ER-Inf
Case conference

Supervisor: VS洪世文
Presentor: R1劉邦民
103.06.21

Visit ER at day1 09:49

- 28 y/o female
- Chief complaint: 病人主述為來台旅遊發燒畏寒
- Triage: 3
- T/P/R:38.3/106/22, BP=120/83, SpO2=100%
- Conscious: E4M6V5

Present illness

- Fever for 3 days
- 馬來西亞來台旅遊(4天前來)
- Whitish rhinorrhea(+), cough(+), trace sputum(+)
- No sorethroat/diarrhea/myalgia
- No 同行者 has similar s/s

Past history

- Allergy: nil
- Medical history:
  - CAD(-), Hypertension(-), DM(-),
- Surgical history: nil
- Denied pregnancy

Physical examination

- Cons: E4M6V5
- Head & neck: no tonsil exudate noted
- Chest: clear breath sounds, RHB
- abdomen: soft, no tenderness, no CV knocking pain
- Extremity: freely movable

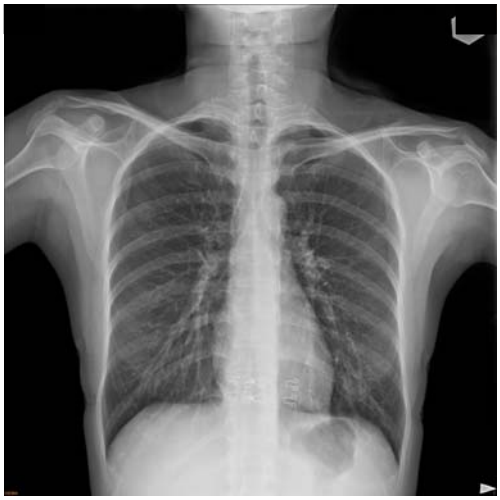
Impression

- URI r/o pneumonia

Management

(1001)

- CXR
- WBC/DC, platelet, Hb
- AST/Cr/Na/K
- B/C x1
- N/S 60 ml/hr
- influenza screening



Laboratory data

Hb	13.6	gm/dl
WBC	2.8	x1000/ul
Differential count	**********	
Segmented Neutro.	49.0	%
Lymphocyte	27.0	%
Monocyte	21.0	%
Eosinophil	0.0	%
Basophil	1.0	%
Atypical lymphocyte	0.0	%
Band	1.0	%

Metamyelocyte	0.0	%
Myelocyte	1.0	%
Promyelocyte	0.0	%
Blast	0.0	%
Nucleated RBC	0.0	/100WBC
Platelet	93	x1000/ul

GOT(AST)	27	U/L
Creatinine	0.63	mg/dL
eGFR	112.52	
Na	134	mmol/L
K	3.6	mmol/L

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Influenza A antigen     Negative
Influenza B antigen     Negative
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Management

1205

- PT/PTT
- T-bil, CRP
- consult infection doctor

1355

- 通報 Dengue fever, meales, rubella

1427

- DC PT/PTT, CRP, T-bil
- MBD & OPD f/u
- 告知自主隔離
- Tinten 1 tab QID PO X 3 days

Lab results

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抗體檢測 ELISA-IgM/ 陰性
抗體檢測 ELISA-IgG/ 陰性
登革熱 NSI 抗原檢測 / 陽性
REAL TIME PCR/ 陽性 / 登革病毒 / 第一型
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Blood culture

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PRELIMINARY BLOOD CULTURE REPORT:
Aerobic:          SAMMSHNQ          -
Anerobic:         SNMYWNCN          -
No microorganism grow in 3 days cultured and final report pending.
FINAL BLOOD CULTURE REPORT:
Aerobic:          -
Anerobic:         -
No microorganism  grow in  7 days cultured.
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Case 2

Visit ER at day1 13:36

- 32 y/o male
- Chief complaint: 病人主述1週前剛從馬來西亞回來，太太確診登革熱，全身紅疹
- Triage: 3
- T/P/R:37.6/98/18, BP=126/75, SpO2=99%
- Conscious: E4M6V5

