

Personal Data

- Age: 51 y/o
- Marital status: 已婚
- Residence: 三重
- Occupation: 家管



Chief complaint

- Intermittent black stool passage
for ten years
- General weakness and dizziness
in recent days



Present illness

- This 51 y/o lady has chronic anemia and melena occasionally about ten years.
- Panendoscopy (about 5~6 times in the past years), no bleeding point was found.
- In recent months, she felt dizziness, general weakness, and exercise intolerance and came to our GI department for help in 2002/06/04. Hb 8.6 and stool OB (++) were noted.



Present illness

- LGI series was done in 06/10, but no definite abnormalities was found. Colonoscopy was performed in 06/21, but only a small sessile polyp, no active bleeding site was found.
- RBC scan was performed in 07/05, and no bleeding point was found.
- Vitamin B12, folate, ferritin were within normal range. Iron level was only 12ug/dl (↓).



Present illness

- She came to our GI department again because of the same symptoms in 2002/07/01. Hb 4.8 was noted. Under the impression of GI tract bleeding, she was admitted for further evaluation and management.
- Throughout the present illness, there was no hunger or postprandial pain, no acid regurgitation, and no fresh blood in stool.



- Family history:
 - No family history of GI tract tumors
- Personal history:
 - Smoking: denied
 - Alcohol: denied
 - Food or drug allergy history: denied
 - Usage of NSAID: denied



Physical examination

- HEENT: conjunctiva pale, sclera not icteric
- Neck: supple, no JVE, no LAP
- Chest: symmetric expansion,
breathing sound: clear
- Abdomen: soft, no tenderness
 - Bowel sound: normoactive,
no splashing sound, no metallic sound
 - L/S impalpable, no palpable mass
- Extremities: freely movable, no pitting edema



Clinic impression

- UGI bleeding, origin?
- Microcytic anemia



Lab Data (while admission)

- Blood
 - WBC: 6780, neutrophil: 66.9%
 - RBC: 2.48×10^6 , Hb: 4.8, MCV: 72.7
 - PLT: 623×10^3
- U/A: no specific finding
- S/R: occult blood ++
- SMA:
 - BUN/Crea: 15/0.6, GOT/GPT: 9/11
 - Na: 140, K: 3.8

