Personal Data

- Name : 郭X秀
- Gender : ♀
- Age : 32 y/o
- Chart Number : 08091884
- Marital Status : unmarried
- Residence : Taipei City
- Occupation : 大學講師

Chief Complaint

- Palpable painless lower abdominal mass for more than one month
- Constipation for more than one month

Present Illness

- 93/04/03 :

  visit Dr. 區's OPD due to painless palpable pelvic mass and constipation →

  1. Arrange TAS (Transabdominal sonogram)
  2. CEA
  3. CA125

Present Illness

- 93/04/06 :

  inquire about test result →

  1. TAS : huge pelvic mass
  2. CEA : 3.14〔＜4.6 ng/ml〕
  3. CA125 : 12.60〔＜35 U/ml〕
  4. Referred to GS

  Visit Dr. 陳's OPD →

  1. Constipation →suspect huge pelvic mass to compress rectum
  2. Arrange LGI series

Present Illness

- 93/04/07

LGI series impression :

Huge pelvis mass with external compression on colon and urinary bladder

Present Illness

- 93/04/07 :

  visit Dr. 陳's OPD to inquire about the image result →

  1. LGI series → huge pelvic mass to compress rectum, R/O schwannoma
  2. Arrange Pelvic CT

Present Illness

- 93/04/09

Pelvic CT impression :

Presacral space tumor, neurogenic tumor, fibrous histiocytoma, or leiomyosarcoma should be considered

Present Illness

- 93/04/09 :

  visit Dr. 吳's OPD to inquire about CT scan result →

  1. Pelvic CT →retroperitoneal tumor R/O neurogenic tumor, fibrous histiocytoma, or leiomyosarcoma
  2. Admission for surgery

- 93/04/10 :

  1. Admission
  2. Deny change of bowel habit, no body weight loss, no anal bleeding during this period

Family History

- Father : peptic ulcer
- Grand parents : HTN, CVA

Personal History

- Smoking : 1 PPD for 10 years
- Alcohol : nil
- Food allergy : nil
- Drug allergy : nil
- Betel nut eating : nil
- Life style : active
- Living arrangement : normal

Past History

- Medical history : nil
- Surgical history: nil
- OBS/GYN : G0P0

Physical Examination

- Abdomen : distended, soft
  - No superficial vein dilatation, no spider angioma
  - Bowel sound : normoactive
  - No tenderness, no rebounding pain
  - Palpable mass at lower abdomen : huge and firm in consistency
  - No shifting dullness; Murphy sign (-)
- Digital examination :
  - No mucosa lesion
  - External compression (++)

Laboratory Data

- 93/04/03 :
  - CEA : 3.14
  - CA125 : 12.60
- 93/04/10 :
  - WBC : 9.55
  - RBC : 5.69
  - HGB : 13.3
  - HCT : 41.0
  - PLT : 204
  - NEUT : 69.8
  - LYM : 21.8
  - MONO : 4.5
  - PT : 10.85
  - APTT :33.9
  - Glucose : 92
  - BUN : 11
  - Creatinine : 0.6
  - GOT : 16
  - GPT : 13
  - Bilirubin D :0.1
  - Bilirubin T : 0.4
  - Albumin : 4.0
  - Na : 140
  - K : 3.80
  - Ca : 9.2

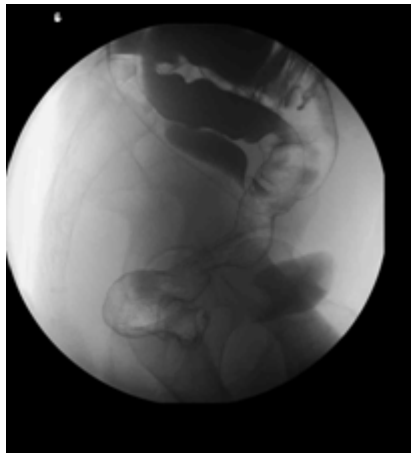
Imaging Findings - TAS

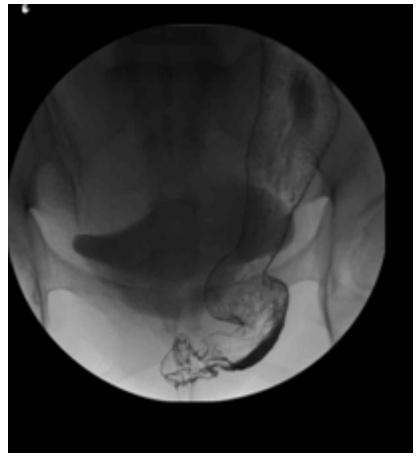
- Transabdominal sonogram shows a heterogeneous and hypoechoic mass in the uterus

