ER-Infection Combined Meeting

A 44 y/o Man,

Fever for 5 days

R1 陳穎玲
指導Vs:洪世文．陳威宇
2013/06/15

VISIT ER AT 07:49

- 主述:Fever for 5 days
- Triage I
- TPR 39.3/161/26 BP 122/76 SpO_2 98%
- E4V5M6

Chief Complaint

Fever for 5 days

Present illness

Fever(+)
Chillness(+)
Cough(+):mild
N/V(+/-)
RUQ pain(+)
Dysuria(-)

Episodic penis pain for 2 wks.
LMD:
Foreskin inflammation
→Local ointment,oral antibiotic

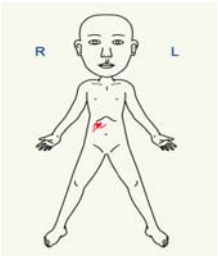
Past History

DM(-)
Allergy:Nil

Poliomyelitis,
Spine,s/p operation

PE

- Conscious
- Neck:Supple
- BS:clear
- Abd:soft,no guarding
- Limbs:No wound



Impression

Fever,R/o intraabdominal infection

Management

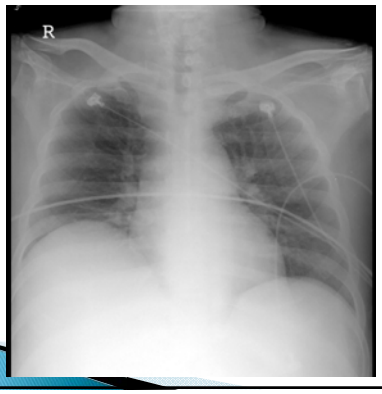
On monitor
EKG
F/S(320)
HB,WBC/DC,PLT
PT/APTT
BCS,CRP,Tro-I
Lactate
ABG(G6)
B/C X II
U/A,U/C
CXR(p)
NS 500cc iv challenge
Then 60cc/hr
Acetamol 1g iv st.

Arterial Blood Gas at RoomAir

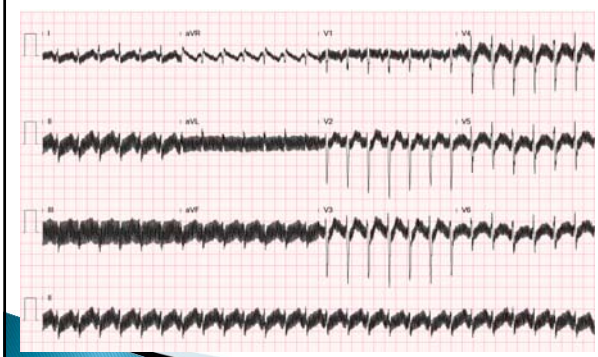
PH=7.299
PCO2=17.6 mmHg
PO2=79 mmHg
BE=-18 mmol/L
HCO3=8.6 mmol/L
TCO2=9 mmol/L
SO2=95 %
NA=134 mmol/L
K=3.4 mmol/L
HCT=44 %PCV
HB=15.0 g/dL

Metabolic acidosis,severe

Chest Film(Portable)



EKG



Laboratory Data

GOT(AST)	91	U/L
BUN	11	mg/dL
Creatinine	0.85	mg/dL
eGFR	97.92	
Troponin I	0.095	ug/L
CRP	40.200	mg/dL
Lactate	30.8	mg/dL
PT	11.8	second
Normal control	10.2	second
INR	1.16	Ratio
APTT	38.0	second
Normal control	33.3	second
APTT ratio	1.14	

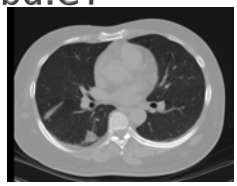
WBC	2.7	X1000/ul
RBC	5.06	million
Hb	15.7	gm/dl
Ht	45.0	%
MCV	88.9	fl
MCH	31.0	pg
MCHC	34.9	%
RDW	13.8	%
Platelet	40	x1000/ul
Differential count	**********	
Segmented Neutro.	50.0	%
Lymphocyte	13.0	%
Monocyte	1.0	%
Eosinophil	1.0	%
Basophil	0.0	%
Atypical lymphocyte	1.0	%
Band	29.0	%

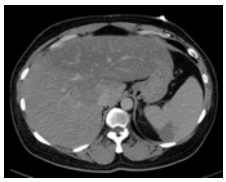
Impression

Severe sepsis
Suspect liver abscess→arrange abdominal CT.

Abdominal CT with contrast

Abd.CT





1.RLL lesion. Infarction with pneumonia should be considered.
2.Splenic infarction.
3.Probably APN, bil. kidneys.
4.R/O anal fistula with chronic left perianal abscess.
5.Uneven fatty liver.
6.GB stone.