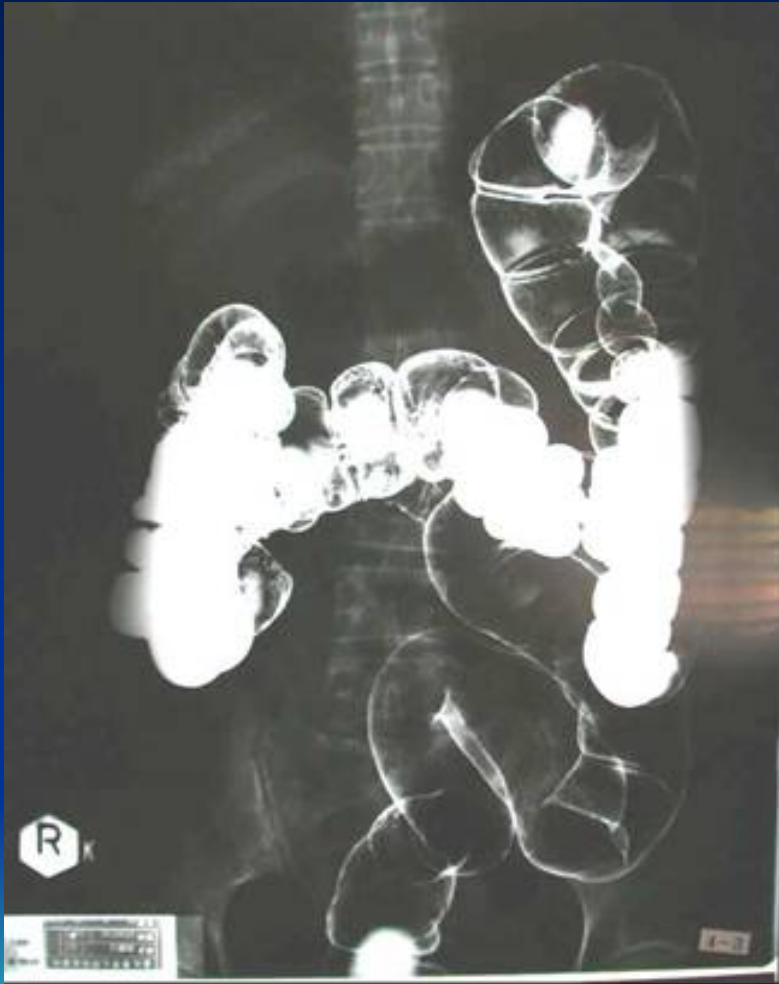


Abdomen



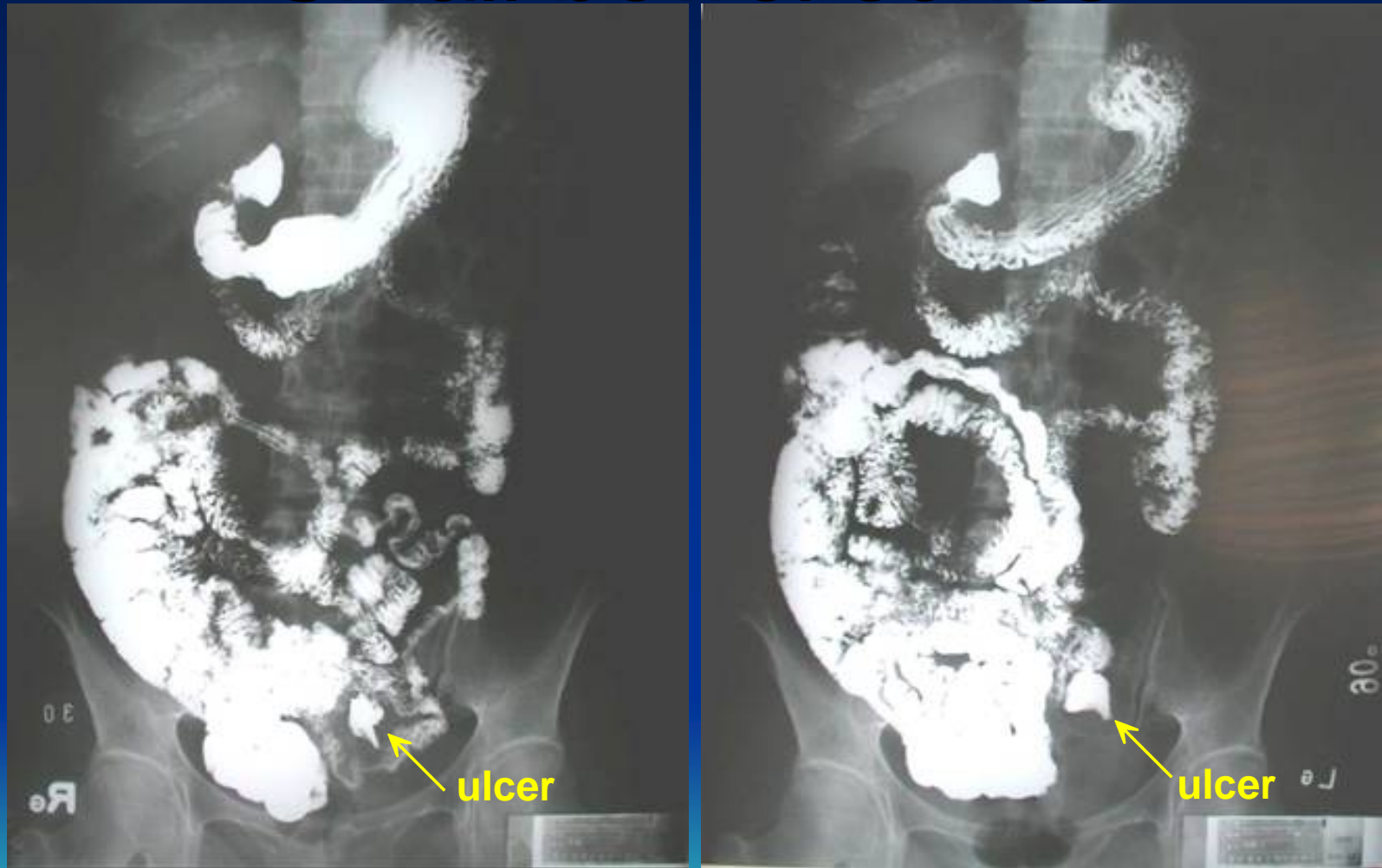
- Some bowel gas and stool in large intestine.
- Psoas muscle margin clear.
- No abnormal calcification point.

