GENERAL DATA

- Sex : female
- Age : 40 years old
- Marriage status : married

CHIEF COMPLAINT

- Bilateral ovarian tumors discovered by sonography accidentally

PRESENT ILLNESS

- 2003-06-26 :bilateral ovarian tumors were noted accidentally by routine Pap smear
- 2003-06-27 : Dr. 劉偉民 OPD
  - Sonography
  - Pelvic CT
  - No dysmenorrhea , no abnormal vaginal bleeding, no body weight loss , no abdominal discomfort , no urinary incontinence , no frequency or tenesmus
- 2003-06-28 : panendoscope

PAST HISTORY

- Medical history : nil
- Surgical history :
  - Hemorrhoid : 1997

PERSONAL HISTORY

- HTN : (-)
- DM : (-)
- Smoking : denied
- Drinking : denied
- Allergy : not known
- No other systemic disease

PHYSICAL EXAMINATION

- No positive finding

LAB DATA

- 2003-06-29 :
  - WBC : 3.62
  - RBC : 3.88
  - HGB : 11.9
  - HCT : 33.2
  - MPV : 6.6
- 2003-06-29 : U/A
  - OCCULT BLOOD : 2+
  - RBC : 5-8 , WBC : 10-12 , Epithel : 8-10

LAB DATA

- CA19-9
  - 2003-06-27 : 446 u/ml
  - 2003-07-18 : 30.4 u/ml

IMAGE STUDY

- Chest X ray
- KUB
- Sonography
- panendoscope
- Pelvic CT

CHEST X-RAY

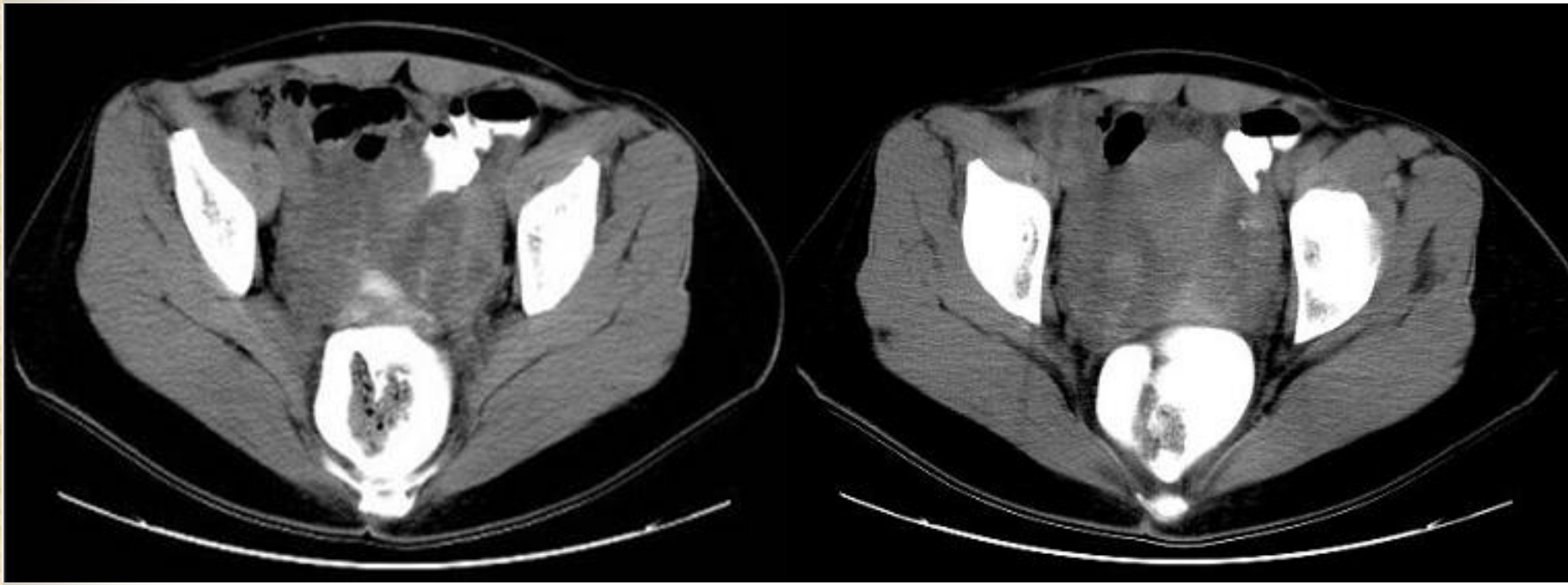
- Normal heart size
- No abnormal radiopaque densities at bil lung
- No widening of mediastinum
- Relatively clear bil. C-P angle

