is diffusely swelling of entire pancreas, especially at its head portion.
- The pancreatic head exhibits heterogeneous enhancement.
- 2. there are abnormal inflammatory infiltrations involving the peri-pancreatic fatty planes, lesser and bil. anterior pararenal spaces and also downward extension to mesentery of anterior lower abdomen.
- somewhat thickened Gerota fascia and lateroconal fascia on both sides are also noted.
- some fatty infiltrations surrounding the SMV and SMA are seen.
- Pancreatitis with phelgmonous infiltrations are considered.

- 3. dilatation of pancreatic duct is also seen.
- 4. mild dilatation of common bile duct, common hepatic duct and bil. intrahepatic biliary trees are noted.
- the transverse diameter of CBD is about 8mm.
- the transverse diameter of intrahepatic biliary trees is about 2 to 3 mm.
- Enhanced CBD walls are also noted.
- Cholangitis is considered.
- 5. there are no definite abnormal high-attenuated stones in the biliary trees.
- 6. uniform thickened gall-bladder walls are noted.
- Cholecystitis is considered.
- 7. no definite abnormal enhanced, space-occupying lesions within the liver, spleen, and both kidneys.
- 8. no definite abnormal para-aortic lymph nodes.
- 9. some fluid collections in the cul-de-sac.

- IMP: 1. Pancreatitis with phelgmonous infiltrations are considered.
- 2. dilatation of pancreatic duct, common bile duct, common hepatic duct and bil. intrahepatic biliary trees are noted.
- Enhanced CBD walls are also noted.
- Cholangitis is considered.
- 3. Lymphoma (at least stage II) with stomach, mesenteric lymph node and paraaortic lymph node involvement should be considered.

UGI series

- 2003.2.13.


UPPER GI SERIES
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13-FEB-03
TMUH
L = 127
11
SP= 08
DR. YANG


JIANG MAY-LI 37Y/F
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MS= 00
09:09:14
13-FEB-03
TMUH
DR. YANG


JIANG MAY-LI 37Y/F
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13-FEB-03
TMUH
W = 276
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JIANG MAY-LI 37Y/F
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233405
UPPER GI SERIES
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13-FEB-03
TMUH
11 10:40PM
DR. YANG
UPPER GI SERIES


UPPER GI SERIES
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13-FEB-03
TMUH
JIANG MAY-LI 37Y/F
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10:40PM


JIANG MAY-LI 37Y/F
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18-FEB-03
10:41PM
DR. YANG
UPPER GI SERIES

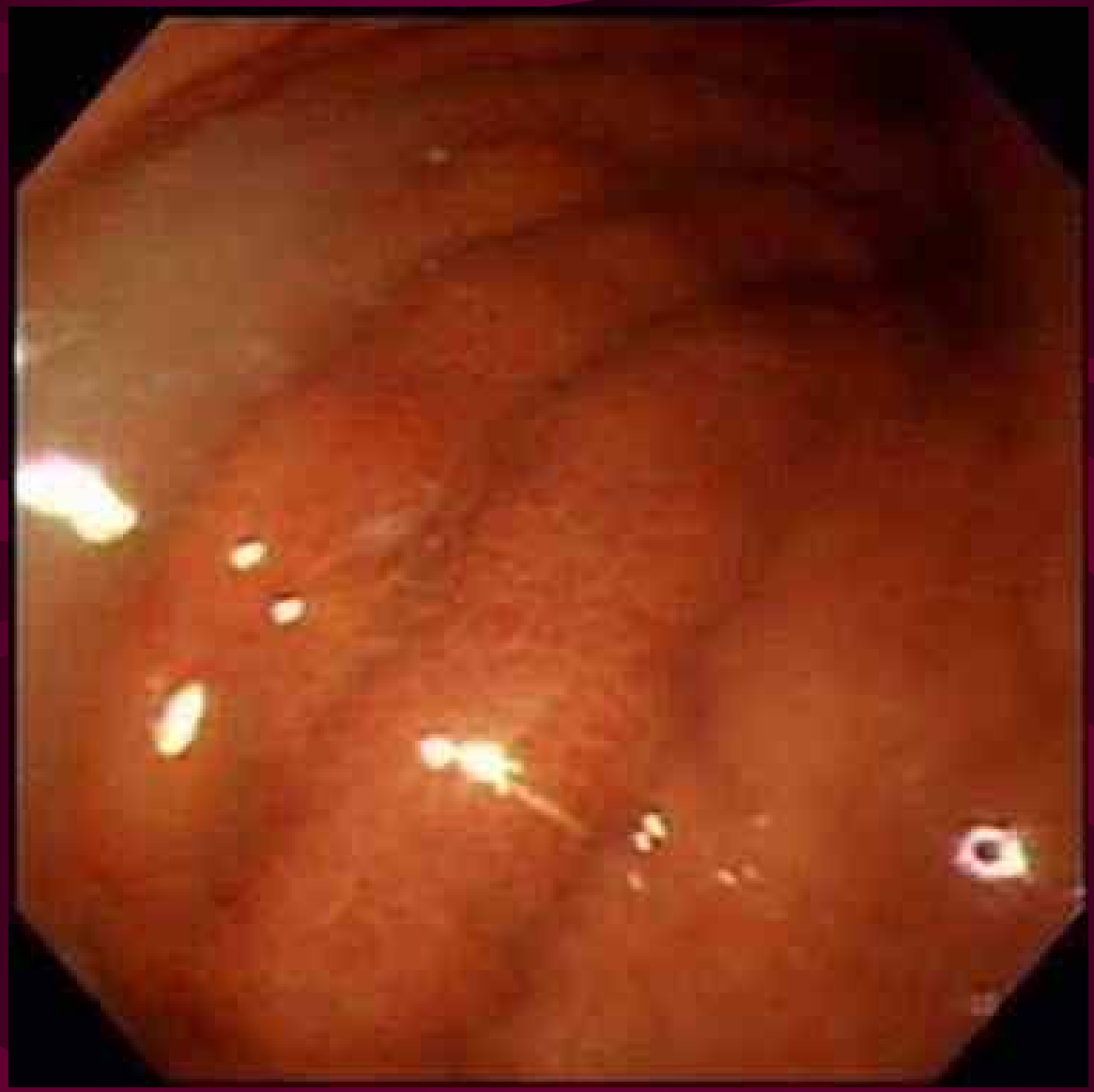
- Upper GI series.

