ER-Infection Combine meeting 20141018

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1

PATIENT INFORMATION

+ 40歲　男性
+ 初次就診日期: DAY1　09時57分
+ 檢傷級數:3　　科別:內科
+ 檢傷主訴:病人主訴為噁心嘔吐
+ 意識: E4V5M6　　血氧: 100%
+ 體溫: 38.4oC　脈搏: 99次/分

呼吸 21/min　血壓121/68mmHg

+ 過去病史:　良好

2

病史

主訴 : Fever for 1 week, up to 38.7'C

Nausea, 昨晚Vomiting *4次, Vomitus:watery
Headache(+), 漲痛 when 燒退
No URI symptoms, No diarrhea
No abdominal pain, No dysuria
No skin rash, No tea-color urine
TOCC: 無旅遊史, 無動物接觸史, 有接觸到發燒的小孩
職業:服務業
+ 過去病史 :
Allergy:NKA　　Disease: denied

3

理學檢查:

+ Consciousness: clear
+ Neck: pink-conjuctiva, No LAP, No jaundice
+ Chest: Clear BS, RHB
+ Abdomen: Soft, no rebound, no guarding
+ Four limbs: No skin rash
+ NE: No weakness, no numbness

4

COURSE

DAY1 10:20

Order➔

•F/S (111)

•CBC/DC/PLT

•B/C * 2

•GOT,BUN,Cre,Na,K,Lipase,CRP

•U/A

•CXR

•IV: N/S run 80cc/hr

5

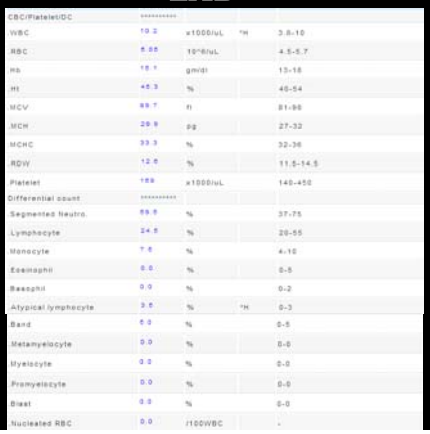
CXR

DAY1

6

LAB

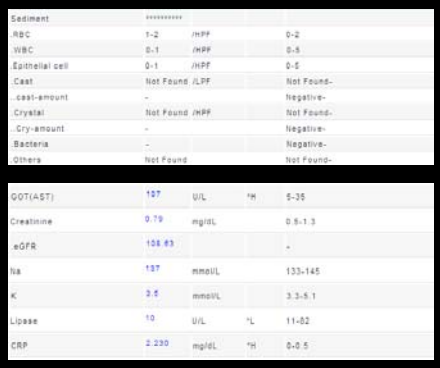
11:30



CBC/Platelet/DC	**********			
WBC	10.2	x1000/uL	*H	3.8-10
RBC	5.66	10^6/uL		4.5-5.7
Hb	15.1	gm/dl		13-16
Ht	45.3	%		40-54
MCV	89.7	fl		81-96
MCH	29.9	pg		27-32
MCHC	33.3	%		32-36
RDW	12.6	%		11.5-14.5
Platelet	159	x1000/uL		140-450
Differential count	**********			
Segmented Neutro.	69.5	%		37-75
Lymphocyte	24.5	%		20-55
Monocyte	7.6	%		4-10
Eosinophil	0.0	%		0-5
Basophil	0.9	%		0-2
Atypical lymphocyte	3.5	%	*H	0-3
Band	0.0	%		0-5
Metamyelocyte	0.0	%		0-0
Myelocyte	0.0	%		0-0
Promyelocyte	0.0	%		0-0
Blast	0.0	%		0-0
Nucleated RBC	0.0	/100WBC		-

LAB

11:30



Sediment	**********			
RBC	1-2	/HPF		0-2
WBC	0-1	/HPF		0-5
Epithelial cell	0-1	/HPF		0-5
Cast	Not Found	/LPF		Not Found-
.cast-amount	-			Negative-
Crystal	Not Found	/HPF		Not Found-
.Cry-amount	-			Negative-
Bacteria	-			Negative-
Others	Not Found			Not Found-

GOT(AST)	197	U/L	*H	5-35
Creatinine	0.79	mg/dL		0.5-1.3
eGFR	108.83			-
Na	137	mmol/L		133-145
K	3.5	mmol/L		3.3-5.1
Lipase	10	U/L	*L	11-82
CRP	2.230	mg/dL	*H	0-0.5