KUB

- Nonspecific gaseous pattern of bowel
- Fecal material distension of abdominal-pelvis
- Evidence of scoliosis
- Well defined of bil psoas muscle

COMPUTOR TOMOGRAPHY

- 2003-06-27 pelvis CT
  Pre-enhanced



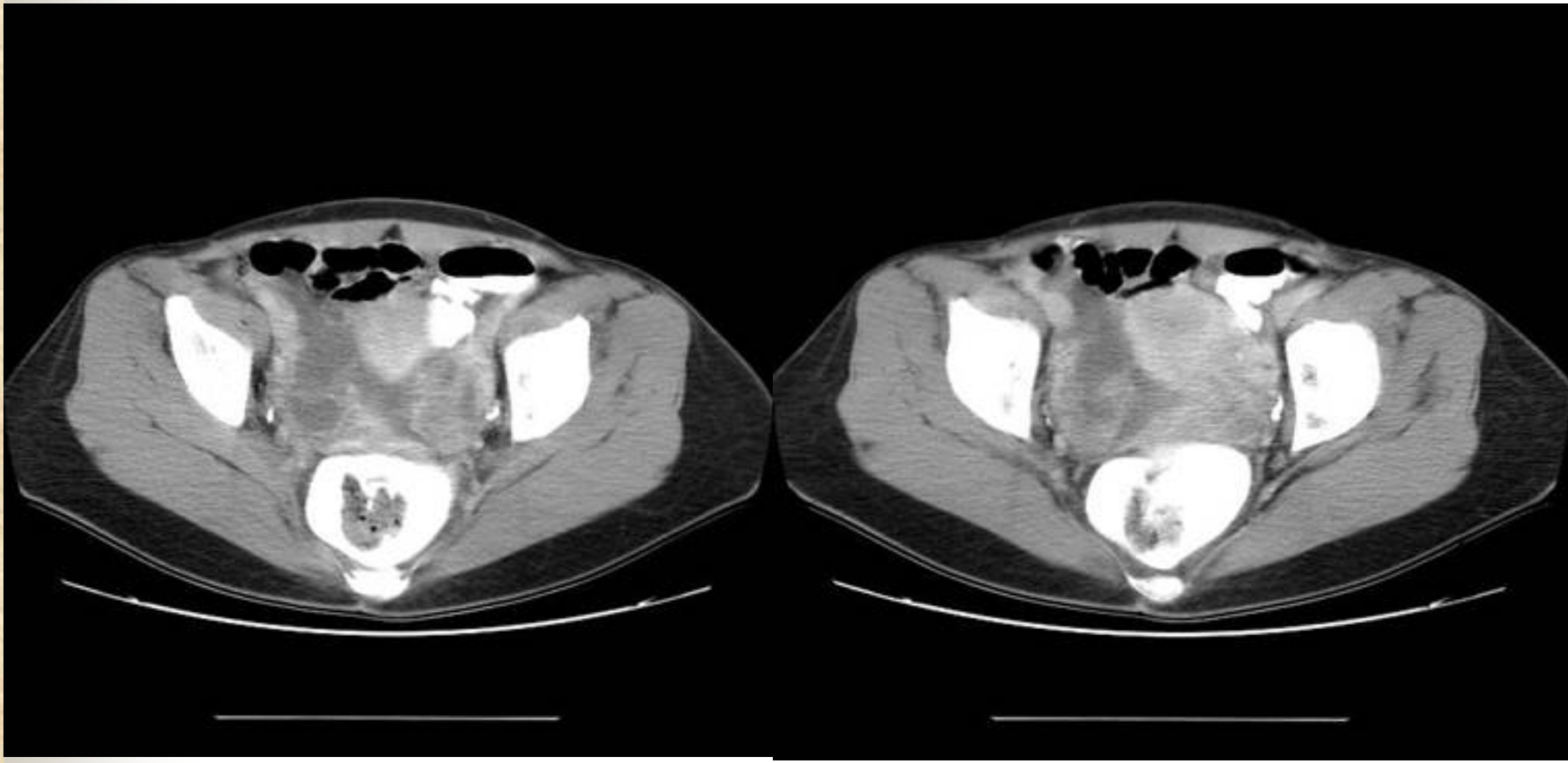
  - There are multiple lesions composed of solid and cysts over bilateral adenxa