Colon series



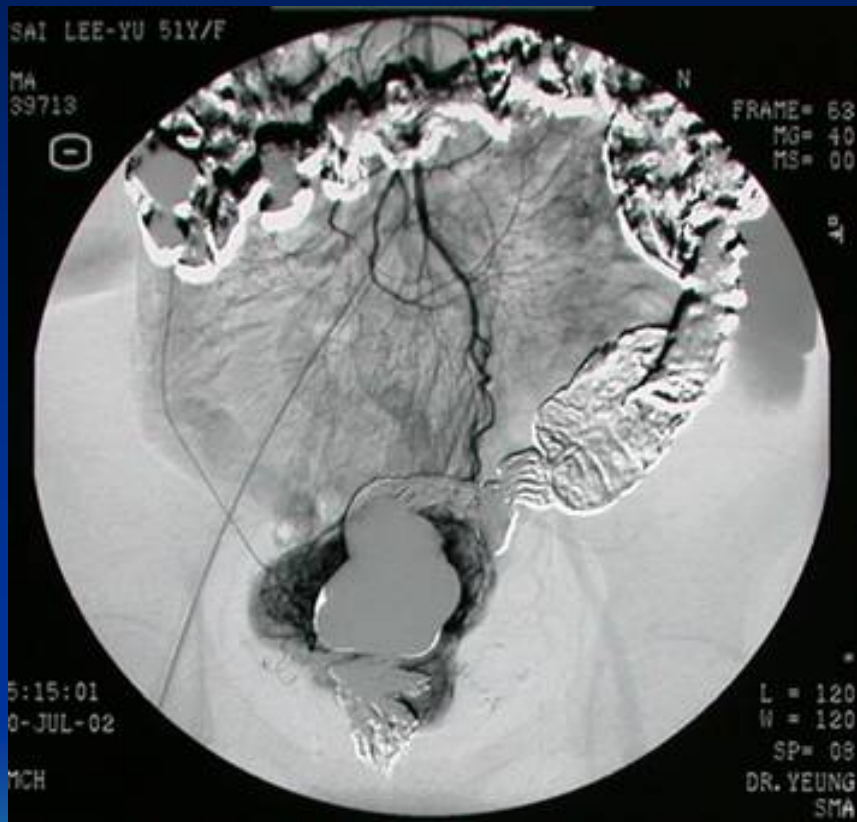
- No space occupying lesion or ulcer was found

Small bowel series



- Solid space occupying lesion with central ulceration over LLQ area was noted

Finding of angiography



Hypervascular extra-luminal mass
supplied by jejunum branch of SMA

Summary of image findings

- A solid, hypervascular mass over LLQ supplied by jejunal branch of SMA was noted
- Extra-luminal tumor of the small bowel
- Deep ulcer was noted in the mass lesion



Differential diagnosis

- Benign tumors
 - Leiomyoma
 - Adenoma
 - Lipoma
 - Hemangioma
- Malignant tumors
 - Carcinoid
 - Adenocarcinoma
 - Lymphoma
 - Leiomyosarcoma
 - Vascular malignancy



- Main tumor mass is extra-luminal, adenoma and adenocarcinoma are excluded
- The hypervascularity of the tumor excludes lipoma, carcinoid and lymphangioma
- Hypervascular lesion: leiomyoma, hemangioma, leiomyosarcoma, vascular malignancy are most likely



Leiomyoma

- Finding of image
 - Small ulcer + large barium-filled cavity (central necrosis + communication with lumen)
 - Hypervascular
 - Leiomyosarcoma is difficult to differ from leiomyoma



Leiomyosarcoma

- Finding of image
 - Usually > 6cm
 - Nodular mass: intra-luminal (10%), intramural (15%), chiefly extrinsic (66%)
 - Mucosa: stretched + ulcerated (50%)
 - Central ulcer pit/fistula or a large necrotic center
 - intussusception



Hemangioma of small bowel

- Finding of image:
 - Multiple sessile compressible intra-luminal filling defects
 - Nodular segmental mucosal abnormality
 - Phleboliths in intestinal wall
 - No ulcer



Impression of image study:

Leiomyoma or leiomyosarcoma

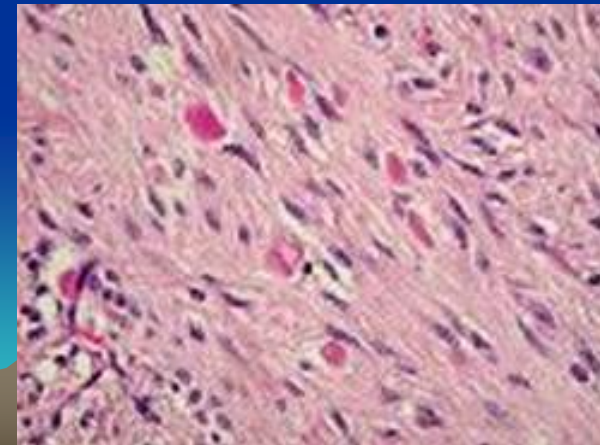
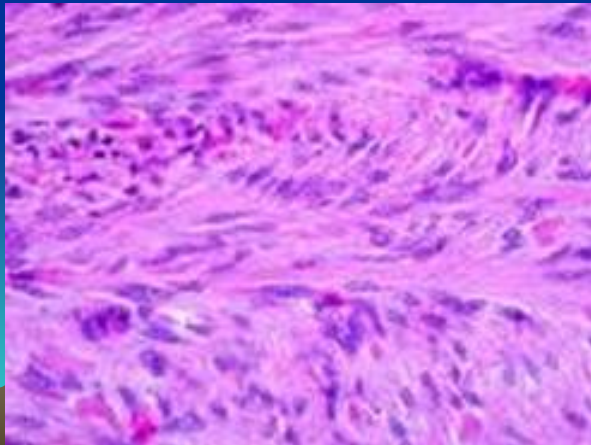
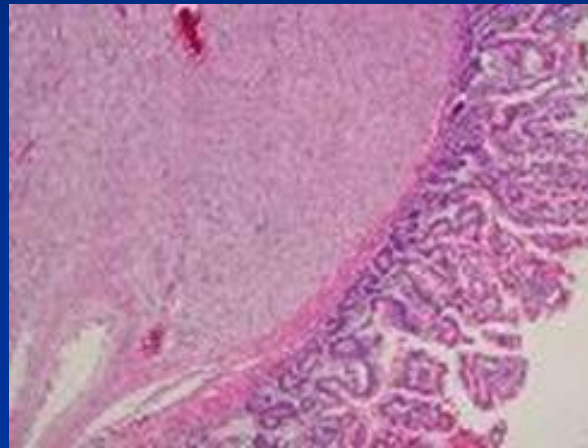