Present illness

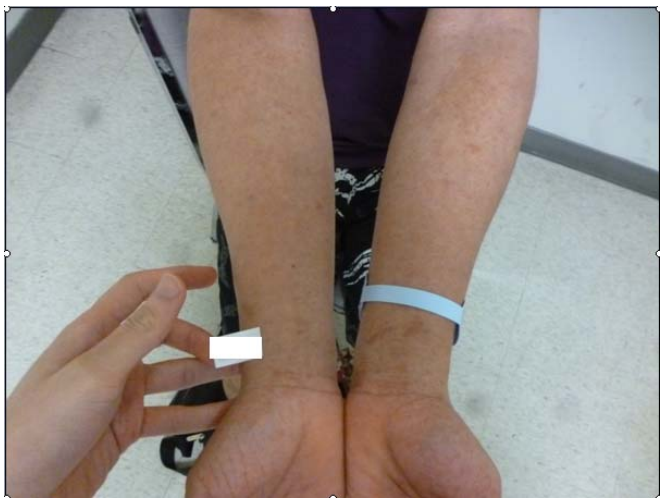
- 6天前 fever，現已退燒
- Improved in myalgia & arthralgia
- Urine color: 黃
- No headache
- Skin rash(+)/不癢

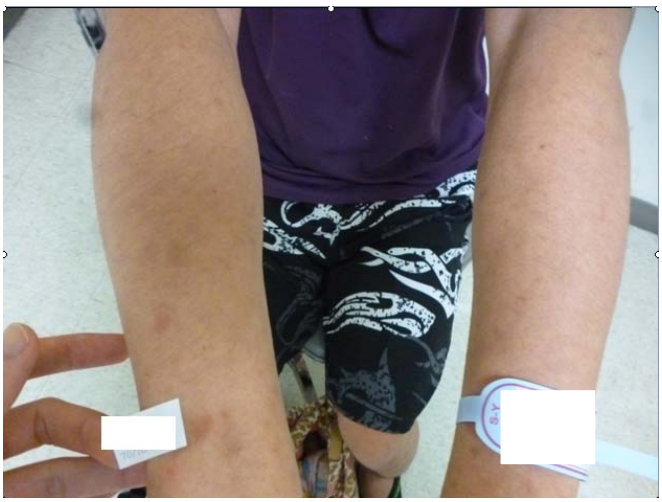
Past history

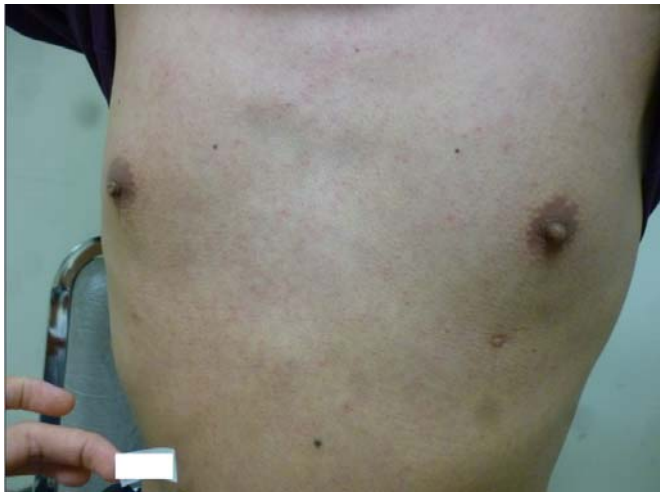
- Allergy: NKDA

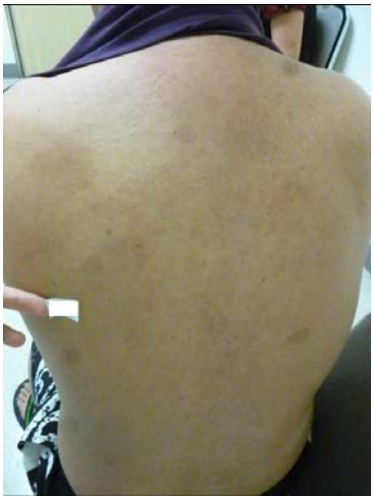
Physical examination

- Cons: clear
- Head & neck: not pale conjunctiva
- Chest: RHB
- abdomen: soft
- Extremity: freely movable, warm









