

流感臨床診斷 與檢驗

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20250726

— 流感臨床診斷與檢驗

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— 流感臨床診斷與檢驗

| 臨床表現



— 流感臨床診斷與檢驗

| 臨床表現

| 診斷工具

|

— 流感臨床診斷與檢驗

| 臨床表現

| 診斷工具

| 鑑別診斷

— 流感臨床診斷與檢驗

— 臨床表現

— 診斷工具

— 鑑別診斷

— 流感的潛伏期



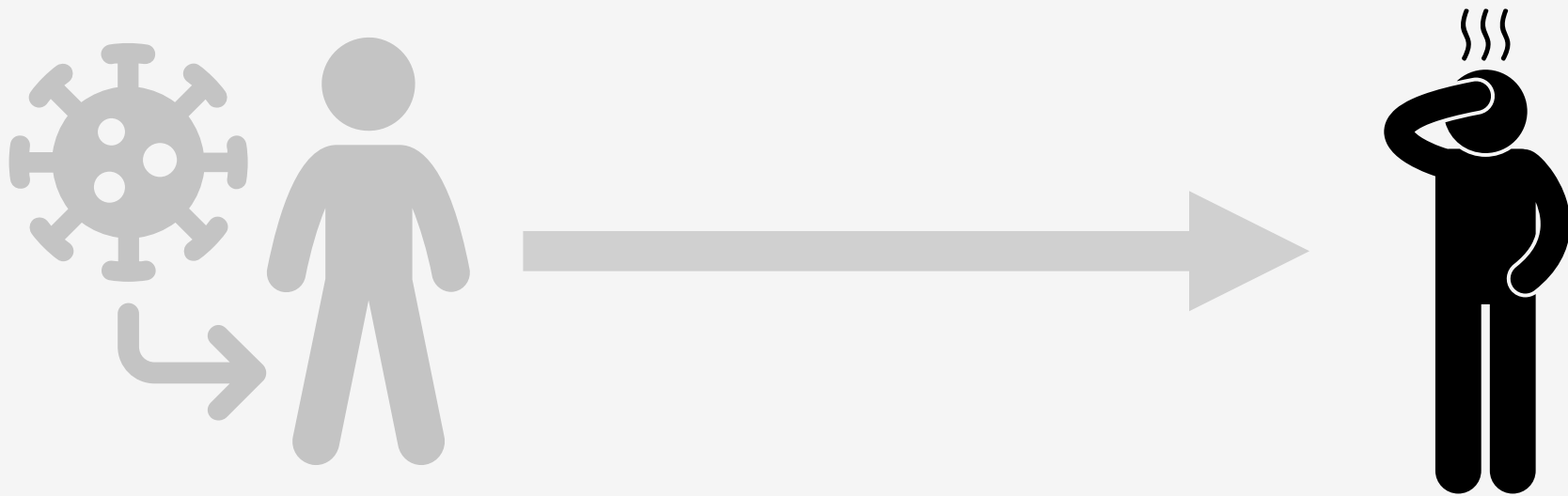
— 流感的潛伏期



群聚個案的時間間隔

大約是3 ~ 4天

— 流感的潛伏期



— 流感的臨床表現 —

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— 流感的臨床表現 —

- Uncomplicated

— 流感的臨床表現 —

- Uncomplicated
- Complicated

— 流感的臨床表現 —

- Uncomplicated
- Complicated

— **Typical symptom of uncomplicated influenza** —

- Respiratory symptom

— Typical symptom of uncomplicated influenza —

- Respiratory symptom
- Systemic symptom

— Typical symptom of uncomplicated influenza —

- Respiratory symptom
- Systemic symptom
- Non-respiratory symptom

– Typical symptom of uncomplicated influenza —

- Respiratory symptom
- Systemic symptom
- Non-respiratory symptom

Typical symptom of uncomplicated influenza

Respiratory symptom

- Dry cough

Typical symptom of uncomplicated influenza

Respiratory symptom

- Dry cough
- Severe pharyngeal pain

Typical symptom of uncomplicated influenza

Respiratory symptom

- Dry cough
- Severe pharyngeal pain
- Nasal obstruction and discomfort

Typical symptom of uncomplicated influenza

Respiratory symptom

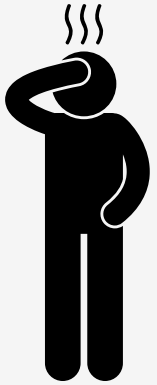
- **Dry cough**
- Severe pharyngeal pain
- Nasal obstruction and discomfort