- There is an ulcerative tumor mass at gastric body and antrum, mainly along the lesser curvature site, gastric CA or gastric lymphoma should be considered; suggest correlate with endoscopy findings.
- The duodenal bulb is intact.
- Edematous change of the second portion of the duodenum is also noted.

- IMP: Gastric tumor at body and antrum, R/O gastric CA, R/O lymphoma. Suggest correlate with endoscopy findings.
-
- 讀片醫師: 李志明

Gastroscopy

- 2003.2.13.



- Esophagus:
- Negative
-
- Stomach:
-
- Thicken gastic folds were noted along the GCS of fundus and body.
- There was a giant ulceration with irregular, nodular margin at
- angle, biopsies were taken from ulcer x 6# (1) and form giant folds
- of body x4# (2). Distensibility of stomach was preserved.
- Duodenum:
- Negative to second portion

- Comment: Nil

- Endoscopic diagnosis:
- Lymphoma, Stomach [087]
-
- Biopsies were taken for CLO test. CLO test :(+)
-
- Advice:Nil

- Technician: 劉玉仙 Reported by： 栗發滿 醫師

Endoscopy biopsy

- The specimen is submitted in two bottles labeled as 1). angle, and 2). body,
- respectively, fixed in formalin. The bottle 1). contains six tissue fragments,
- measuring up to 0.4 x 0.2 x 0.2 cm. in size. Grossly, they are tan and elastic.
- The bottle 2). contains four tissue fragments, measuring up to 0.5 x 0.2 x 0.2 cm.
- in size. Grossly, they are tan and elastic. All for section and labeled as :
- A : angle B : body Microscopically, section A shows a picture of
- poorly-differentiated adenocarcinoma with nests and cords of carcinoma cells
- infiltrating in the gastric mucosa. The carcinoma cells have pleomorphic and
- hyperchromatic nuclei. Abundant signet-ring cells with eccentrically located
- nuclei are seen. Section B shows a picture of chronic inflammation with mild
- lymphoplasma cell infiltration.

Differential Diagnosis

- 1.Gastric tumor
- 2.Pancreatic head tumor

Gastric carcinoma

- 3rd most common GI malignancy after colorectal + pancreatic cancer, 6th leading cause of cancer deaths

- Morphology
- 1.polypoid/fungating carcinoma
- 2.ulcerating/penetrating carcinoma(70%)
- 3.inifiltrating/scirrhous carcinoma(5-15%) =linitis plastica
- Histo:frequently signet ring cell type + increase in fibrous tissue
- Location:antrum, fundus+body(38%)
- firmness, rigidity, reduced capacity of stomach, aperistalsis in involved area
- granular/polypoid folds with encircling growth

- 4.Superficial spreading carcinoma=confined to mucosa/submucosa; 5-year survival of 90%
- patch of nodularity
- little loss of elasticity
- 5.Advanced carcinoma

- Advanced gastric cancer (T2 lesion and higher)
- UGI:rigidity
- filling defect
- amputation of folds ± ulceration ± stenosis

