ER-Infection Case conference

20120317

Speaker: R2 游姿寧

Supervisor: VS. 洪世文/ VS. 陳威宇

Patient data

- Age: 57 y/o
- Gender: male
- Date of arriving ER: 2012030X, 09:14
- Chief complaint: 病患來診為發燒/畏寒
- Vital signs: T/P/R 39/134/30, BP 158/103, SpO_2 99%
- Consciousness: E4M6V1
- Triage: II

Chief complaint and Present illness

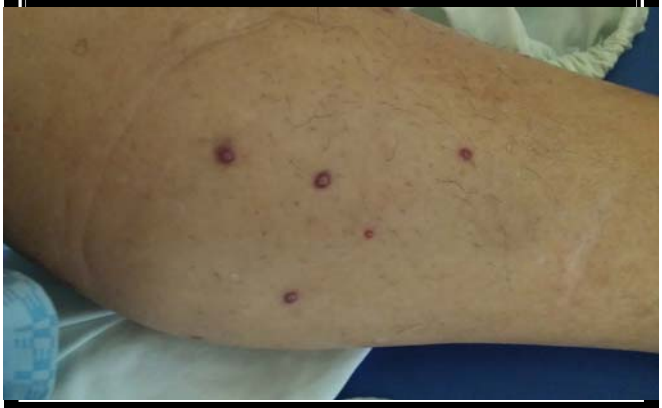
- Fever on and off today
- SOB (+), chills (+)
- No URI, no dysuria
- Left knee fracture 4 weeks ago, 在診所打石膏固定，最近已經拆了
- Abdominal distention, no nausea or vomiting
- No chest pain
- Weakness (+), dizziness (+)
- 無法說話，因太喘
- 這兩天身上有長 (??)

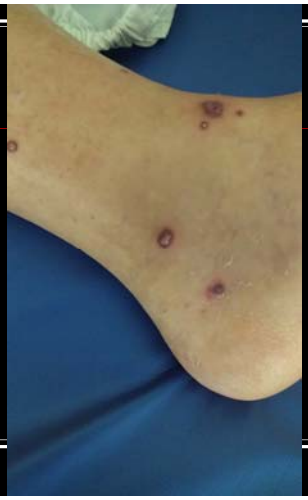
Past history

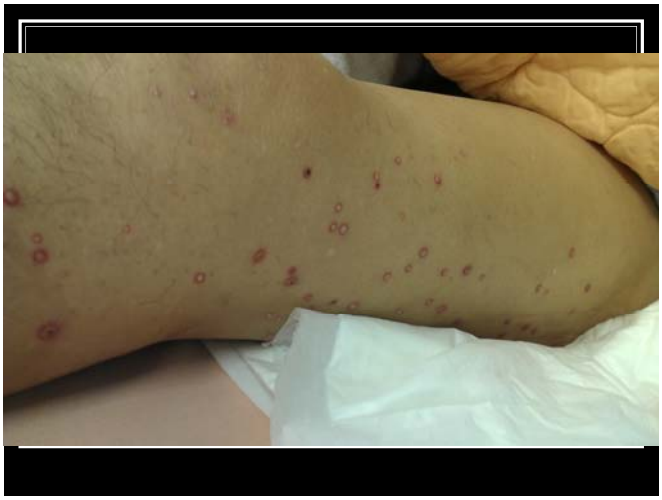
- DM

Physical examination and impression

- Consciousness: clear, chills, can obey
- HEENT: icteric, supple, ill-looking
- Chest: BS: clear
- Abdomen: dullness, general tender, right inguinal mass lesion
- Extremities: warm, multiple pustule
- NE: pupil: 3+/3+, EOM: ok
- Impression
  - Sepsis
  - r/o S. aureus infection

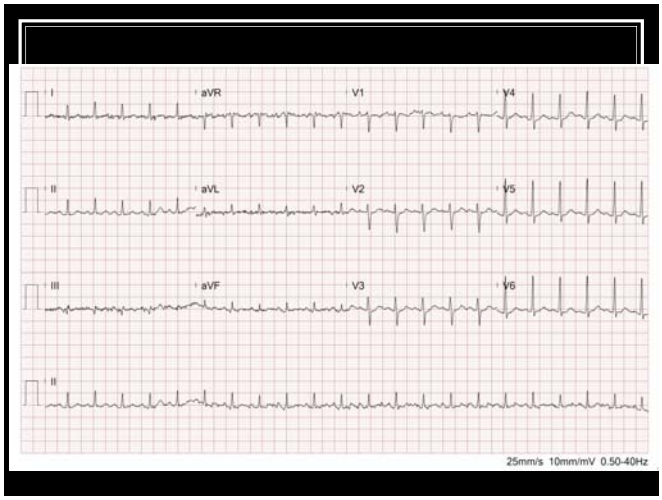






Initial orders (09:20)