– Typical symptom of uncomplicated influenza —

- Respiratory symptom
- **Systemic symptom**
- Non-respiratory symptom

Typical symptom of uncomplicated influenza

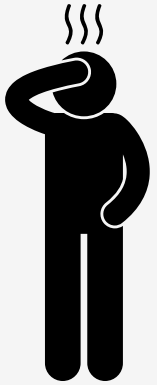
Systemic symptom



Fever

Typical symptom of uncomplicated influenza

Systemic symptom



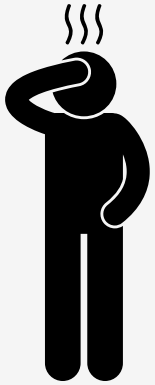
Fever



Chills

Typical symptom of uncomplicated influenza

Systemic symptom



Fever



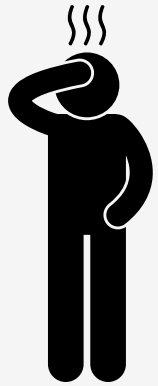
Chills



Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom



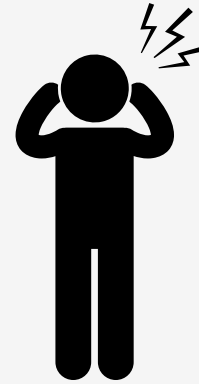
Fever



Chills



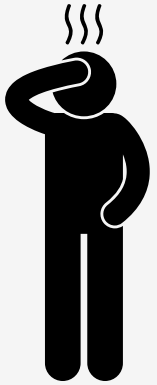
Myalgia



Headache

Typical symptom of uncomplicated influenza

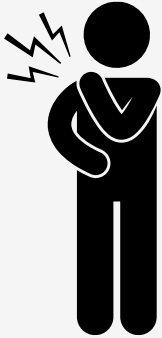
Systemic symptom



Fever



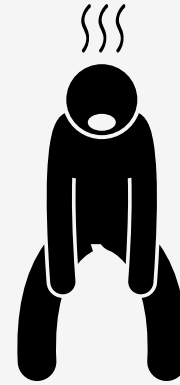
Chills



Myalgia



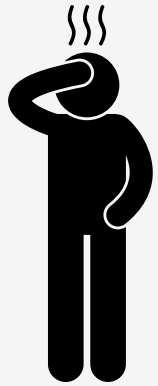
Headache



Malaise

Typical symptom of uncomplicated influenza

Systemic symptom



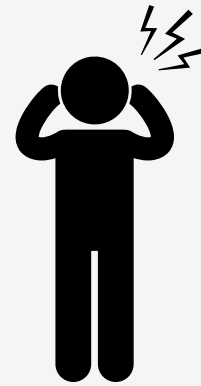
Fever



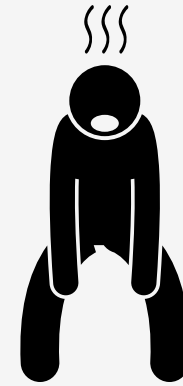
Chills



Myalgia



Headache



Malaise



Anorexia

Typical symptom of uncomplicated influenza

Systemic symptom



Fever



Chills



Myalgia



Headache



Malaise

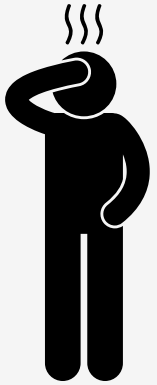


Anorexia

Typical symptom of uncomplicated influenza

Systemic symptom

- Abrupt onset

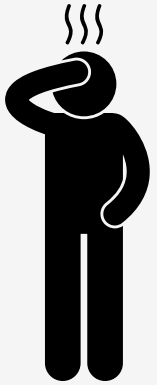


Fever

Typical symptom of uncomplicated influenza

Systemic symptom

- Abrupt onset
- 知道明確時間

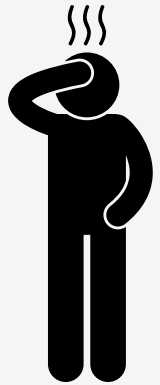


Fever

Typical symptom of uncomplicated influenza

Systemic symptom

- Abrupt onset
 - 知道明確時間
- $37.8 \sim 40.0^{\circ}\text{C}$ (41.1°C)