- CT:irregular nodular luminal surface
- asymmetric thickening of folds
- mass of uniform density/varying attenuation
- wall thickness>6 mm with gas distention + 13 mm with positive contraust material distention
- increased density in perigastric fat
- enhancement exclusively in linitis plastica type
- nodules of serosal surface (=dilated surface lymphatics)
- Diameter of esophagus at gastroesophageal junction larger than adjacent aorta (DDx: hiatal hernia)
- Lymphadenopathy below level of renal pedicle (3%)

- Metastases:
- 1.along peritoneal ligaments
- (a)gastrocolic lig.:transverse colon, pancreas
- (b)gastrohepatic + hepatoduodenal lig.: liver
- 2.local lymph nodes
- 3.hematogenous:liver (most common), adrenals, ovaries, bone(1.8%), lymphangitic carcinomatosis of lung(rare)
- 4.peritoneal seeding:rectal wall = Blumer shelf
- 5.left supraclavicular lymph node=Virchow node

Pancreatic ductal adenocarcinoma

- =duct cell adenocarcinoma
- Incidence: 80-95% of nonendocrine pancreatic neoplasms, 4th leading cause of cancer death in the United States
- Location: pancreatic head (56-62%); body (26%); tail (12%)
- Size: 2-10 cm (in 60% between 4-6 cm)

- UGI:
- “antral padding” = extrinsic indentation of the posteroinferior margin of antrum
- “Frostberg 3” sign=inverted 3 contour to the medial portion of the duodenal sweep
- Spiculated duodenal wall + traction + fixation (neoplastic infiltration of duodenal mucosa/desmoplastic response)
- Irregular/smooth nodular mass with ampullary carcinoma

- BE:
- Localized haustral padding / flattening / narrowing with serrated contour at inferior aspect of transverse colon / splenic flexure
- Diffuse tethering throughtout peritoneal cavity (intraperitoneal seeding)

- CT (99% detection rate for dynamic CT scan; 100% in predicting unresectability):
- Pancreatic mass(95%) / diffuse enlargement (4%) / normal scan (1%)
- Mass with central zone of diminished attenuation (75-83%)
- Pancreatic + bile duct obstruction without detectable mass (4%)
- Duct dilatation (58%): ¾ biductal, 1/10 isolated to one duct; dilated pancreatic duct (67%); dilated bile ducts (38%)

- Atrophy of pancreatic body +tail (20%)
- Calcifications (2%)
- Postobstructive pseudocyst (11%)
- Obliteration of retropancreatic fat (50%)
- Thickening of celiac axis / SMA (invasion of perivascular lymphatics) in 60%
- Dilated collateral veins (12%)
- Thickening of Gerota fascia (5%)
- Local tumor extension posteriorly, into splenic hilum, into porta hepatis (68%)
- Contiguous organ invasion (duodenum, stomach, mesenteric root) in 42%

- US:
- Hypoechoic pancreatic mass
- Focal / diffuse (10%) enlargement of pancreas
- Contour deformity of gland; rounding of uncinate process
- Dilatation of pancreatic ± biliary duct

- MR:
- Hypointense lesion on fat-suppressed T1W1
- Diminished enhancement on dynamic contrast images

- Angiography(70% accuracy):
- Hypovascular tumor / neovascularity (50%)
- Arterial encasement: SMA(33%), splenic artery(14%), celiac trunk(11%), hepatic artery(11%), gastroduodenal artery(3%), left renal artery(0.6%)
- Venous obstruction: splenic avein(34%), SMV(10%)
- Venous encasement: SMV(23%), splenic vein (15%), portal vein(4%)

- Cholangiography:
- “rat tail/nipple like” occlusion of CBD
- Nodular mass/meniscus like occlusion in ampullary tumors

- Pancreatography (abnormal in 97%):
- Irregular, nodular, rat-tailed, eccentric obstruction
- Localized encasement with prestenotic dilatation
- Acinar defect