COMPUTOR TOMOGRAPHY

- Post – enhanced
  - There are separate heterogeneous contrast enhancing lesions involving the bilateral adenxa.
  - Mass
    - Right : 5*8.4*5 cm
    - Left : 5.8*4.1*4 cm

COMPUTOR TOMOGRAPHY

- Post-enhanced



COMPUTOR TOMOGRAPHY

- Post-enhanced
- There are several slight enhancing nodules at the segment VII and VIII of the liver

COMPUTOR TOMOGRAPHY

- Post-enhanced
  - There is a 2.3cm*1.6cm nodule extending from the peritoneum , right anterior of the liver

SONOGRAPHY

- 2003-06-27
- Finding :
  - Right ovarian texture : with cysts
  - Left ovarian texture : with mass
  - Cul-De-Sac : with fluid
  - Endometrium : thickness 9 mm
- Impression :
  - Endometrioma
  - Benign ovarian tumor

ENDOSCOPE

- 2003-06-30
- Finding :
  - Esophagus : negative
  - Stomach : some erosions at body and atrum
  - Duodenum : negative up to 2nd portion
- Impression :
  - Stomach : erosion
  - Superficial gastritis

DIFFERENTIAL DIAGNOSIS

- Ovarian cyst
- Tuboovarian abscess
- Ovarian tumor

OVARIAN CYST

- Functional cysts are the most common ovarian masses in ovulatory women.
- They are divided into *follicular*, *corpus luteum*, and *theca-lutein cysts*. Follicular cysts are the most common of the three.
- They are usually asymptomatic and found incidentally on physical examination or ultrasonography
- Sonographically, they are usually **thin-walled, anechoic structures with a well-defined posterior wall.**

TUBO-OVARIAN ABSCESS

- occur with prior or concomitant pelvic inflammatory disease
- Symptoms : pelvic pain, fever, vaginal discharge, and abnormal bleeding, along with findings of an exquisitely tender pelvic mass.
- Shrinkage and resolution of the mass with intense antibiotic treatment confirm the clinical impression
- Contrast computed tomography scan : cystic masses with irregular, contrast-enhancing borders or Complex cystic mass with air-fluid level

IMPRESSION

- Bilateral ovarian malignancy
- Hepatic metastasis
- Peritoneum metastasis

OPERATION

- 2003-07-01
- Pre-op diagnosis : ovarian cancer
- Post-op diagnosis : ovarian cancer
- Method : optimal debulking surgery
  - Washing cytology
  - TAH (total abdominal hysterectomy)
  - BSO (bilateral salpingo-ovariotomy)
  - Omentectomy +appendectomy
  - Lymph node dissection : bilateral pelvis + para-aorta
  - CUSA for residual tumor

OPERATION

- OP finding:
  - Diaphragm : miliary tumors seeding+2cm mass
  - peri-T colon : a 5 cm mass
  - Omentum : an obvious mass+multiple seeding
  - Peritoneum : multiple seeding
  - Bilateral ovarian : masses
  - Cul-de-sac : 5cm mass
  - Urinary bladder : adhesion mass with uterus
  - Pelvic lymph node : no obvious enlargement

