Case Conference

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2013/10/23

Patient Profile

- 71y/o ♀
- DAY1 02:16
- E4V5M6
- T/P/R=36.4/66/16 BP=120/58mmHg
  SpO2=98%
  - 檢傷主訴：腹痛
  - Triage = 3

History

- C.C: epigastric pain today

- no nausea/vomiting
- no diarrhea
- leg edema (+)
- epigastric pain (+)

Past history

- SSS s/p PPM
- CHF
- CAD
- DM (+)
- post thyroidectomy hypothyroidism
- Peptic ulcer disease
- NKDA

Physical examination

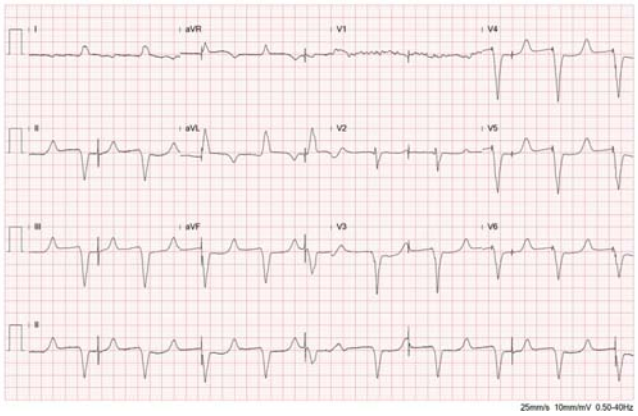
- clear consciousness
- neck: supple
- BS: clear
- Abdomen:
  - soft, no rebound tenderness;
  - epigastric tenderness;

Impression

- r/o PUD

Initial order (day 1, 02:22)

- Hb, WBC, D/C,
- F/S (268)
- Crea., lipase, T-Bil, AST, Na, K, Troponin I
- EKG
- KUB
- N/S run 60mL/hr
- VBG (G3)
- Morphine 3mg iv st



VBG

- PH = 7.421
- PCO2 = 35.8mmHg
- PO2 = 40mmHg
- BE = -1mmol/L
- HCO3 = 23.3mmol/L
- TCO2 = 24mmol/L
- SO2 = 77%

Lab data

- Hb 10.0g/dL
- WBC 5000/μL
- Seg 90.6%
- Lym 8.0%
- Mono 0.8%
- Eosinophil 0.2%
- Basophil 0.4%
- AST 87U/L
- T-Bil. 1.11mg/dL
- Crea. 1.97mg/dL
- eGFR 24.99
- Na 139meq/L
- K 5.6meq/L
- Lipase 82U/L
- Troponin I 0.16μg/L

day 1, 04:23

- NaHCO3 3amp iv st
- Kalimate 3pk po st
- Rasitol 1amp iv st
- IVF: on lock
- f/u VBG (G6) @ 09:00
- Nexium 1amp iv st

- 1個月前因腹脹來急診做過CT。

- 1個月前 CT
  - ascites (+)、L't ovarian cyst
  - focal mesentertic traction @ L't abd.
    with mild peritoneal adhesion
- 1週前 PES
  - duodenum: diverticulum, 2nd portion
  - GU
- 20天前
  - CA 125: 554.2
  - Ascites: no malignant cell (reported on 9/26)
- 1週前 → DAY1
  - AST: 36 → 87
  - T-Bil.: 0.97 → 1.97
  - K: 5.8 →3.8 → 5.6

- 家屬述Gyn OPD f/u說沒問題
- 病人每次來都是
- 上腹痛、CRI (+)
- 最近腳更腫
- CV OPD
  - Alductin 1# po QD

day 1, 06:43

- Abd. Echo
  - Ascites, Minimal
  - Pleural effusion, Left pleural cavity
  - Distended urinary bladder R/O acute urinary retension

- pH = 7.436
- PCO2 = 42.7mmHg
- PO2 = 28mmHg
- BE = 4mmol/L
- TO2 = 30mmol/L
- SO2 = 54%
- Na = 142mmol/L
- K = 5.1mmol/L
- Hct = 34%PCV
- Hb = 11.6g/dL

day 1, 09:55

- copy ER data
- 告知P't hold Alductin
- Burinex 1# po qd*3days
- 腹痛sheet
- MBD＆OPD f/u

- 出院診斷：epigastric pain, susepct PUD

Discussion 1.

Ascites + CA125↑ = ovarian ca.
In hypothyroidism???

Bou khalil R, El rassi P, Chammas N, et al.

Myxedema ascites with high CA-125: Case and a review of literature.
World J Hepatol. 2013;5(2):86-9.

Ji J, Chae H, Cho Y, et al.

Myxedema Ascites: Case Report and Literature Review.

J Korean Med Sci. 2006;21(4):761-.

ACOG committee opinion, 2011

- Measuring CA 125 levels over time provides a more accurate assessment of ovarian ca. risk

- prospective study of postmenopausal women
- PPV：19%....