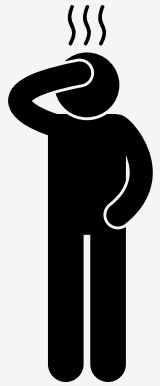


Fever

Typical symptom of uncomplicated influenza

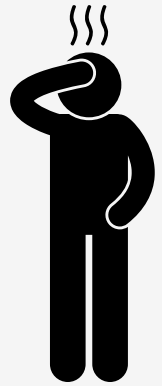
Systemic symptom

- Abrupt onset
 - 知道明確時間
- $37.8 \sim 40.0^{\circ}\text{C}$ (41.1°C)
- Highest on D1



Fever

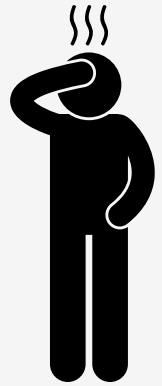
Systemic symptom



Fever

- Abrupt onset
 - 知道明確時間
- $37.8 \sim 40.0^{\circ}\text{C}$ (41.1°C)
- Highest on D1
 - $0.3 \sim 0.6^{\circ}\text{C}$ lower afterward

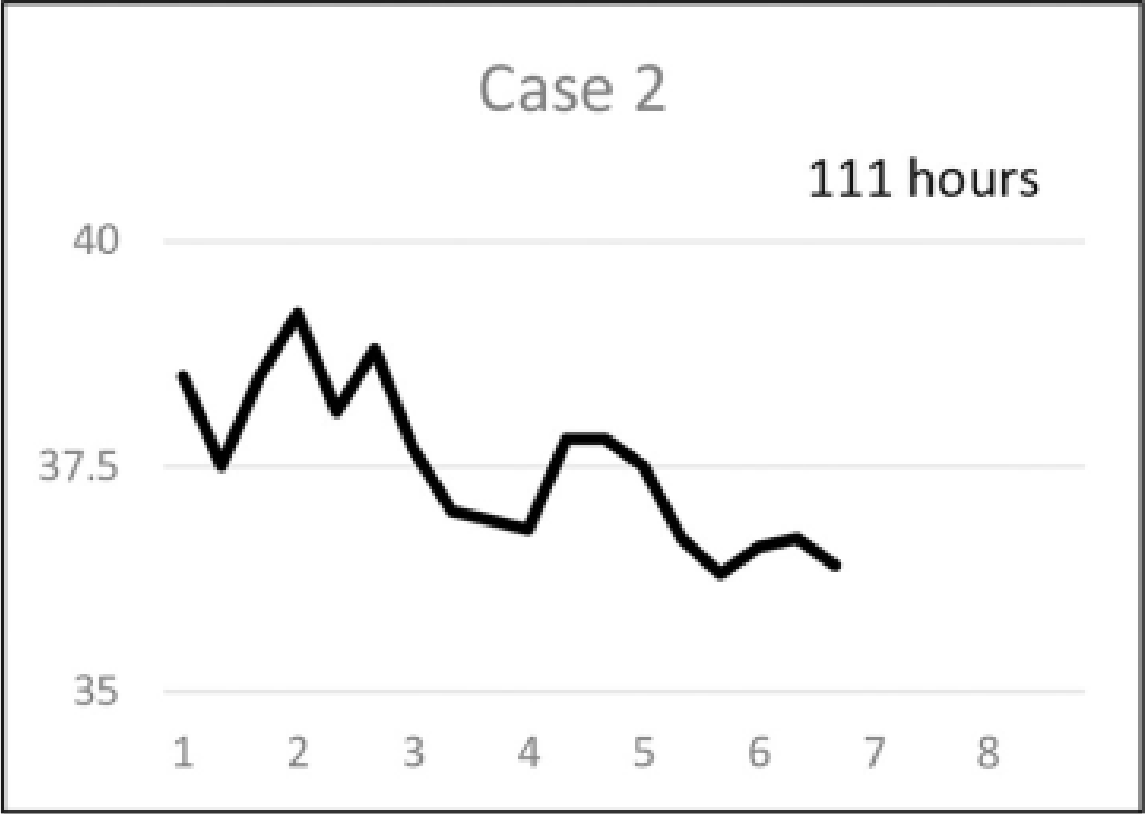
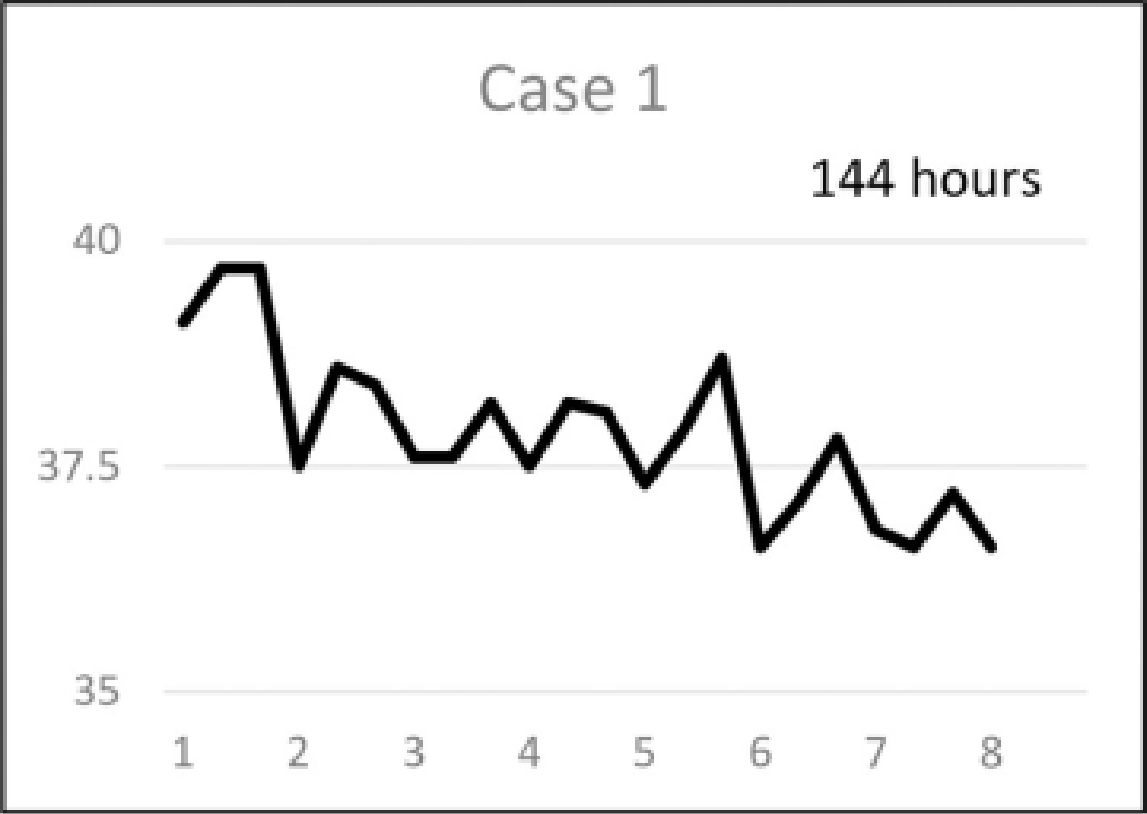
Systemic symptom