Impression

- Suspected Dengue fever

Management

(1423)
•WBC/DC, platelet, Hb
• AST/Cr
• PT/PTT
• On IV lock
• 通報登革熱
• 隔離室隔離
• take photo

Laboratory data

Hb	16.4	gm/dl
WBC	3.0	x1000/uL
Differential count	**********	
Segmented Neutro.	69.3	%
Lymphocyte	20.3	%
Monocyte	8.4	%
Eosinophil	1.7	%
Basophil	0.3	%
Platelet	148	x1000/uL

GOT(AST)	28	U/L
Creatinine	1.06	mg/dL
eGFR	80.96	

PT	10.4	second
Normal control	10.4	second
INR	1.00	Ratio
APTT	37.1	second
Normal control	33.4	second
APTT ratio	1.11	

Management

1700

- MBD & OPD f/u
- 登革熱衛教
- 告知自主隔離
- Tinten 1 tab QID PO X 3 days

Lab results

血清抗體檢測 ELISA IgM/ 未確定
血清抗體檢測 ELISA IgG/ 陰性
登革熱 NS1 抗體檢測 / 陽性
血清 REAL TIME PCR/ 陰性
第二次血清抗體檢測 ELISA IgG/ 陽性
第二次血清抗體檢測 ELISA IgM/ 陽性

Case 3

Visit ER at day1 13:38

- 32 y/o female
- Chief complaint: 病人主述1週前剛從馬來西亞回來，確診登革熱，發燒5天
- Triage: 3
- T/P/R:37.6/113/18, BP=125/77, SpO2=98%
- Conscious: E4M6V5

Present illness

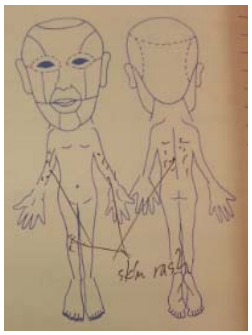
- 7天前 回台灣
- 過海關, BT:39 度→抽血→ 隔天衛生所通知確診dengue fever
- Urine color: 淡黃
- Improved in myalgia & arthralgia
- 長疹子擔心出血熱