Operation

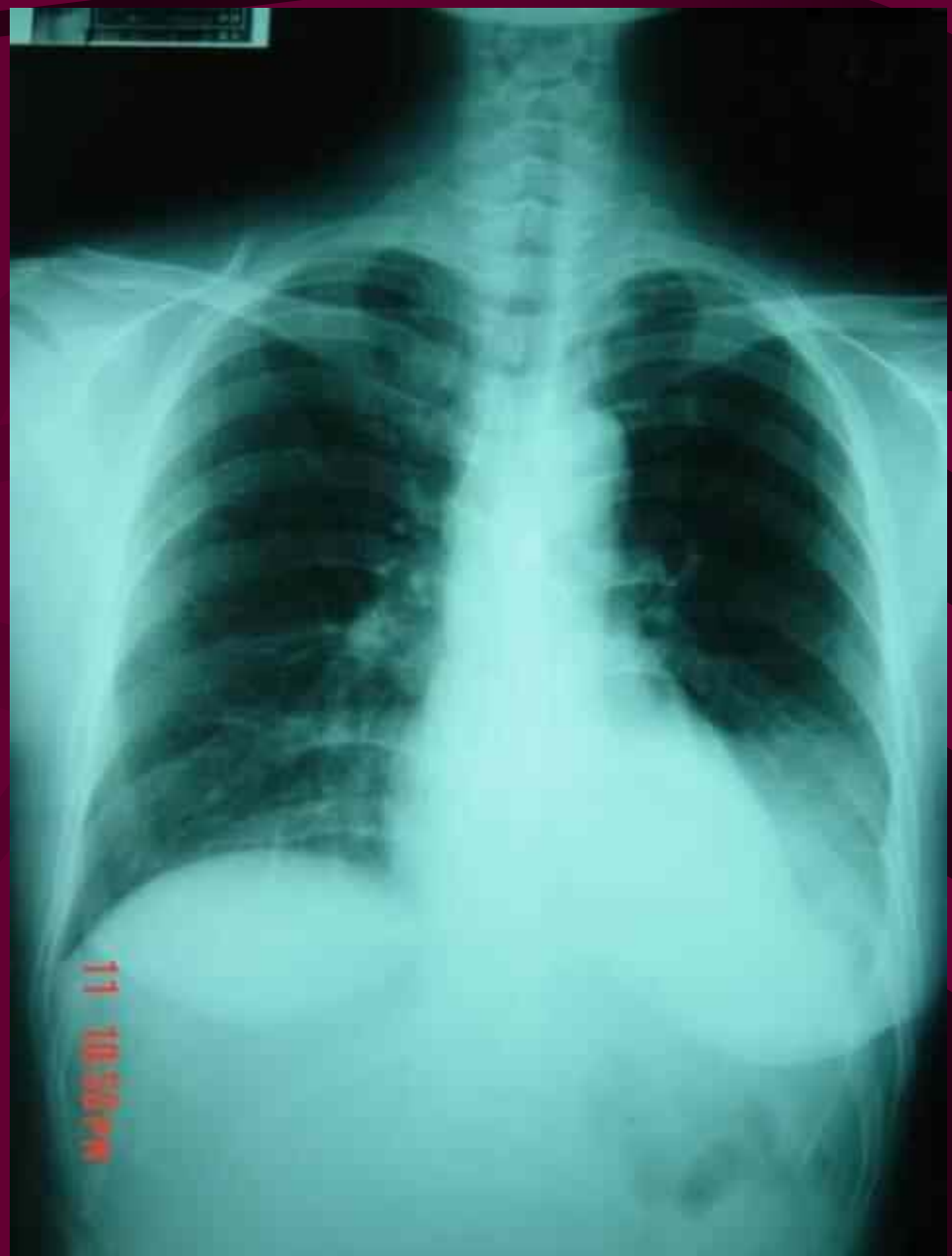
- Total gastrectomy
- Feeding jejunostomy
- cholecystectomy
- bilateral oophorectomy
- subtotal colectomy
- partial peritonectomy
- incidental appendectomy

Pathology report

- Stomach, total gastrectomy, adenocarcinoma, poorly differentiated, Borrmann's type IV, with serosal exposure, from the cardia to the pylorus

Chest X ray

- 2003.3.18.



normal heart size.
ill-defined, radiopaque patches are noted at Lt lower lung fields, alveolar process of varying etiologies (such as: pneumonia, fibrotic changes, primary or secondary pulmonary malignancy or pul. edema or pulmonary hemorrhage) should be considered.
Further evaluation is suggested.
obliteration of Lt costophrenic angle with crescent shape are seen.
pleural effusion is considered.

讀片醫師: 李志明

Discussion

- Retroperitoneal tumor:
- (I) (II) (pathology)
- Neoplasms of stomach:
- Primary benign
- Primary malignant
- Metastatic tumors

Retroperitoneal tumor

- The neoplasms arising from tissue that occupy the potential retroperitoneal space.
- These tumors develop independently and have no apparent connection with any organs or major vessels except by areolar tissue.

Retroperitoneal tumor

- Tumor of the retroperitoneal solid organs, such as the pancreas, adrenal, or kidney, and tumefactions of the great blood vessels, therefore, are not included in this category.

Retroperitoneal tumor

- Tumor may arise from fat, areolar connective tissue, fascia, muscle, vascular tissue, somatic and sympathetic nervous tissue and lymph vessels and lymph vessels and lymph nodes.
- Less frequent, neoplasms are smooth muscle tumors, complex teratoma, embryonal carcinoma等.

Neoplasms of stomach

- Primary benign
- Primary malignant
- Metastatic tumors

Primary benign

- Benign adenomatous and inflammatory polyps and villous adenomas.
- These mucosal lesions, which can occur in the stomach and duodenum, may be single or multiple.