Operation record

- Pre-OP diagnosis: GI bleeding, R/O leiomyoma
- Post-OP diagnosis:
UGI bleeding, leiomyoma R/O sarcoma, jejunum
- Finding of operation:
 - solid huge tumor at anti-mesenteric site at 80 cm distal to Trietz ligament with prominent vessel and irregular nodular with hard surface.
 - On cut, a deep irregular ulcer of 4x1x3 cm in size, deep into the tumor
 - No peritoneal seeding, no metastasis to liver was noted
 - Segmental resection of jejunum with tumor, end to end anastomosis were performed



Report of pathology



Report of pathology 2002/07/17

- jejunum, segmental resection
GI stromal tumor, borderline malignancy
- Submucosal tumor (8x6x5 cm)
- Slight protrusion to the lumen of the jejunum, main portion protrudes outside the intestinal wall
- Deep ulcer (4x2 cm, 2 cm in depth)
- External surface covered by serosa, no rupture of the tumor



Report of pathology

2002/07/17

- Some engorged blood vessels on external surface, no necrosis
- Microscopically, gastrointestinal stromal tumor of borderline malignancy
- Spindle tumor cells with eosinophilic cytoplasm and minimal to mild nuclear atypia, cells arranged in fascicles
- Mitotic counts → scanty (less than 1 per 10 HPF)
- Surgical margins are free from the tumor



- Final diagnosis:
 - Leiomyosarcoma of jejunum, low-grade
- Treatment:
 - Segmental resection of jejunum with tumor, end to end anastomosis were performed
 - Surgical margin was free of tumor, no metastasis was noted



Leiomyosarcoma

- Most common in stomach (about 50%)
- Site of origin is not known
- Gastrointestinal smooth muscle neoplasms (i.e. leiomyomas, leiomyosarcomas, leiomyoblastomas) do not always originate from smooth muscle cells and origin remains unclear→GIST



Leiomyoma

- Do not necessarily arise from smooth muscle and malignant potential is difficult to evaluated histologically → STUMP

Stromal tumors of uncertain malignant potential

- Belong to the group GIST

Gastrointestinal stromal tumors

- Maybe metastasis (even histologically benign) → careful evaluation for presence of metastasis
- Treatment: local excision with 2~3 cm margin is needed



Pathology of Leiomyosarcoma

- Mucosal ulceration, necrosis are common
- Low-grade: uniform epithelioid cells, fewer than nine mitoses per ten high power fields
- High grade: different degrees of nuclear and cellular pleomorphism with giant cells and necrosis, and more than 10 mitoses per 10 high power fields
- High grade tumors (or $> 5\text{cm}$) more often associated with adjacent organ invasion



Diagnosis

- Vague symptoms, so most are not diagnosed until large leiomyosarcomas have developed
- Endoscopic examination can be entirely normal (extra-luminal tumor) ulcer
- Accurate diagnosis can't established until surgically resected
- CT scan: to be evaluate the tumor size, relationship to surrounding structures



Treatment

- **Goal of surgical treatments: resect primary neoplasm and obtain histologically uninvolved resection margins**
- **Direct extension to adjacent organs seldom occurs → don't resect adjacent organs**
- **Extensive lymphadenectomy not necessary: leiomyosarcomas metastasize hematogenously and within the peritoneal cavity**
- **Distant metastasis while operation: < 20%**



Prognosis

- **5-year survival rate**
 - Small leiomyosarcoma (<5cm) with low grade histopathology → 100%
 - Large tumors (>5cm) with high grade histopathology → only 19 %
- Little evidence supporting the role of adjuvant chemotherapy or radiation therapy for treatment of leiomyosarcoma