Differential Diagnosis of Splenic infarction

- Hypercoagulable state (malignancy, antiphospholipid syndrome)
- Embolic disease (Atrial fibrillation, patent foramen ovale, infective endocarditis)
- Myeloproliferative disorder with associated splenomegaly (eg, polycythemia vera, essential thrombocythemia, primary myelofibrosis)

Differential Diagnosis of Splenic infarction

- Sickle cell disease .
- Marked splenomegaly
- Trauma
- Splenic arterial torsion

Clinical course

- Admission to AICU
- Consult Infection:
  Antibiotic regimen:Flumarin + oxacillin

Surviving Sepsis Campaign:2012: Antimicrobial therapy

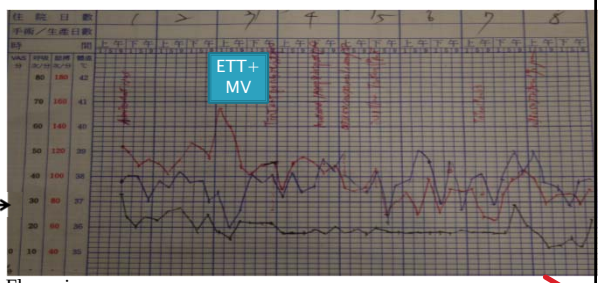
- Time:within 1 hr of recognition of septic shock or severe sepsis (grade 1B,1C)
- Regimen:~~

~MRSA,ESBL-GNB

~Pseudomonas bacteremia:
Extended spectrum beta-lactam + Aminoglycoside/fluroquinolone

~Streptococcus pneumoniae bacteremia:
beta-lactam +macrolide

Clinical Course



Flumarin →

Oxacillin → DC

B/C:GNB

WBC:17.8K
Band:3%

HbA1c:11.9%,Ketone:3.8

AICU Course: DAY3

- SOB

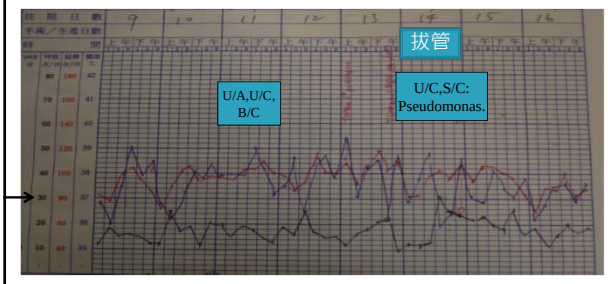
F/U ABG:

PH=6.992
PCO2=52.8 mmHg
PO2=118 mmHg
BE=-19 mmol/L
HCO3=12.8 mmol/L
TCO2=14 mmol/L
SO2=95 %
LAC=5.3 mg/dL

→ On Endo.
CVC for resuscitation

Blood Ketone	3.8	mmol/L
Cl	108	meq/L
Osmolarity	307	mOsm/kg

Clinical Course



Flumarin →

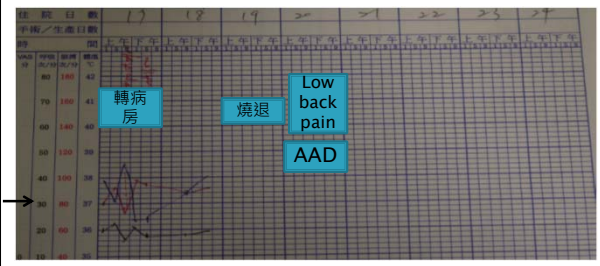
WBC:20.1K
Band:0%

CRP:16.7

Tamtucef →

B/C: (-)

Clinical Course



Tamtucef →

WBC:
13.4K
CRP:
6.39

Management

- DAY6 Heart echography:No vegetation
- DAY6 Abd echo:Fatty liver,C/W alcoholic liver disease,Spleen focal lesion,r/o infarction or abscess
- DAY11 Chest Echo:negative finding