PATHOLOGICAL FINDING

- Bilateral ovaries : **serous papillary carcinoma**
- Uterus and appendix : nests of **serous papillary carcinoma**
- Fallopian,urinary bladder,mesentery, and omentum : be involved by the tumor
- Cervix : mild chronic cervicitis without tumor involvment
- Lymph node : metastatic carcinima
  - Left external iliac : 07
  - Right external iliac : 0/5
  - Left obturator : ½
  - Paraaortic : ¼
- Ascites : adenocarcinoma

DISCUSSION

-ovarian carcinoma

- commonest cause of death from gynecologic malignancy, and is the fifth commonest cause of cancer deaths in women
- The lifetime risk of ovarian cancer in women is 1.5%, and the overall mortality is approximately 60%

DISCUSSION

-ovarian carcinoma

- Symptom
  - There are no obvious symptoms until the disease has advanced.
  - Vague but persistent gastrointestinal complaints such as gas, nausea, indigestion.
  - Frequency and/or urgency of urination.
  - Any unexplained change in bowel habits.
  - Abnormal postmenopausal bleeding.
  - Weight gain or loss.
  - Abdominal swelling and/or pain; bloating and/or a feeling of fullness.
  - Pain during intercourse.

DISCUSSION

-ovarian carcinoma

- FIGO staging system for ovarian cancer
  - Based on the presence of surface tumor, tumor rupture, ascites containing malignant cells, or positive washings.
- Stage I : Grossly confined to one or both ovaries.
  - IA: Intracapsular and unilateral
  - IB: Intracapsular and bilateral
  - IC: Actual or potential microscopic peritoneal contamination[a]
- Stage II :Local extension; grossly confined to the true pelvis
  - IIA: Involvement of Fallopian tubes or uterus
  - IIB: Involvement of other pelvic tissues, eg, sigmoid, pelvic implants
  - IIC: Actual or potential microscopic peritoneal contamination[a]

DISCUSSION

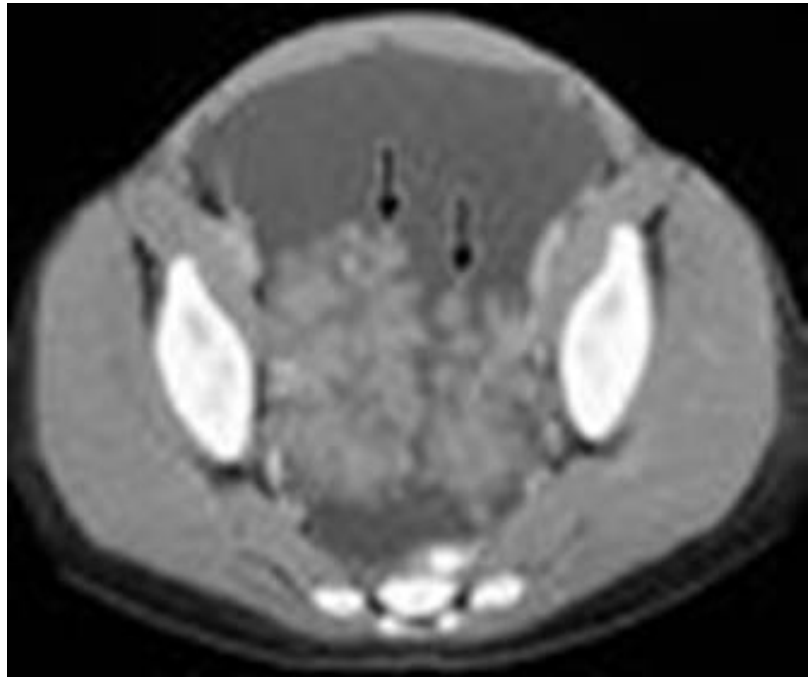
-ovarian carcinoma

- Stage III :Nodal metastases, or peritoneal implants outside the pelvis.
  - IIIA: Microscopic abdominal implants
  - IIIB: < 2 cm abdominal implants
  - IIIC: > 2 cm abdominal implants or positive nodes
- Stage IV : Distant spread, for example malignant pleural effusion, intrahepatic metastases