Imaging Findings – LGI series

- This is a huge soft tissue mass, occupy at right lower abdomen and pelvis

Imaging Findings – LGI series





- The huge pelvic mass, occupy at presacral space with anterior compression of rectum, sigmoid, descending colon and inferior compression of urinary bladder

Imaging Findings – LGI series

- The mass also extend right and superior aspect, compress of appendix and proximal transverse colon
- There is no identified focal mucosal lesion

Imaging Findings – Pelvic CT

- There is a huge soft tissue mass at the presacral region extending upward into the lower abdominal cavity
- The mass exhibits heterogeneous enhancement on the post-contrast images

Imaging Findings – Pelvic CT

- The mass causes anterior displacement of the uterus and the recto-sigmoid colon, and upward displacement of the bowel loops
- There is no definite enlarged para-aortic or pelvic sidewall lymph nodes
- The visible liver, pancreas, kidneys and adrenal glands are unremarkable

Imaging Findings – Chest PA

- There is a small nodule lesion of lung parenchyma at R't lower lung
- Shadow of heart is within normal limit
- Normal appearance of diaphragm
- Normal appearance of CP angle
- No obvious displaced bone fragment or joint dislocation

Imaging Findings – Chest Lat.

- Suspected a nodular density in posterior lower lung field
- Follow up study is suggested

Differential Diagnosis

- Adenoma, adenocarcinoma, polyp
- Adenomyosis
- Ovarian mass
  1. Fibroma, Brenner tumor
  2. Cystadenoma, carcinoma
- Uterine leiomyoma
- Uterine leiomyosarcoma
- Gastrointestinal stromal tumor
- Neurogenic tumor (Schwannoma)

Differential Diagnosis

- **Adenoma, adenocarcinoma, polyp** → Main tumor mass is extra-luminal, adenoma, polyp, and adenocarcinoma are excluded
- **Adenomyosis** →
  1. ill-defined area of heterogeneous echogenicity which may have associated cystic spaces
  2. May be difficult to distinguish from mutiple small leiomyoma

- **Ovarian mass** →

  Originated from ovary
  1. Fibroma, Brenner tumor : mimics signal intensity of leiomyoma
  2. Cystadenoma, carcinoma : heterogeneous with cystic elements

Differential Diagnosis

- **Uterine leiomyoma →**
  1. X-ray : Extreme enlargement of the uterus resulting from fibroids may be seen as a nonspecific soft-tissue mass of the pelvis, which possibly displaces loops of bowel
  2. Sono : The most frequent US appearance is that of a concentric, solid, hypoechoic mass

Differential Diagnosis

- **Uterine leiomyosarcoma** → rare, arise de novo or as a result of the malignant degeneration of a uterine leiomyoma
- **GI stromal tumors (GISTs)** → a subset of GI mesenchymal tumors of varying differentiation
- **Neurogenic tumor (Schwannoma)** →Solitary, arise eccentrically from the nerve sheath

Differential Diagnosis

- In image study, leiomyosarcoma, GIST, Schwannoma are similar to leiomyoma unless we know the definite origin

- **Image conclusion** :
  - Rule out : Adenoma, adenocarcinoma, polyp, Adenomyosis, Ovarian mass
  - Rule in : Uterine leiomyoma, Uterine leiomyosarcoma, Gastrointestinal stromal tumor, Neurogenic tumor (Schwannoma)

OP Findings

- Total removal of extraperitoneal tumor and appendectomy :
  1. Huge tumor 27×15×10 cm arising from retroperitoneal space in the pelvic cavity up to the mid-abdomen
  2. Tumor arising from right lateral area of the extraperitoneal uterine cervix with multiple nodules in Broad ligament, up to 5×5×4 cm
  3. Bilateral ovaries and oviducts were intact
  4. Tumor from pelvic floor loosely connected to the presacral fascia. No close adhesion to bilateral ureters

Pathological Findings

- Grossly :
  - Well defined mass
  - The capsule is smooth with congested vessels
  - On cut, lobulated tumor nodules composed of whorls of whitish fibrous are noted
  - Myxoid change of the tumor was noted
  - No necrosis or hemorrhge was found

Pathological Findings

- Microscopically :
  - Show leiomyoma composed of spindle tumor cells with eosinophilic fibrillary cytoplasm and ovoid or spindle nuclei without evident nuclear atypia
  - Myxoid degeneration is noted but no necrosis was seen
  - The mitotic activity is very low
  - The appendix reveals minimal histologic change
  - Negative for CD34 and CD117(c-kit)

Final Diagnosis

- Leiomyoma of uterine cervix
- Right lower lung nodule ?