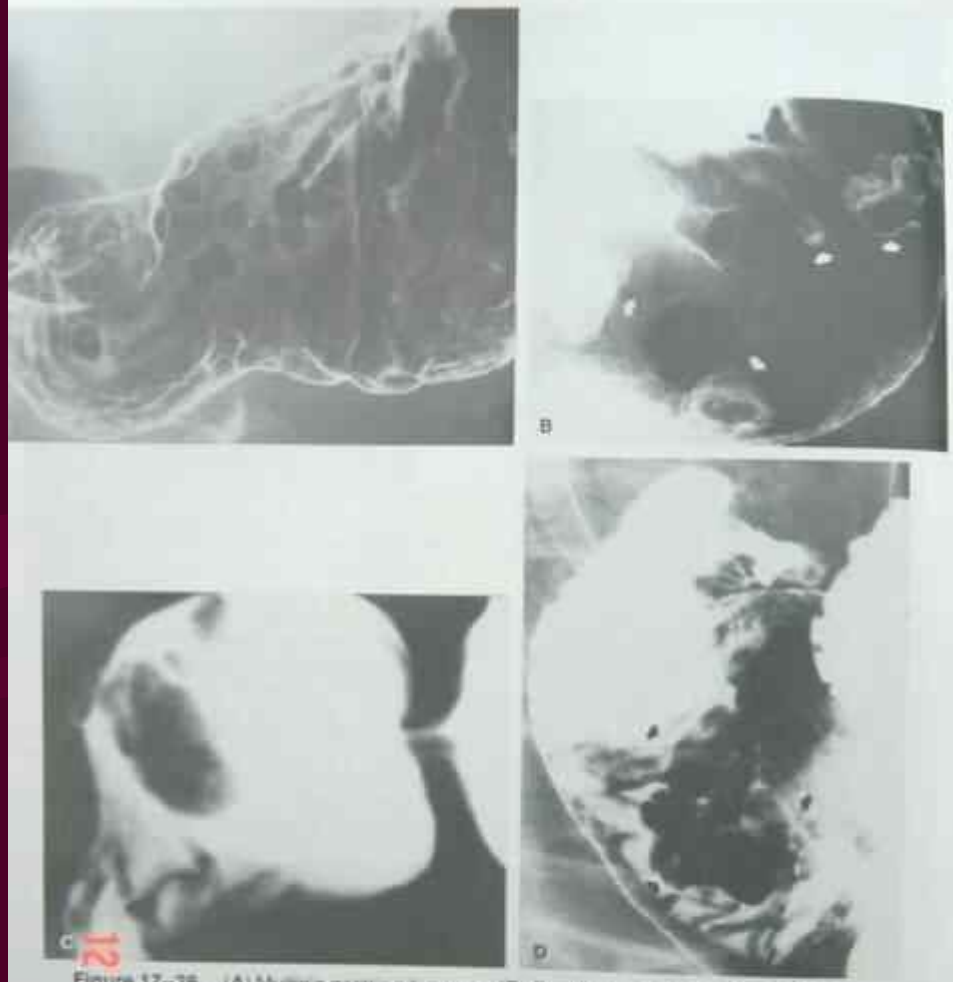


Figure 17–28. (**A**) Multiple gastric adenomas. (**B**) Gastric hyperplastic polyps. Double-contrast examination shows numerous polypoid defects protruding into the lumen (*arrows*). (**C**) Hyperplastic polyp duodenum. Single-contrast examination shows large filling defect at the apex of the bulb. (**D**) Duodenal adenoma. Barium examination demonstrates large polypoid defect in the descending segment of the duodenum (*arrows*).

Primary benign

- Benign intramural tumors.
- Benign intramural tumors constitute another major group. Lipomas, neurofibromas, and leiomyomas are found in the gastroduodenal wall. Most often they are small and asymptomatic. An exception is the leiomyoma, which can attain a large size, and in the process the mucosa may ulcerate and bleed. Some leiomyomas are calcified, which allows their histologic diagnosis based on radiographic analysis.

Figure 17–29. (**A**) Gastric leiomyoma. Profile view of large smooth mass (*arrows*). (**B**) Gastric leiomyoma. CT examination through level of stomach shows smooth intraluminal filling defect (*arrow*). *A*, aorta. (**C**) Duodenal lymphangioma. Elliptic lucent mass in descending duodenum (*arrows*).

Primary benign

- Polyposis syndromes.
- Gastric lesions have been observed in the polyposis syndromes (familial colonic polyposis, Gardner’s syndrome, Peutz-Jeghers syndrome, Cronkhite-Canada syndrome).Enlarged, nodular rugal folds have been seen in Cronkhite-Canada syndrome. In the other conditions polypoid masses are found. A case of gastric carcinoma in Gardner’s syndrome has been reported.