11:43

◆Order ➔
U/C
Bedside echo
➔
No hydronephrosis
No AUR
GB wall no thickening or layering
No CBD dilatation

12:43

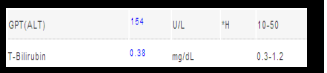
BT: 38.5'C
◆Order ➔
Ketoprofen 1amp IM ST

14:36

No abdominal pain
Neck: LAP
➔Favor infectious mononucleosis
➔家屬述病人較weak想留下先OBS

15:47

吃一些，想吐，吃不下
Weak(+), 人不適
• Order ➔
Primparan 1 amp IV ST
Check ALT/T-B
排PGY/GI ward
轉EC



GPT(ALT)	164	U/L	*H	10-50
T-Bilirubin	0.38	mg/dL		0.3-1.2

19:23

BT: 39.6'C
•Order ➔
Ketoprofen 1amp IM ST
Winzolin 1g Q8H + ST

20:50

•Order ➔
Abd echo

21:30

•Patient asked for AAD
•Order ➔
INF OPD follow up
Cephalaxin + Tinten 1# PO QID *3days

2ND COURSE

DAY3 01:48

Vital signs: 38.7 / 103 / 20 BP: 114/56mmHg

Consciousness: E4V5M6

主訴:病人主訴為頭痛 發燒

病史: Fever for one week

Cough(-), Rhinorrhea(-), Sore throat(-),

Abdominal pain(-), Dysuria(-),

全身痠痛, intermittent headache(VAS:5)

No neck pain但痠

TOCC: as before

2ND 理學檢查:

+ Consciousness: E4M6V5
+ Pupil: 3+/3+
+ Neck: LAP(+)
+ Throat: redness, no exudated
+ Chest: Clear BS, RHB
+ Abdomen: Soft, no tender
+ Four limbs: freely movable
+ NE: Babinski sign and Kerning sidn: negative

DAY3
02:26

•Order ➔
B/C *1
Tinten 1# PO ST
CBC/DC/PLT
AST,ALT,T-B,Cr,CRP
VBG6
Lactate
N/S 80cc/hr

13

LAB

DAY3 03:20

PH=7.444
PCO2=41.2 mmHg
PO2=61 mmHg
BE=4 mmol/L
HCO3=28.3 mmol/L
TCO2=29 mmol/L
SO2=92 %
NA=135 mmol/L
K=3.1 mmol/L
HCT=39 %PCV
HB=13.3 g/dL

14

DAY3 03:20

LAB

CBC/Platelet/DC	**********			
WBC	11.6	x1000/uL	*H	3.8-10
RBC	4.47	10^6/uL	*L	4.5-5.7
Hb	13.7	gm/dl		13-18
Ht	40.4	%		40-54
MCV	90.4	fl		81-99
MCH	30.6	pg		27-32
MCHC	33.9	%		32-36
RDW	12.6	%		11.5-14.5
Platelet	167	x1000/uL		140-450
Differential count	**********			
Segmented Neutro.	55.0	%		37-75
Lymphocyte	33.0	%		20-55
Monocyte	4.0	%		4-10
Eosinophil	8.0	%		0-5
Basophil	0.0	%		0-2
Atypical lymphocyte	19.0	%	*H	0-3
Band	0.0	%		0-5
Metamyelocyte	0.0	%		0-0
Myelocyte	0.0	%		0-0
Promyelocyte	0.0	%		0-0
Blast	0.0	%		0-0
Nucleated RBC	0.0	/100WBC		-

15

DAY3 03:20

LAB

GOT(AST)	130	U/L	*H	5-35
GPT(ALT)	213	U/L	*H	10-50
T-Bilirubin	0.61	mg/dL		0.3-1.2
Creatinine	0.94	mg/dL		0.5-1.3
eGFR	101.20			-
CRP	0.590	mg/dL	*H	0-0.5

Lactate	13.1	mg/dL	4.5-19.8

16

04:01

BT: 38'C HR:88
favor infective mononucleosis

•Order ➔
Tinten 1# PO QID *3days
Lindacin 1#PO QID*3days
MBD

17

18

3RD COURSE

DAY3 16:05

Vital signs: 38.0 / 97 / 23 BP: 107/64mmHg

Consciousness: E4V5M6

主訴:病人主訴為發燒 畏寒

病史: Fever on and off, for 7 days

因為頭很痛、快爆炸所以回急診

3RD 理學檢查:

+ Consciousness: clear
+ Neck:supple, no meningeal sign
+ Throat: no pus
+ Chest: Clear BS, RHB
+ Four limbs: no cellulitis

16:35 •Order →
Ketoprofen 1amp IM ST
NS run 100ml/hr

18:02 Persisted headache
•Order →
Brain CT

BRAIN CT

19:30 •Order →
Ceftriaxone 2g IV Q12H
Lumbar puncture
Abdominal Echo
轉EC

21:40 頭痛
No nausea, no blurred vision, no focal weakness
•Order →
Zovirax 500mg iv Q8H

LAB

CSF finding

CSF	**********		
Color	Colorless		Colorless-
Appearance	Clear		Clear-
Pandy's test	+		Negative-
RBC	4	x10/ul	0-5
WBC	30	x10/ul	0-5
L/N	91%/9%		-
Other			-

Gram's stain		
PMN		-
Squamous Epi. cell		+
Gram(+) Cocci	Not Found	-
Gram(+) Bacilli	Not Found	-
Gram(-) Cocci	Not Found	-
Gram(-) Bacilli	Not Found	-
Yeast	Not Found	-
Fungi	Not Found	-
India ink	Not found	Not Found-

Glucose	48	mg/dL		40-70
Total-protein	131.0	mg/dL	*H	15-45
Lactate	28	mg/dL		10-22
Latex Crypt Ag	Negative			Negative-

LAB

CSF finding

HIV Screen	30.04	S/CO	+	0-0.99
CMV IgG	104.3		+	0-5.99
@Negative		AU/mL		<6.00-
@Positive		AU/mL		->=6.0
CMV IgM	0.14		-	0-0.99
@@Negative		Index		<0.85-
@@Equivocal		Index		0.85-0.99
@@Positive		Index		->=1.00

EBV-VCA IgG	>100		+	0-11
..Negative		NTU		<9.0-
..Equivocal		NTU		9.0-11.0
..Positive		NTU		->11.0
EBV-VCA IgM	2.0		-	0-11
...Negative		NTU		<9.0-
...Equivocal		NTU		9.0-11.0
...Positive		NTU		->11.0

25

Abdominal echo

Sonar Findings
Liver :
Preserved echotexture was noted.
No space-occupying lesion was found.
IHD :
Negative
MBD :
Negative
GB :
Negative
PV System :
Negative
Pancreas :
Incomplete visualization due to bowel gas.
Spleen :
Negative
Ascites :
Suspected minimal amount of ascites was noted.
Kidney :
Negative
Diagnosis :
Others :
Suspect ascites, minimal amount.

26

DAY4
11:54

Consult infection

Imp:Aseptic meningitis

Suggest:
1.No antibiotic is needed right now.
2.May check blood cryptococcus Ag
EBV VCA IgM, IgG
CMV IgM, IgG
HIV screen.
3.Symptomatic treatment.

DAY4
21:30

Vital signs: 36 / 68 / 16 BP:105/59mmHg
仍會一陣一陣頭痛，都痛在bitemporal area

27

DAY5
10:03

Vital signs: 35.8 / 73 / 18 BP:110/63 mmHg
頭痛還好，都痛在temporal area

DAY5
16:33

Contact inf. doctor

Imp:Favor acute HIV infection
Suggest:
1.Symptomatic treatment with Tramacet 1# Qid po.
2.May arrange discharge and Inf OPD follow up

28

DAY5
17:44

•Order ➔
MBD and inf. OPD follow up

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FINAL DIAGNOSIS

Acute HIV infection with aseptic meningitis

30

LAB

DAY7 report

EBV-VCA IgG.	>100		+	0-11
..Negative		NTU		<9.0-
..Equivocal		NTU		9.0-11.0
..Positive		NTU		->11.0
EBV-VCA IgM.	2.0		-	0-11
...Negative		NTU		<9.0-
...Equivocal		NTU		9.0-11.0
...Positive		NTU		->11.0

LAB

DAY21 OPD follow up

Glucose	88	mg/dL		70-110
GOT(AST)	19	U/L		5-35
GPT(ALT)	29	U/L		10-50
T-Bilirubin	0.79	mg/dL		0.3-1.2

Infectious mononucleosis

+ characterized by a triad of fever, tonsillar pharyngitis, and lymphadenopathy
+ Contact of Epstein-Barr virus (EBV) with oropharyngeal epithelial cells allows replication of the virus, release of EBV into the oropharyngeal secretions, and infection of B cells in the lymphoid-rich areas of the oropharynx

Am Fam Physician. 2004;70(7):1279.