Fever

- Abrupt onset
 - 知道明確時間
- $37.8 \sim 40.0^{\circ}\text{C}$ (41.1°C)
- Highest on D1
 - $0.3 \sim 0.6^{\circ}\text{C}$ lower afterward
 - Duration: 3 days (4~8 days)

– Fever curve of influenza



Typical symptom of uncomplicated influenza

Systemic symptom



Fever



Chills



Myalgia



Headache



Malaise

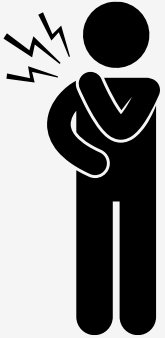


Anorexia

Typical symptom of uncomplicated influenza

Systemic symptom

- Most troublesome

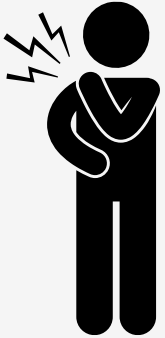


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Most troublesome
- Relate to height of fever

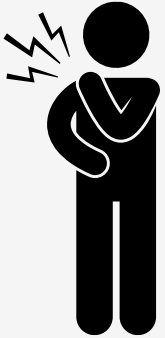


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Range

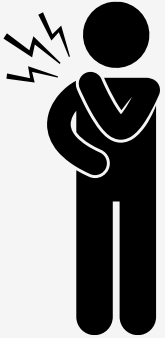


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Range
 - Extremities

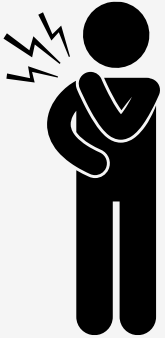


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Range
 - Extremities
 - Long muscle of back