Figure 17–30. Gastric polyposis in a patient with familial polyposis. Double-contrast examination shows numerous small rounded polyps carpeting the gastric mucosa.

Primary malignant

- Adenocarcinoma
- Adenocarcinoma of the stomach starts as a plaquelike lesion. This may or may not ulcerate. Great strides in the understanding and detection of small lesions have been made in Japan, where the disease is prevalent. Exquisite air-contrast studies are required to image the lesions. As the cancer grows it may become polypoid and be easy to detect. Infiltrative lesions that just stiffen the gastric wall without causing either a mass or ulceration are the most difficult to detect.

Primary malignant

- These infiltrative or scirrhous carcinomas are being detected in the proximal part of the stomach in greater numbers rather than in the classic form involving the distal stomach. Endoscopy has significant limitations in confirming the diagnosis with positive pathologic findings in only 70% of cases.

Primary malignant

- The end result of this may be a diffusely involved nondistensible (“leather bottle,” linitis plastica) stomach. Occasionally, the neoplasm is primarily ulcerative and can be identical in appearance to a benign ulcer. In the past many roentgen criteria were used to distinguish benign from malignant ulceration. Almost all were based on identifying a mass and preferably an irregular mass associated with the ulcer. On a practical level this has largely disappeared.

Primary malignant

- If endoscopy and biopsy are not done, trial therapy is given. Ulcers that do not heal are then subject to biopsy. Adenocarcinomas of the duodenum are rare and usually are not found until they have grown enough to cause partial obstruction. Mucinous adenocarcinomas of the stomach may have calcification in either the primary tumor or the metastases.