Clinical manifestations of infectious mononucleosis

Symptoms and signs	Frequency, percent
Symptoms	
Malaise and fatigue	90-100
Sweats	80-95
Sore throat, dysphagia	80-85
Anorexia	50-80
Nausea	50-70
Headache	40-70
Chills	40-60
Cough	30-50
Myalgia	12-30
Ocular muscle pain	10-20
Chest pain	5-20
Arthralgia	5-10
Photophobia	5-10
Signs	
Adenopathy	100
Fever	80-95
Pharyngitis	65-85
Splenomegaly	50-60
Bradycardia	35-50
Periorbital edema	25-40
Palatal enanthem	25-35
Liver and spleen tenderness	15-30
Hepatomegaly	15-25
Rhinitis	10-25
Jaundice	5-10
Skin rash	3-6
Pneumonitis	<3

Infectious mononucleosis

+ The most common laboratory finding in association with IM is lymphocytosis

➔defined as an absolute count or, on peripheral smear, a differential count >50 percent.

+ Supportive evidence of EBV infection is derived from the observation of lymphocytosis and increased circulating atypical lymphocytes along with a positive heterophile antibody test

Am Fam Physician. 2004;70(7):1279.

+ The mainstay of treatment for individuals with infectious mononucleosis (IM) is supportive care.

➔Acetaminophen or NSAIDs are recommended for the treatment of fever, throat discomfort, and malaise.

Am Fam Physician. 2004;70(7):1279.

Infectious mononucleosis

+ Approximately 10 percent of mononucleosis-like cases are not caused by Epstein-Barr virus (EBV).

➔Other agents that produce a similar clinical syndrome include cytomegalovirus (CMV), HIV, toxoplasmosis, human herpesvirus type 6 (HHV-6), hepatitis B, and possibly HHV-7

Am Fam Physician. 2004;70(7):1279.

+ CMV mononucleosis有以下不同的症狀：如不會有posterior cervical adenopathy、有很小的Nonexudative pharyngitis 、splenomegaly較少見，且由於肝臟較會受影響，所以CMV mononucleosis的肝炎指數常會持續上升達半年至一年。

Br Med J. 1965;2(5470):1099.

+ toxoplasmosis causes a syndrome characterized predominantly by fever and lymphadenopathy

➔ It rarely causes pharyngitis or abnormal liver function tests

Am Fam Physician. 2004;70(7):1279.

Acute HIV infection

TABLE 1. Presentation of acute human immunodeficiency virus infection

Sign or symptom	Likelihood of presentation (%)
Fever	53–90[6,10,25,27]
Weight loss/anorexia	46–76[6,27]
Fatigue	26–90[10,25,27]
GI upset	31–68[6,27]
Rash	9–80[6,10,25]
Headache	32–70[10,25,27]
Lymphadenopathy	7–75[10,25,27]
Pharyngitis	15–70[6,10,25,27]
Myalgia or arthralgia	18–70[10,25,27]
Aseptic meningitis	24[10]
Oral ulcers	10–20[10]
Leukopenia	40[10]

Acute HIV infection

+ **Mucocutaneous ulceration is unusual in IM; its presence should heighten the suspicion for acute HIV infection.**

+ **Rash is less common in IM (unless antibiotics have been administered), but is seen frequently in the setting of primary HIV infection within 48 to 72 hours after the onset of fever**

[Am J Med Sci 2013;345(2):136–142.

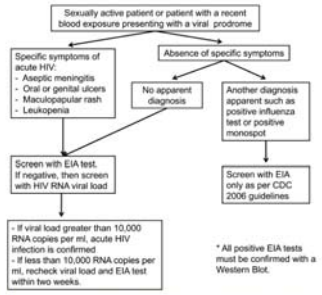

FIGURE 1. Suggested algorithm for the diagnosis of acute human immunodeficiency virus infection. CDC, Centers for Disease Control and Prevention; EIA, enzyme immunoassay; HIV, human immunodeficiency virus.

[Am J Med Sci 2013;345(2):136–142.

THANKS FOR TOUR ATTENTION