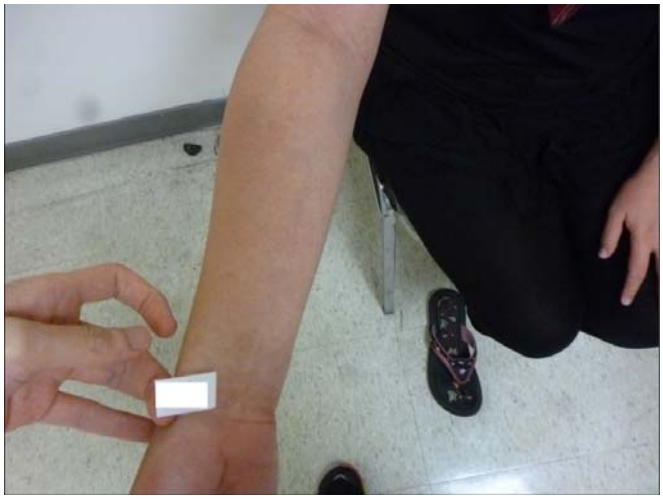
Past history

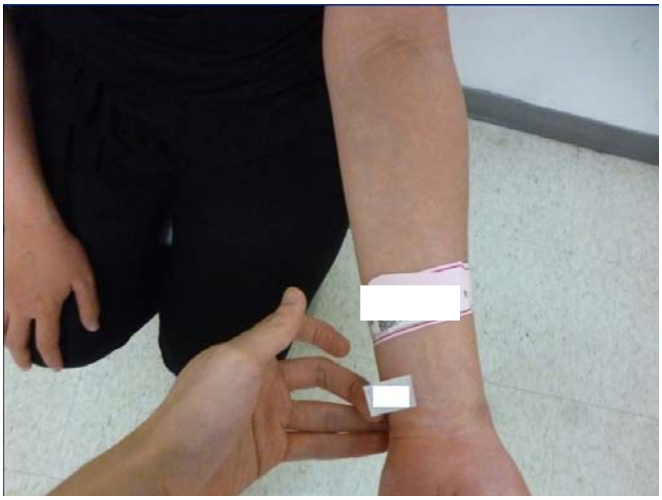
- Allergy: NKDA
- hyperthyroidism

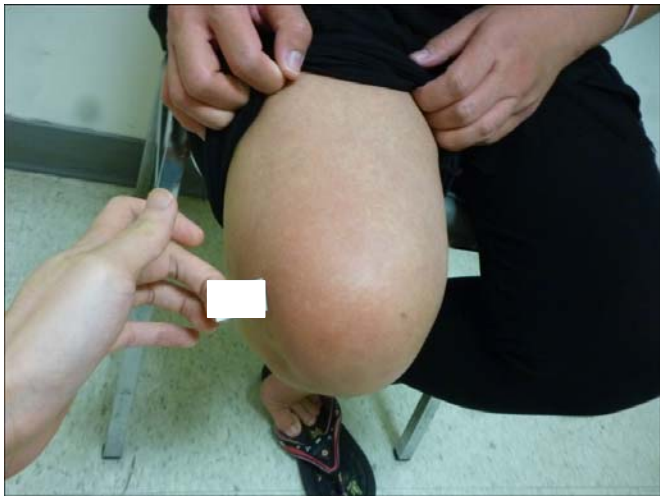
Physical examination

- Cons: clear
- Head & neck: not pale conjunctiva
- Chest: RHB
- abdomen: soft
- Extremity: freely movable, warm









Impression

- Suspected Dengue fever

Management

(1424)
•WBC/DC, platelet, Hb
• AST/Cr
• PT/PTT
• On IV lock
• 通報登革熱
• 隔離室隔離
• take photo

Laboratory data

Hb	13.6	gm/dl
WBC	1.8	x1000/uL
Differential count	**********	
Segmented Neutro.	53.0	%
Lymphocyte	24.0	%
Monocyte	14.0	%
Eosinophil	1.0	%
Basophil	1.0	%
Atypical lymphocyte	7.0	%
Band	0.0	%
Metamyelocyte	0.0	%
Myelocyte	0.0	%
Promyelocyte	0.0	%
Blast	0.0	%
Nucleated RBC	0.0	/100WBC
Platelet	113	x1000/uL

GOT(AST)	47	U/L
Creatinine	0.49	mg/dL
eGFR	146.36	
PT	10.5	second
Normal control	10.4	second
INR	1.01	Ratio
APTT	34.5	second
Normal control	33.4	second
APTT ratio	1.03	

血清抗體檢測 ELISA IgM/ 陽性
血清抗體檢測 ELISA IgG/ 未確定
登革熱 NS1 抗原檢測 / 陽性

Management

1640

- Consult 感控總值
- admission

Admission course

day1 admission

day3 Fever subside

WBC	2.8	x1000/uL	3.8	10	*L	1.8
Differential count	**********					**********
Segmented Neutro.	38.0	%	37	75		53.0
Lymphocyte	38.0	%	20	55		24.0
Monocyte	13.0	%	4	10	*H	14.0
Eosinophil	2.0	%	0	5		1.0
Basophil	0.0	%	0	2		1.0
Atypical lymphocyte	9.0	%	0	3	*H	7.0
Band	0.0	%	0	5		0.0
Metamyelocyte	0.0	%	0	0		0.0
Platelet	206	x1000/uL	140	450		113