- F/S (307)
- CBC/DC/Plt
- Panel I, CRP, T-bil, Trop-I
- Lactate
- PT/APTT
- ESR
- CXR/KUB
- N/S run 60 ml/hr
- N/S 300 ml IV challenge
- VBG (G3)
- On Foley catheter
- U/A, U/C
- Tint 1# po st
- N/S 改 500 ml challenge



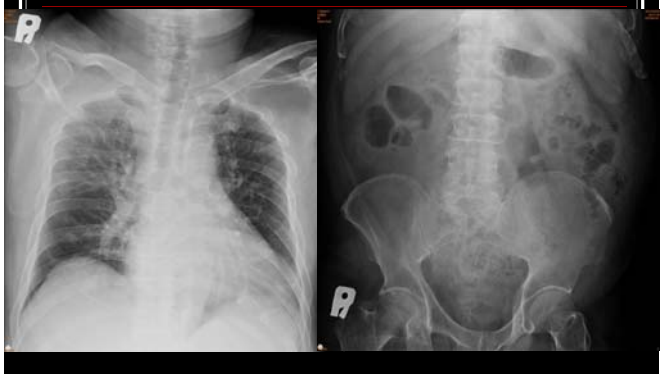
Bedside echo

- No hydronephrosis
- No ascites
- No GB (??)
- No pericardial effusion
- Poor view for liver

VBG

pH	7.414
pCO2	17.9 mmHg
pO2	47 mmHg
BE	-13 mmol/L
HCO3	11.4 mmol/L
TCO2	12 mmol/L
SO2	85 %

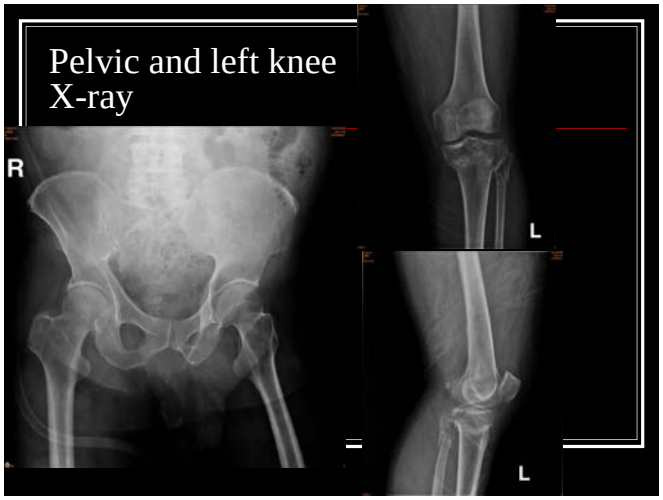
CXR, KUB



Orders (09:42)

- Pelvic X-ray
- Left knee X-ray
- Recheck V/S (HR 122, RR 20, BP 199/82)
- On BP monitor

Pelvic and left knee X-ray



Laboratory data

WBC	8.7	Glucose	343	PT	12.4
RBC	4.63	GOT	35	INR	1.16
Hb	13.9	BUN	23	APTT	30.5
Plt	18	Cre	1.0	U/A	
Seg	75%	Na	135	RBC	31-50
Lym	3%	K	3.9	WBC	8-15
Mono	10%	T-Bil	1.4	Epi	1-2
Band	11%	Trop-I	0.038	Crys	-
		CRP	31.5	Cast	Granular
		ESR	29	bac	+/-
		Lactate	22		

Consultation from Infection man (10:21)

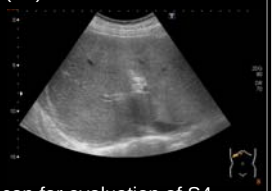
- Impression:
  - Severe sepsis, suspect Staphylococcus aureus infection
- Suggestion:
  - Teicoplanin 400mg IV Q12H X 3 doses, then 400mg IV QD
  - Ceftazidime 2g IV ST, then 2g IV Q8H
  - Wait culture report
  - Arrange abdominal echo
  - On critical, admit to ICU if his condition get worse

Orders (10:13)

- Abdominal echo
- 備血 pRBC 4U, FFP 8U, Plt 12U
- 補：consult Infection

Abdominal echo

- Liver:
  - R/O abscess, medial segment (S4)
  - Fatty liver, mild
- Gallbladder
  - polyps
- Spleen
  - splenomegaly
- Comment
  - Suggest to do abdominal CT scan for evaluation of S4 lesions



Orders (11:21)

- On critical
- 轉 EC-31
- N/S 500 ml IV st, then N/S run 100 ml/hr (HR 150, RR 22, BP 209/105)
- Teicoplanin 400 mg IV QD&ST
- Fortum 2g IV Q8H&ST
- Wait MICU 挪床
- F/S TID AC+HS
- N/S 300 ml IV st