Myxedema ascites

- ascites in hypothyroidism
  - the least frequently reported nonspecific manifestation (<4% of cases)
- rare but easy to treat
- CA-125 levels can be as high as those seen in patients with cancer

	Number of patients	Mean	Ranges	Remarks
Ascites protein (g/dL)	49	3.9	1.8-5.1	Forty-eight patients (98%) showed ascites protein levels >2.5 g/dL
SAAG (g/dL)	11	1.5	0.8-2.3	Because of the small number of patients, the characteristics were unclear
Ascites WBC count (per μL)	48	60	10-400	Predominance of lymphocytes (mean 81%)
Duration of ascites	51	8 months	1 month to 8 yr	
Response to treatment	51			Regression of ascites

Unfortunately....

- Unclear mechanism of ascites fluid formation
- Unclear mechanism of elevated CA-125...

Discussion 2.

How to approach a patient with leg edema ?

Ely JW, Osheroff JA, Chambliss ML, Ebell MH.
Approach to leg edema of unclear etiology.
J Am Board Fam Med. 2006;19(2):148-60.

Trayes KP, Studdiford JS, Pickle S, Tully AS.
Edema: diagnosis and management.
Am Fam Physician. 2013;88(2):102-10.

pathophysiology

- edema
  - interstitial fluid volume↑
  - → palpable swelling
- pressure gradient across the capillary
  - hydrostatic vs. oncotic

Disruption of equilibrium

- capillary hydrostatic pressure↑
- plasma volume↑
- capillary permeability↑
- plasma oncotic pressure↓
- lymphatic obstruction

classification

- venous edema
- lymphedema
- lipidema

Table 1. Common Causes of Leg Edema in the United States

Unilateral		Bilateral	
Acute (<72 hours)	Chronic	Acute (<72 hours)	Chronic
Deep vein thrombosis	Venous insufficiency		Venous insufficiency Pulmonary hypertension Heart failure Idiopathic edema Lymphedema Drugs Premenstrual edema Pregnancy Obesity

J Am Board Fam Med. 2006;19(2):148-60.

most likely cause of leg edema

- > 50y/o
  - venous insufficiency (30%)
  - heart failure (~1%)
- ♀ < 50y/o
  - idiopathic edema
  - Pregnancy & premenstrual edema

Table 2. Less Common Causes of Leg Edema in the United States

Unilateral		Bilateral	
Acute (<72 hours)	Chronic	Acute (<72 hours)	Chronic
Ruptured Baker's cyst	Secondary lymphedema (tumor, radiation, surgery, bacterial infection)	Bilateral deep vein thrombosis	Renal disease (nephrotic syndrome, glomerulonephritis)
Ruptured medial head of gastrocnemius	Pelvic tumor or lymphoma causing external pressure on veins	Acute worsening of systemic cause (heart failure, renal disease)	Liver disease
Compartment syndrome	Reflex sympathetic dystrophy		Secondary lymphedema (secondary to tumor, radiation, bacterial infection, filariasis) Pelvic tumor or lymphoma causing external pressure Dependent edema Diuretic-induced edema Dependent edema Preeclampsia Lipidema[a] Anemia

History

- duration
  - acute vs. chronic
  - improve overnight？
- painful edema？
- systemic disease（心、肝、腎）
- pelvic/abd. neoplasm/radiation
- sleep apnea
- medication

Table 4. Drugs That May Cause Leg Edema[9,12,14,16,17]

Antihypertensive drugs
Calcium channel blockers
Beta blockers
Clonidine
Hydralazine
Minoxidil
Methyldopa
Hormones
Corticosteroids
Estrogen
Progesterone
Testosterone
Other
Nonsteroidal anti-inflammatory drugs
Pioglitazone, Rosiglitazone
Monoamine oxidase inhibitors

Physical examination

- BMI、neck circumference (17inches/43.18cm)
- 單側vs.雙側
- 足背（Kaposi-Stemmer sign → lymphedema）
- tenderness、pitting
- varicose veins
- signs of heart failure/liver disease
- Skin changes

Figure 5. Lipodermatosclerosis from chronic venous insufficiency associated with marked sclerotic and hyperpigmented tissue.

eFigure A. Venous insufficiency with venous stasis ulcer over the medial malleolus. Note the yellow-brown hemosiderin deposition.

Laboratory tests

(although most patients > 50y/o with leg edema have venous insufficiency)

- CBC
- U/A
- Crea.、Na、K、glucose、TSH、albumin
- EKG
- CXR

- echocardiogram

- BNP (for dyspneic p't)
- D-dimer
- Doppler
- serum lipids (for possible nephrotic syndrome)