Discussion - Leiomyoma

- **Background:** Leiomyomas are benign tumors of the uterus
- **Pathophysiology:**
  1. Leiomyomas arise from the overgrowth of smooth muscle and connective tissue in the uterus.
  2. A genetic predisposition exists.
  3. Histologically, a monoclonal proliferation of smooth muscle cells occurs.

- Evidence of an apparent hormonal dependency includes the following:
  - Both estrogen and progestin receptors are present in fibroids.
  - Elevated estrogen levels may cause fibroid enlargement. During the first trimester of pregnancy, 15-30% of fibroids may enlarge then shrink in puerperium. Some fibroids may decrease in size during pregnancy.
  - Fibroids shrink after menopause. Some regrowth may occur with hormonal therapy.

- **Frequency:** In the US, Leiomyoma is the most frequently diagnosed gynecologic tumor and occurs in 20-50% of women older than 30 years
- **Anatomy:** Most leiomyomas occur in the fundus and body of the uterus; only 3% occur in the cervix. The fibroids may be solitary, multiple, or diffuse.

- Most fibroids (95%) are intramural; they are located in the middle of the myometrium

- Subserosal, or exophytic, fibroids are located in the subserosal layer and tend to cause a focal bulge in the exterior surface of the uterus. They can become pedunculated. Rarely, they occur in the broad ligament

- Submucosal, or subendometrial, fibroids are the least common. They distort the overlying endometrium and can become extruded or pedunculated (ie, fibroid polyp) in the endometrial canal.

- **Clinical Details:** Most women with fibroids are asymptomatic. Only 10-20% of patients require treatment.

- Symptoms of fibroids are related to the location, size, and number of the tumors. Symptoms may include the following:

- Bleeding: Menorrhagia, with an increased amount and duration of flow, is the most common symptom
- Pain: Women may experience abdominal cramping
- Pressure: Urinary frequency, urgency, and/or incontinence result from pressure on the bladder. Constipation, difficult defecation, or rectal pain results from pressure on the colon
- Infertility and/or complications of pregnancy may occur

- **Preferred Examination:** The preferred imaging modality for the evaluation of uterine fibroids is ultrasonography (US), both transabdominal and transvaginal.

- **Limitations of Techniques:** In the detection of uterine fibroids, CT is limited by the similar attenuation characteristics of fibroids and healthy myometrium, although some fibroids may be hypoattenuating. Fibroid calcifications can be depicted on CT scans.

X-RAY

- Conventional radiographs have a limited role in the diagnosis of uterine fibroids.
- Unless heavily calcified, fibroids are not depicted on radiographs.
- Extreme enlargement of the uterus resulting from fibroids may be seen as a nonspecific soft-tissue mass of the pelvis, which possibly displaces loops of bowel.

CAT SCAN

- CT has a limited role in the diagnosis of uterine fibroids.
- On CT scans, fibroids are usually indistinguishable from healthy myometrium unless they are calcified or necrotic.
- Calcifications may be more visible on CT scans than on conventional radiographs because of the superior contrast differentiation with CT.

ULTRASOUND

- The most frequent US appearance is that of a concentric, solid, hypoechoic mass
- they can be either heterogeneous or hyperechoic, depending on the amount of fibrous tissue and/or calcification
- Fibroids may have anechoic components resulting from necrosis

MRI

- Fibroids are sharply marginated areas of low-to-intermediate signal intensity on both T1- and T2-weighted MRIs
- One third of fibroids have a hyperintense rim on T2-weighted images as a result of dilated veins, lymphatics, or edema
- An inhomogeneous area of high signal intensity may be depicted on T2-weighted images; this results from hemorrhage, hyaline degeneration, edema, or highly cellular fibroids

ANGIOGRAPHY

- Angiography has no role in the diagnosis of uterine fibroids, but it is used to guide the uterine arterial embolization (UAE) of fibroids

INTERVENTION

- The treatment of symptomatic uterine fibroids ranges from conservative medical management of symptoms to hysterectomy.
- Selective myomectomy, UAE, or fibroid embolization also can be performed.

Conclusion

- 這個 case 的特殊性在於一般 leiomyoma 所造成的壓迫通常是把 rectum 向背側壓, 但我們在 image 上所看到的卻是把rectum 向前推的 presacral mass, 所以一開始比較不會 favor 是 leiomyoma, 而是考慮在這個年齡層最常見的 presacral mass—Schwannoma,但後來由 pathology 的確定診斷仍是 leiomyoma, 可能是因爲這個 mass 是由 uterine cervix 所長出來的, 解剖位置較偏低, 才會發生這種比較少見的情形.

Thanks for Your Attention