11:25

- Seizure attack (左眼一直眨，全身抽搐)
- Give Dormicum 1 Amp IM st
- 告知high mortality
- 血庫表示目前沒有血小板

11:35

- Consciousness: drowsy
- On ET tube with MV support
- Whole body CT

Whole Body CT

Whole Body CT

- No ICH
- Multiple lesion in bilateral lung, r/o septic emboli
- r/o liver abscess
- Right kidney hypodense lesion, r/o abscess
- No bowel ileus
- No PPU

CT report

- 1.Cortical brain atrophy.
- 2.No definite organic brain lesion
- 3.Bilateral lung scattered opacities, infectious process is suspected, septic emboli should be R/I.
- Subsegmental consolidation at posterior LLL.
- 4.Chronic liver parenchyma disease pattern with fatty metamorphosis
- 5.S5/6 lesion, nature to be determined. Liver abscess is less likely.
- 6.Suggesting bile sludge
- 7.Right renal lesion, APN is suspected, Please check U/A.
- Advise sonar study for further evaluation.
- 8.Left renal cysts are likely.
- 9.Rectal wall thickening, constipation proctitis

Clinical course

- Day 1
  - Pus smear: GNB
  - DC Fortum, add Meropenem
- Day 2
  - Add Ciprofloxacin 2# PO Q12H
- Day 3
  - B/C 初步報告為 GNB, DC Teicoplanin
  - TEE: no vegetation
  - ~~Af was noted, add amiodarone~~

Clinical course

- Day 4
  - B/C and U/C: K. pneumoniae
- Day 5
  - Still fever, repeat bedside echo:
    - Intestinal necrosis progressed
    - Air at intestinal wall
    - Distended intestine
    - Dirty ascites

Clinical course

- Day 5
  - Consult GS, arrange OP

Operation note

- Pre-OP diagnosis:
  - r/o sigmoid colon diverticulitis with perforation and abscess formation
  - DM
- Post-OP diagnosis
  - r/o ileal adenocarcinoma with perforation, carcinomatosis and abscess formation
  - DM
- OP finding
  - A 3 cm irregular tumor mass originated from small bowel wall at 150 cm above ileocecal valve, r/o previous microperforation with regional abscess
  - Diffuse tumor nodules on peritoneum, about 0.2-1 cm in size, the maximal one reached 1.5 cm
  - Omental abscess adherent to the small bowel tumor

Clinical course

- Day 8
  - Ascites culture: K. pneumoniae
- Day 10
  - Pathology result: GIST
  - Consult Oncologist, give palliative care

DISCUSSION: SKIN LESION

Table 118-1 Definitions of Skin Lesions

LESION	APPEARANCE
Macule	Flat; color differs from surrounding skin
Patch	A macule with surface changes (i.e., scale or wrinkling)
Papule	Elevated skin lesion <0.5 cm in diameter
Plaque	Elevated skin lesion >0.5 cm in diameter; without substantial depth
Nodule	Elevated skin lesion >0.5 cm in diameter and depth
Cyst	Nodule filled with expressible material
Vesicle	Blisters <0.5 cm in diameter filled with clear fluid
Bullae	Blisters >0.5 cm in diameter filled with clear fluid
Pustule	Vesicle filled with cloudy or purulent fluid
Crust	Liquid debris that has dried on the skin surface; usually moist and yellowish brown
Scale	Visibly thickened stratum corneum; usually white
Lichenification	Epidermal thickening characterized by visible and palpable skin thickening and accentuated skin markings
Induration	Dermal thickening that *feels* thick and firm
Wheal	Papule or plaque of dermal edema; often with central pallor and irregular borders
Erythema	Red appearance of skin caused by vasodilation of dermal blood vessels; blanchable
Purpura	Red appearance of skin caused by blood extravasated from disrupted dermal blood vessels; nonblanchable
Macular purpura	Flat, nonpalpable
Papular purpura	Elevated, palpable

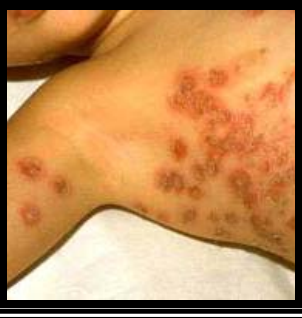
Pustules

- Impetigo
- Folliculitis
- Hidradenitis suppurativa
- Carbuncle
- Community-associated methicillin-resistant Staphylococcus aureus
- Gonococcal dermatitis

Impetigo

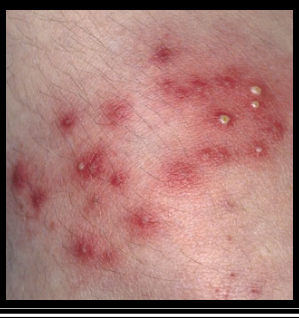
- Slowly evolving eruption
- Most common in preschool children, poor health and hygiene, malnutrition, atopic dermatitis
- Staphylococcus aureus, group A streptococcus