Culture Data:Set 1

```
PRELIMINARY BLOOD CULTURE REPORT:
Aerobic:          SALXK9H5          +
Anerobic:         SNLPDCYP          +
Two bottles of bottle set were positive cultured and final report
pending.
Microscopic finding:    Gram (-) bacillus
FINAL BLOOD CULTURE REPORT:
Organism:
1.Klebsiella pneumoniae
/////
Antibiotic/Culture:E41 Klebsiella pneumoniae
  AN    CAZ   CIP   CMZ   CRO   CXM   CZ    ETP   FEP   FLO   GM
  S     S     S     S     S     S     I/S   S     S     S     S
  <=2   <=1   <=.25 <=1   <=1   4     <=4   <=.5  <=1   <=2   <=1
  IPM   LVX   PIP   SAM   TGC   TZP
  S     S     S     S     S     S
  <=.25 <=.12 8     4     <=.5  <=4
AN:AN(Amikin) CAZ:CAZ(Ceftazidime ) CIP:CIP(Ciprofloxacin )
CMZ:CMZ(Cefmetazole ) CRO:CRO(Ceftriaxone ) CXM:CXM(Cefuroxime)
CZ:CZ(Cefazolin ) ETP:ETP(Ertapenem ) FEP:FEP(Cefepime)
FLO:FLO(Flumarin) GM:GM(Gentamicin ) IPM:IPM/MEM(Imipenem/Meropenem)
LVX:LVX(Levofloxacin) PIP:PIP(Piperacillin)
SAM:SAM(Ampicillim&Sulbactum ) TGC:TGC(Tigecycline )
TZP:TZP(Tazocin )
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Culture Data : Set 2

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PRELIMINARY BLOOD CULTURE REPORT:
Aerobic:          SALXK9HY          +
Anerobic:         SNLPDCXS          +
Two bottles of bottle set were positive cultured and final report
pending.
Microscopic finding:    Gram (-) bacillus
FINAL BLOOD CULTURE REPORT:
Organism:
1.Klebsiella pneumoniae
/////
Antibiotic/Culture:E41 Klebsiella pneumoniae
  AN    CAZ   CIP   CMZ   CRO   CXM   CZ    ETP   FEP   FLO   GM
  S     S     S     S     S     S     I/S   S     S     S     S
  <=2   <=1   <=.25 <=1   <=1   4     <=4   <=.5  <=1   <=2   <=1
  IPM   LVX   PIP   SAM   TGC   TZP
  S     S     S     S     S     S
  <=.25 <=.12 8     4     <=.5  <=4
AN:AN(Amikin) CAZ:CAZ(Ceftazidime ) CIP:CIP(Ciprofloxacin )
CMZ:CMZ(Cefmetazole ) CRO:CRO(Ceftriaxone ) CXM:CXM(Cefuroxime)
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FLO:FLO(Flumarin) GM:GM(Gentamicin ) IPM:IPM/MEM(Imipenem/Meropenem)
LVX:LVX(Levofloxacin) PIP:PIP(Piperacillin)
SAM:SAM(Ampicillim&Sulbactum ) TGC:TGC(Tigecycline )
TZP:TZP(Tazocin )
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Final Diagnosis

- Klebsiella pneumoniae bacteremia complicated with spleen infarction

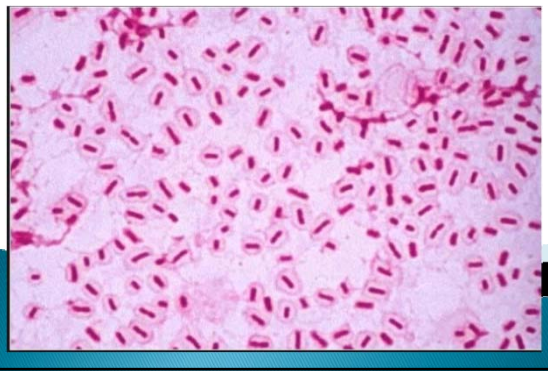
Discussion

Klebsiella Pneumoniae Bacteremia

GNB Bacteremia in community-acquired setting

- E. coli – 76 %
- P. aeruginosa – 7.9 %
- K. pneumoniae – 5.4 %
- Proteus mirabilis – 4.2 %
- Enterobacter species – 3.7 %

Gram Stain 下的 Klebsiella Pneumoniae



Host Risk factor

1. Diabetes mellitus
2. Alcoholism
3. Malignancy
4. Hepatobiliary disease
5. Chronic obstructive pulmonary disease
6. Glucocorticoid therapy
7. Renal failure

Site of acquisition

Community-Acquired: DM
Nosocomial Infection:Malignancy

Geographic distribution

- Taiwan, South Africa, United States, Australia, Belgium, Turkey, and Argentina)
- Invasive community-acquired syndrome of liver abscess, meningitis, or endophthalmitis was only seen in Taiwan.

Clinical Sydrome

- Pneumonia
- COPD with secondary infection
- Lung abscess:Taiwan
- Liver abscess:

Invasive liver abscess syndrome with metastaticinfection:Endophthalmitis,meningitis

- Splenic abscess
- Meningitis/Brain Abscess

Metastatic infection

- Primary liver abscess.
- The most common manifestations:endophthalmitis, meningitis,brain abscess.
- Other:lumbar or cervical spondylitis and discitis, septic pulmonary emboli, lung abscess, psoas abscess, splenic abscess, necrotizing fasciitis, neck abscess, osteomyelitis

Refence

- **Uptodate:**

1. Approach to the adult patient with splenomegaly and other splenic disorders

2. Gram-negative bacillary bacteremia in adults

3. Invasive liver abscess syndrome caused by Klebsiella pneumoniae

Thank You for your Attention!!!