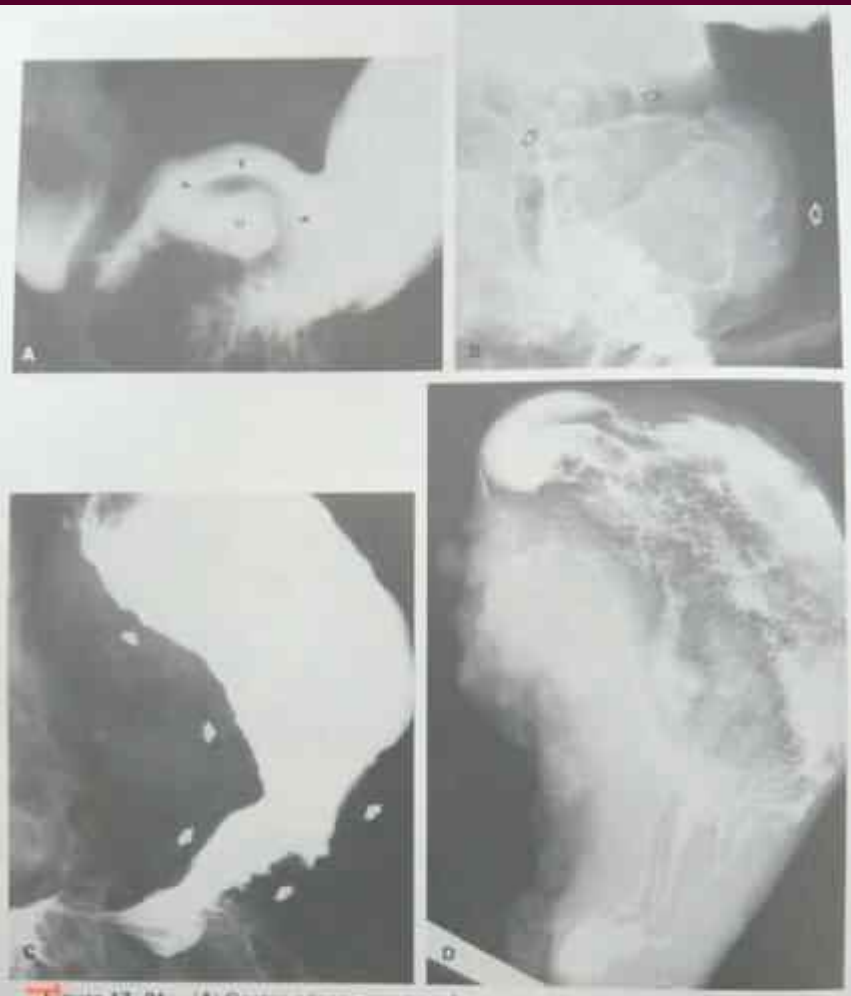


Figure 17–31. (**A**) Gastric adenocarcinoma. Large mass in antrum of stomach (*arrowheads*) with central ulceration. *U*, ulcer. (**B**) Gastric adenocarcinoma. Large polypoid mass (*arrows*) in antrum of stomach. (**C**) Gastric adenocarcinoma. Distal half of stomach narrowed and irregular (*arrows*). (**D**) Gastric adenocarcinoma. Resected specimen of lesion in Figure 17–31C. Note the extensive infiltration beyond the wall of the stomach that is not visible on barium examination. (**E**) Gastric adenocarcinoma. CT examination shows two large polypoid lesions projecting into the stomach lumen (*arrows*). Metastases to the liver shown as rounded low-dense areas (*arrowheads*). (**F**) Gastric adenocarcinoma. Single-contrast examination of dilated esophagus shows marked narrowing distally (*arrows*) representing submucosal infiltration of distal esophagus from fundal adenocarcinoma. (**G**) Gastric adenocarcinoma. Double-contrast examination of antrum shows flattening and retraction of the lesser curvature (*open arrow*) and margins of the spreading tumor (*white arrows*).

12 5:23 AM

Figure 17–31. *(Continued)*

Primary malignant

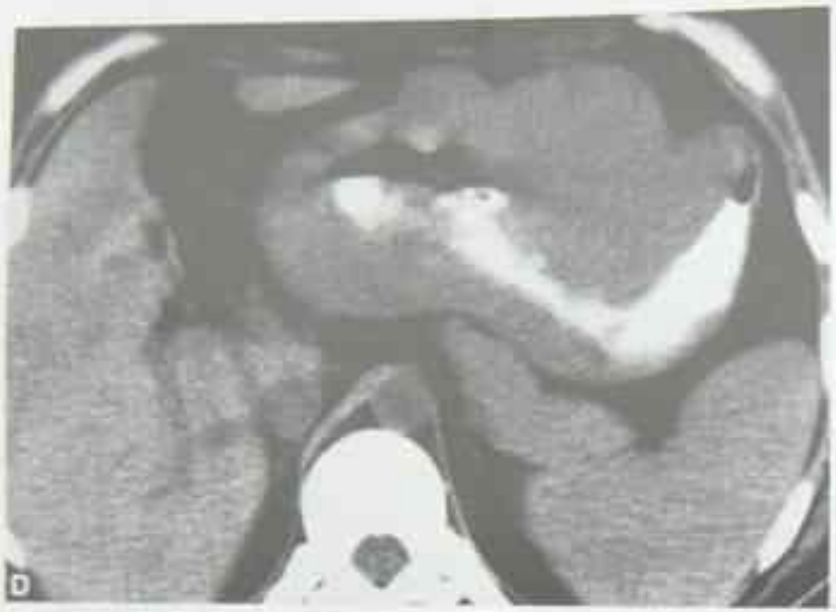
- Leiomyosarcoma.
- Leiomyosarcomas start in the intramural portion of the stomach and become bulky tumors, often with huge ulcerations of their gastric surfaces. They do not mimic the infiltrative type of adenocarcinoma.

Primary malignant

- Lymphoma.
- The usual lymphoma of the stomach mimics the adenocarcinoma completely. Rarely, there is a lymphoma that is manifested by only large gastric folds and some rigidity of the stomach.

Figure 17–33. (**A**) Lymphoma. Diffusively enlarged and irregular folds throughout body and fundus of the stomach. (**B**) Lymphoma. CT scan through proximal stomach shows marked wall thickening by lymphoma (arrows). (**C**) Diffusively narrowed distal body and antrum of stomach caused by extensive submucosal infiltration of lymphoma. (**D**) CT scan shows diffusely thickened wall surrounding opacified lumen as depicted in Figure 17–33C. (**E**) Single-contrast examination of duodenum shows marked widening of the duodenal sweep. (**F**) CT examination in the area of duodenal sweep shows massive lymphadenopathy caused by lymphoma (arrows). This is the patient depicted in Figure 17–33E. *D*, duodenum.

(continued)



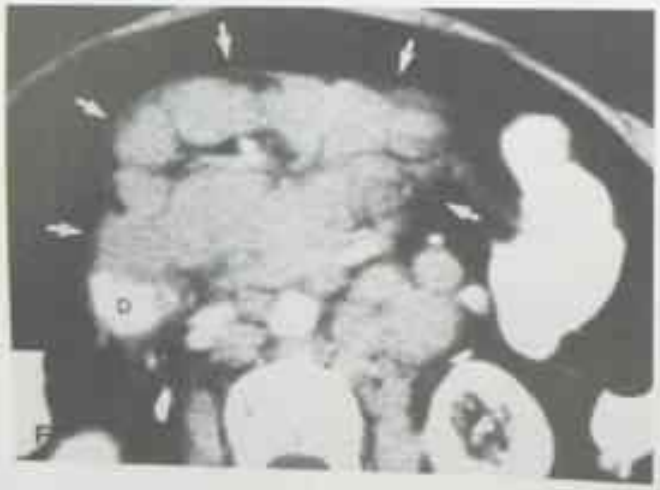


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Figure 17–33. (*Continued*)

Primary malignant

- Carcinoid.
- The carcinoid tumors of the stomach may mimic all the benign and malignant lesions. There is no roentgen appearance that allows a correct pre-biopsy diagnosis.