Streptococcal impetigo



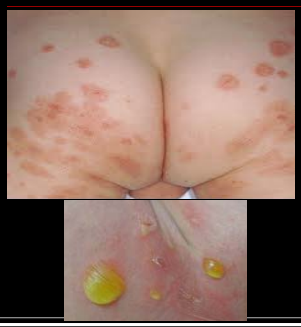
- Face and other exposed areas
- Single to multiple lesions
- 1-2 mm vesicles with erythematous margins, yellow crust after break
- Pruritic, not painful
- Regional LAP
- Contagious
- Postpyodermal APN

Staphylococcal impetigo



- Little surrounding superficial erythema
- May similar to HSV, fungal infection
- Gram's stain reveal GPC

Bullous impetigo



- Staphylococci infection
- Thin-walled, 1-2 cm bullae
- Infants and young children
- When rupture, leave thin serous crust and collarette-like remnant
- Face, neck, extremities
- Similar to HSV, contact dermatitis, fungal infection, pemphigus vulgaris

Management of impetigo

- Topical therapy: mupirocin 2% ointment TID
- Systemic therapy:
  - Erythromycin 250 mg PO QID for 10 days in adult
  - Erythromycin PO 30 mg/kg/day in children
  - Cephalexin 30-40 mg/kg/day TID for 7-10 days
- For bullous impetigo
  - Dicloxacillin 250 mg PO QID for 5-7 days in adult
  - Erythromycin 250 mg PO QID in adult, 30-50 mg/kg/day in children

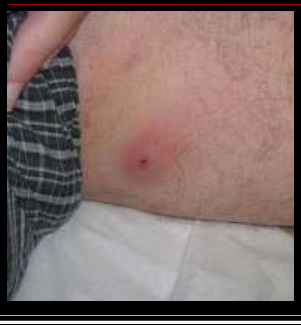
Folliculitis

- S. aureus
- On buttocks, thighs, beard, scalp
- Pseudomonas aeruginosa folliculitis: in hot tubs, swimming pools

Management for folliculitis

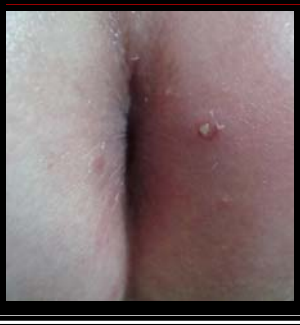
- Antiseptic cleanser: povidone-iodine, chlorhexidine QD or QOD for several weeks
- Erythromycin 250 mg PO QID for 10 days
- Dicloxacillin 250 mg PO QID for 10 days

Hidradenitis suppurativa (化膿性汗腺炎)



- Apocrine sweat glands in axillae and groin
- Recurrent abscess formation: localized furunculosis
- May be resistant to therapy
- May need I&D
- Antiandrogen therapy

Carbuncle



- Large abscess in thick, inelastic skin of back of neck, back or thighs
- Severe pain and fever
- Septicemia
- Antibiotics are unnecessary with I&D

Community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA)

- Since 1993
- May be related to hospital-acquired MRSA, pets, livestock, birds…
- Most often present as skin and soft tissue suppuration: abscess, furuncle, or cellulitis and necrotizing fasciitis; with central necrosis
- Recurrence are common

Management of CA-MRSA

- Excellent outcomes for abscess: I&D alone
- With larger abscess and/or systemic signs of infection: use antibiotics
  - No optimal regimen

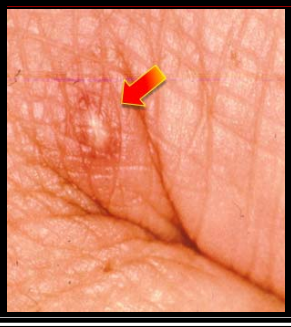
Management for CA-MRSA

- Clindamycin + MRSA activity: for other gram-positive organism
- Rifamycin: should not be used alone
- Linezolid: almost all CA-MRSA isolates and group A streptococci; increasing resistance
- Trimethoprim-sulfamethoxazole (TMP-SMZ) or tetracycline: group A streptococci resistance

Management for CA-MRSA

- Cephalosporin and macrolides: ineffective against CA-MRSA
- Fluoroquinolone: should be avoided due to resistance
- Vancomycin: for invasive infection
- Carbapenem: with Vancomycin

Gonococcal dermatitis



- Arthritis-dermatitis syndrome: the most common presentation of disseminated gonococcal disease
- Fever, migratory polyarthralgia, skin lesions
  - Multiple, preiarticular regions of distal limbs, erythematous or hemorrhagic papules, pustules and vesicles with erythematous halo
- Smear:negative for gonocci

Thanks for listening