Discharge

Discussion—Dengue virus infection

Dengue virus

- 造成登革熱/登革出血熱/登革休克症候群
- 由黃病毒科（Flaviviridae）黃病毒屬（Flavivirus）中的登革病毒亞屬所引起
- 單股RNA病毒，依血清抗原可分為四型，均具有感染致病的能力
- 再次感染不同型別登革病毒，可能發生較嚴重的登革出血熱
- 屬於第二類傳染病(24小時內通報)

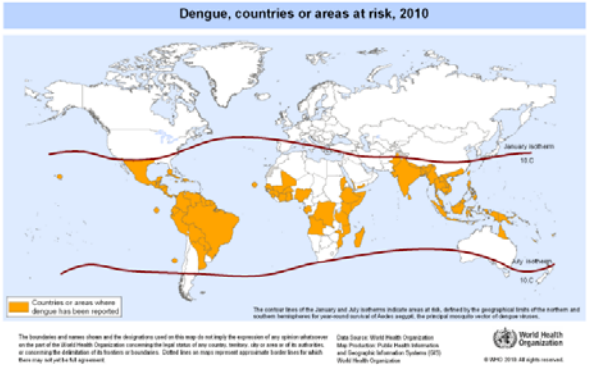
衛生福利部疾病管制署

Arboviruses

Disease	Vector	Host	Distribution	Disease
Alphaviruses				
Chikungunya	*Aedes*	Humans, Monkeys	Africa, Asia	Fever, arthralgia, arthritis
Eastern equine encephalitis	*Aedes, Culiseta*	Birds	North and South America, Caribbean	Mild systemic ; encephalitis
Western equine encephalitis	*Culex, Culiseta*	Birds	North and South America	Mild systemic ; encephalitis
Venezuelan equine encephalitis	*Aedes, Culex*	Rodents, Horses	North, South, Central America	Mild systemic ; severe encephalitis
Flaviviruses				
Dengue	*Aedes*	Humans, Monkeys	Worldwide, especially tropics	Mild systemic; break-bone fever, DHF, DSS
Yellow fever	*Aedes*	Humans,monkeys	Africa, South America	Hepatitis, hemorrhagic fever
Japanese encephalitis	*Culex*	Pigs, birds	Asia	Encephalitis
West Nile encephalitis	*Culex*	Birds	Africa, Europe, central Asia, North America	Fever, encephalitis, hepatitis
St. Louis encephalitis	*Culex*	Birds	North America	Encephalitis