Metastatic tumors

- Melanoma, lymphoma, Kaposi's sarcoma, and breast carcinoma are the metastatic processes that involve the stomach more often than others. None is really common; they are submucosal lesions and may ulcerate. Melanoma, lymphoma, and Kaposi's sarcoma all may present with multiple gastric nodules that may be ulcerated. Breast carcinoma can infiltrate the entire stomach and mimic the leather-bottle appearance of a primary cancer.

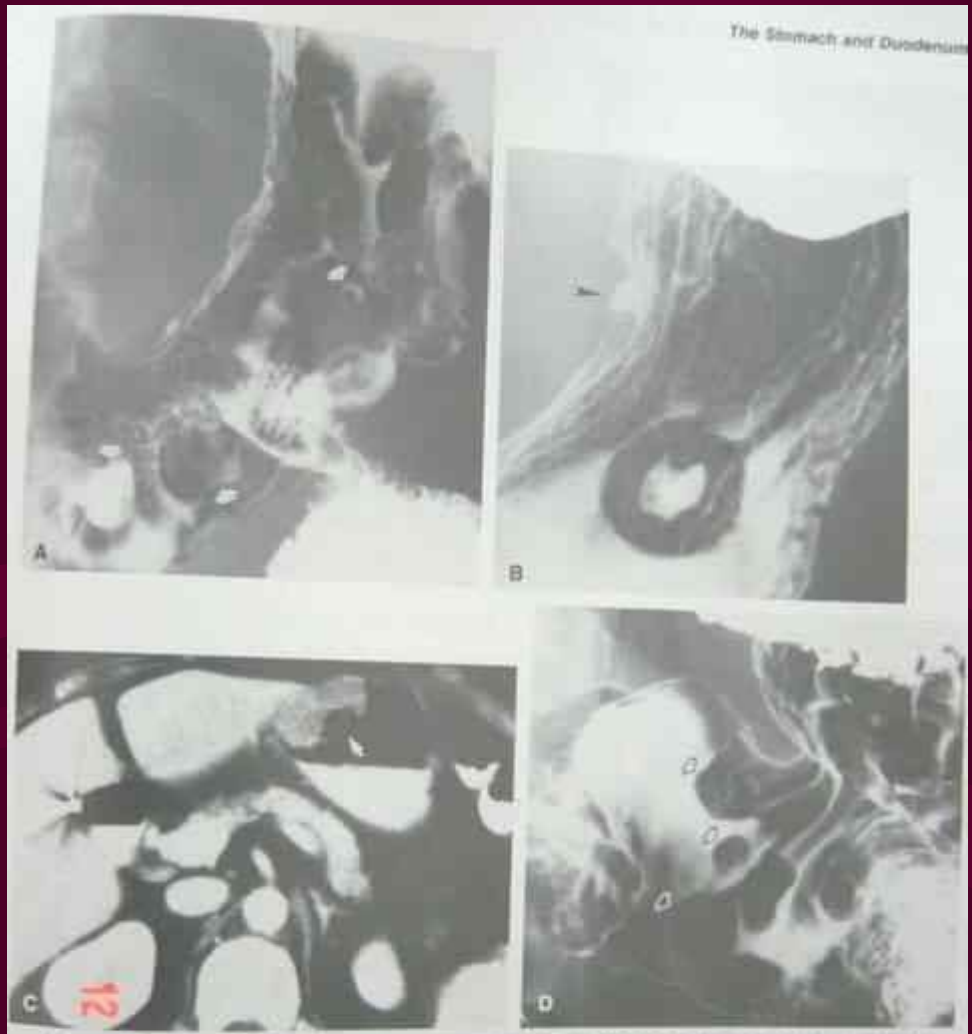

Figure 17–34. (**A**) Double-contrast examination of stomach shows markedly irregular folds and numerous ulcerations (*arrows*) caused by metastatic breast carcinoma. (**B**) Two metastatic lesions in stomach from carcinoma of lung. Larger metastasis is seen en face, and smaller metastasis is seen in profile (*arrowhead*). (**C**) CT examination through stomach shows mass lesion along the anterior wall of stomach with central ulceration (*arrow*) representing metastatic melanoma. (**D**) Numerous large polypoid gastric-filling defects (*open arrows*) represent stomach involvement with Kaposi's sarcoma.

Reference

- Essentials of radiologic imaging, 6th edition, John H. Juhl, Andrew B. Crummy, J. B. Lippincott company
- Radiology review manual,third edition, Wolfgang Dahnert, M.D., Williams & Wilkins company