- Approximately 90% of ovarian cancers are of epithelial origin.
- Subtyped as serous (50%), mucinous (20%), endometrioid (20%), clear cell (10%), or undifferentiated (1%).
- Epithelial cancers are typically cystic and have a propensity to spread within the peritoneal cavity.

- **serous papillary type**
  - It accounts for approximately 10% of all serous ovarian tumors, and carries a worse prognosis.
  - there is usually extensive peritoneal spread present by the time of diagnosis. some believe the tumor arises from the peritoneal surface, and spreads secondarily to the ovary.
  - Common clinical features : abdominal pain and distension, a pelvic mass and ascites.
  - Treatment : as for ovarian cancer, including surgery and chemotherapy.
  - Imaging findings include normal or minimally enlarged ovaries, ascites and small peritoneal nodules. Lymphadenopathy is uncommon .

- Axial contrast-enhanced CT section through the pelvis showing the ovaries encased by irregular nodules of serous papillary carcinoma (arrow).



- Axial T2-weighted MRI section at the corresponding level in the same patient, demonstrating similar findings. Preservation of normal ovarian architecture within the encasing tumour is evident (arrows).

TUMOR MAKER

- **CA 125**

- **True Positive**: Approximately 80 percent of women who have ovarian cancer will have an elevated CA-125 in the serum portion of their blood at the time of diagnosis.

- **False positive**: makes it inadequate for use by itself for screening of high-risk or healthy women. Premenopausal women are more likely than postmenopausal women to receive a "false positive" CA-125. It should be supplemented with transvaginal sonography and a rectovaginal pelvic exam all done at the same time.

- Frequency of distant metastases in ovarian cancer
  - Liver : 45–48%
  - Lung : 34–39%
  - Pleura : 25%
  - Adrenal glands :15-21%
  - Spleen : 15–20%
  - Bone and bone marrow: 11%
  - Kidney : 7–10%
  - Skin and subcutaneous tissues : 5%
  - Brain : 3–6%

DISCUSSION

-ovarian carcinoma

- Image study
  - *Ultrasound* : the primary modality used for the detection and characterization of adnexal masses
  - *CT* : the primary modality used for staging of ovarian cancer
  - *MRI* :useful in the characterization of ovarian masses and for the elucidation of certain equivocal CT findings

DISCUSSION

-ovarian carcinoma

- Typical CT findings
  - The majority of malignant epithelial tumors appear as cystic masses lateral to the uterus. Ovarian masses may also be seen in the midline above the bladder or anterior to the rectum
  - frequently bilateral
  - Features that suggest malignancy in a cyst are thick (>3 mm) walls or septa, nodules, vegetations, or papillary projections
  - Calcification suggests a serous tumor, but only 12% of serous tumors have calcification that is visible at CT

- the commonly seen sites of peritoneal metastases in ovarian cancer ：
  - Pouch of Douglas
  - Surface of the small and large bowel
  - Greater omentum
  - Surface of the liver (perihepatic implants)
  - Subphrenic space (right greater than left)

- The ovarian lymphatic vessels are another important route of metastatic spread
  - The main pathway ascends with the ovarian vessels to the retroperitoneal nodes of the upper abdomen.
  - The second pathway passes laterally in the broad ligament to reach the internal iliac and obturator nodes in the pelvic side wall.
  - The third group passes with the round ligament to the external iliac and inguinal nodes, and explains the occasional spread of ovarian cancer to the groin

SUMMARY

- Previous studies examining the accuracy of CT in the diagnosis of peritoneal metastases in ovarian cancer have reported a sensitivity of 63% to 79% and a specificity of 100%