- lymphoscintigraphy

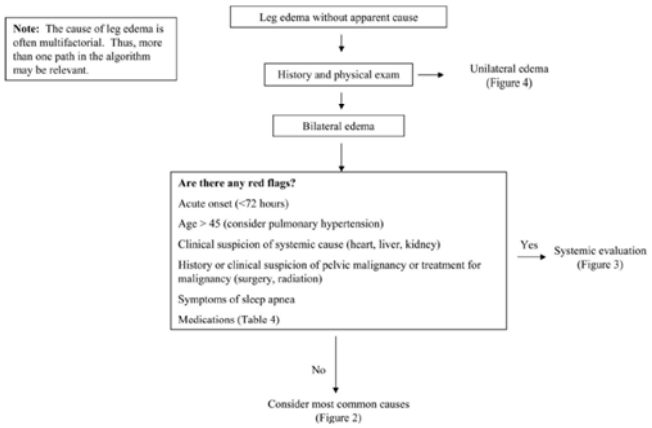
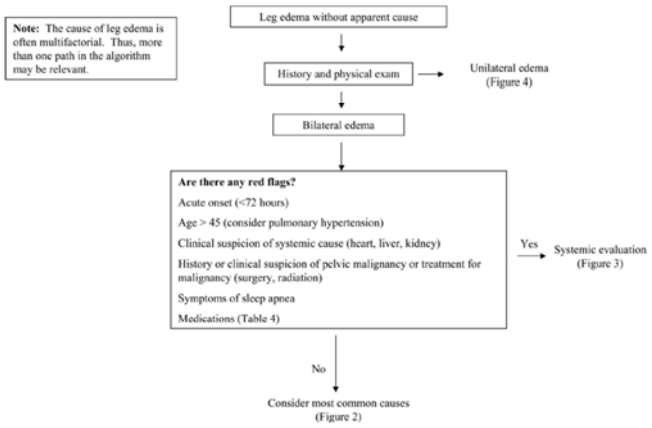


Figure 4. Unilateral edema.



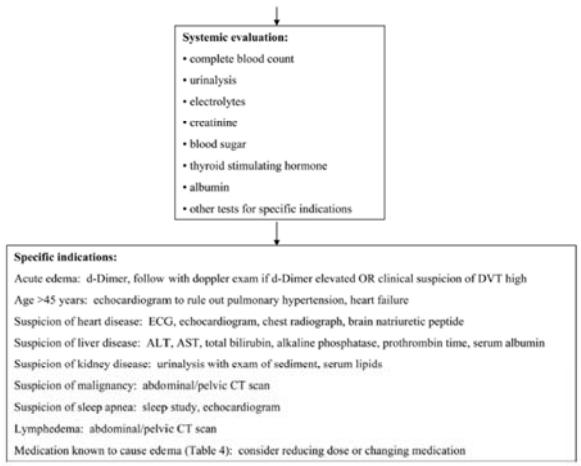
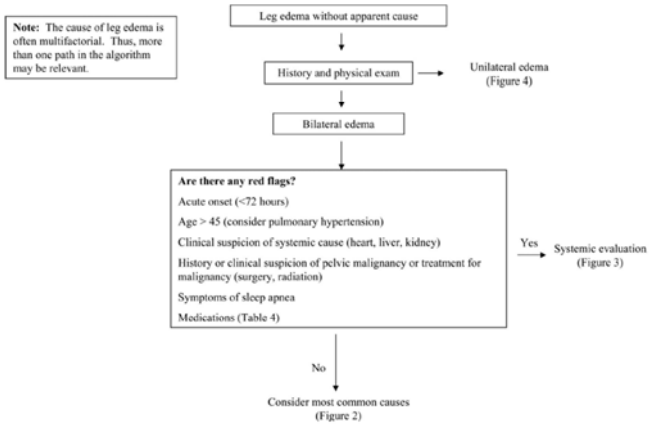


Figure 3. Systemic evaluation.



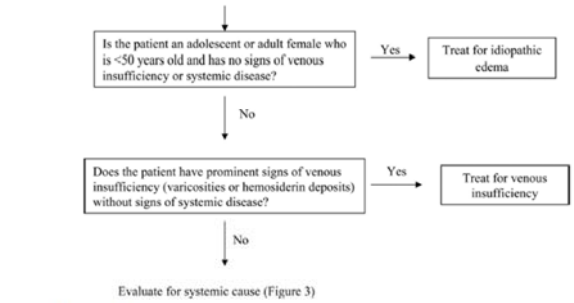


Figure 2. Common causes.

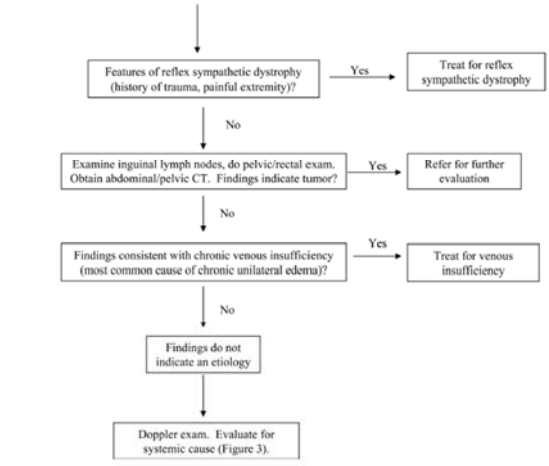


Figure 5. Chronic unilateral edema.