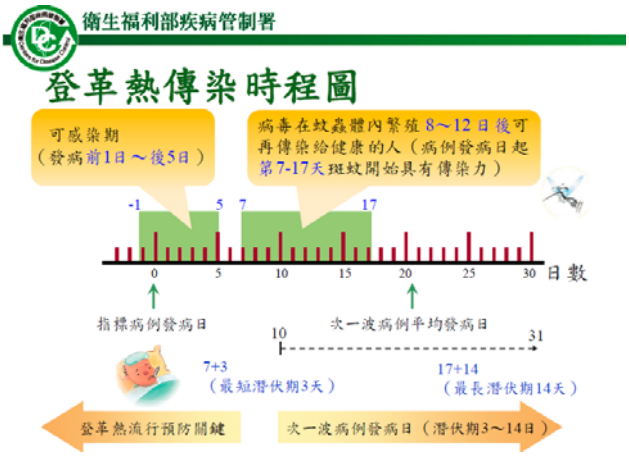
衛生福利部疾病管制署

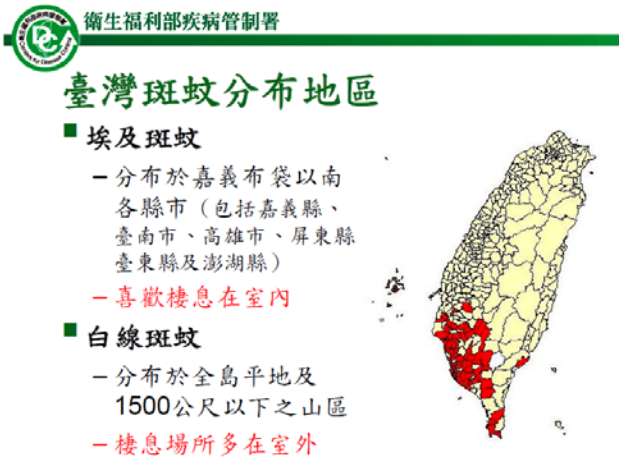
登革熱全球流行區域

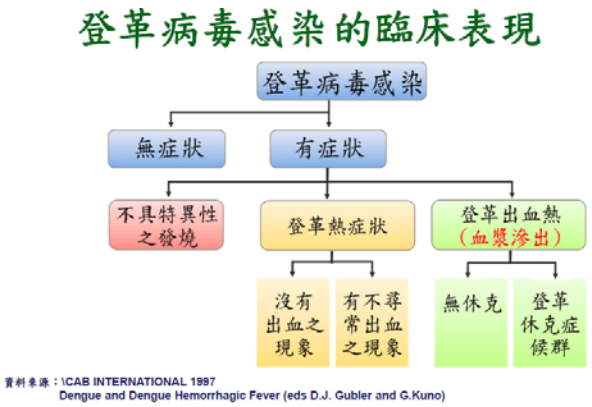


傳染途徑

- 傳染方式
  - 經由病媒蚊（斑蚊）叮咬傳播
- 潛伏期
  - 潛伏期約3-8天（最長可達14天）
- 可傳染期
  - 病人發病前1天至發病後5天為「可感染期」（或稱「病毒血症期」）
  - 病毒在蚊子體內經過8-12天的增殖，使蚊子具有感染力
- 感染性及抵抗力
  - 性別及年齡無顯著差異
- 感染某一型登革病毒患者，對該型病毒具有終身免疫，對其他型別僅具有短暫的免疫力







臨床表現

- 登革熱：突發發燒≧38℃且伴隨下列二（含）種以上症狀
  - 頭痛
  - 後眼窩痛
  - 肌肉痛
  - 關節痛
  - 出疹
  - 出血性癥候（hemorrhagic manifestations）
    - Skin, nose, GI bleeding
  - 白血球減少（leukopenia）
- Age < 15 y/o: mostly Asymptomatic or minimally symptomatic

登革出血熱

同時具有下列四項條件：

- 發燒
- 出血傾向
- 血小板下降（10 萬以下）
- 血漿滲漏（plasma leakage）
  - Hemoconcentration (Hct↑20%, pleural effusion, ascites)

登革休克症候群(dengue shock syndrome)

- Dengue hemorrhageic fever+ shock

Lab finding

- Leukopenia
- Thrombocytopenia(< 10萬)
- AST elevation: most 2-5 fold of upper limit

diagnosis

- 符合下列檢驗結果陽性之任一項者，為確定病例：
  - 臨床檢體（血液）分離並鑑定出登革病毒
  - 臨床檢體分子生物學核酸檢測陽性
  - 血清學抗原（登革病毒非結構蛋白non-structuralprotein 1，簡稱NS1）檢測陽性
  - 成對血清（恢復期及急性期）中，登革病毒特異性IgM 或IgG抗體（二者任一）有陽轉或≧4倍上升

Treatment

- 典型登革熱致死率低於1%
- 登革出血熱若無適當治療，死亡率可能超過20% [WHO]，早期診斷並加以適當治療，死亡率可低於5%
- 登革熱沒有特效藥物可積極治療，一般採行支持性療法