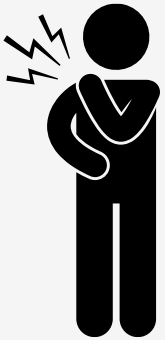


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Range
 - Extremities
 - Long muscle of back
 - Eye muscle

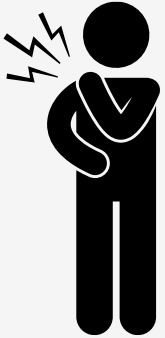


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Range
 - Extremities
 - Long muscle of back
 - Eye muscle
 - pain while gazing laterally

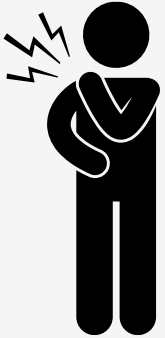


Myalgia

Typical symptom of uncomplicated influenza

Systemic symptom

- Range
 - Extremities
 - Long muscle of back
 - Eye muscle
 - pain while gazing laterally



Myalgia



– Typical symptom of uncomplicated influenza —

- Respiratory symptom
- Systemic symptom
- Non-respiratory symptom

Typical symptom of uncomplicated influenza

Non-respiratory symptom

- Gastrointestinal symptom

Typical symptom of uncomplicated influenza

Non-respiratory symptom

- Gastrointestinal symptom
 - Vomiting
 - Diarrhea

Typical symptom of uncomplicated influenza

Non-respiratory symptom

- Gastrointestinal symptom
 - Vomiting
 - Diarrhea
- More in children (10~20%)

– **Atypical symptom of uncomplicated influenza** –

- **Atypical symptom of uncomplicated influenza** –
 - Milder systemic symptom

– Atypical symptom of uncomplicated influenza –

- Milder systemic symptom
 - No fever
 - No myalgia

– Atypical symptom of uncomplicated influenza –

- Milder systemic symptom
 - No fever
 - No myalgia
- Only generalized symptom

– Atypical symptom of uncomplicated influenza –

- Milder systemic symptom
 - No fever
 - No myalgia
- Only generalized symptom
 - Anorexia/Malaise/Weakness
 - Dizziness

– Atypical symptom of uncomplicated influenza –

- Milder systemic symptom
 - No fever
 - No myalgia
- Only generalized symptom
 - Anorexia/Malaise/Weakness
 - Dizziness
 - Altered mental status (Older adults)

Who would have

Atypical symptom of uncomplicated influenza



Who would have

Atypical symptom of uncomplicated influenza

- Age > 65 years old

Who would have

Atypical symptom of uncomplicated influenza

- Age > 65 years old
- Immunocompromised

**Some respiratory symptom would persist
after systemic symptom diminish**

Some respiratory symptom would persist after systemic symptom diminish

- Recurrent cough
- Hoarseness
- Dry/sore throat

— Some respiratory symptom would persist
after systemic symptom diminish

- Recurrent cough
- Hoarseness
- Dry/sore throat

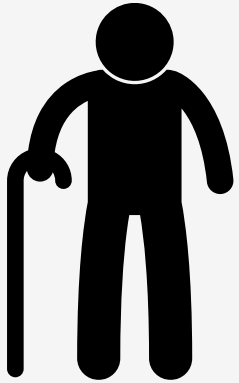
不是變嚴重

— 流感的臨床表現 —

- Uncomplicated
- Complicated

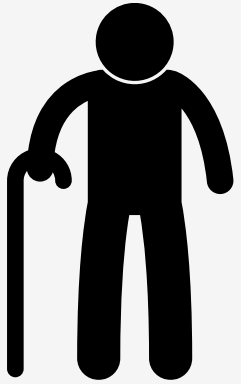
– Risk of complication of influenza —

— Risk of complication of influenza —



≥ 65 y/o

— Risk of complication of influenza —



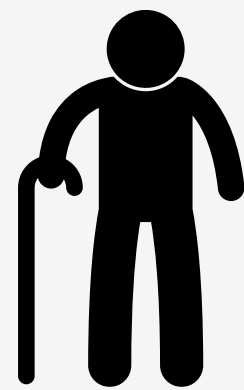
≥ 65 y/o



< 5 y/o

< 2 y/o

— Risk of complication of influenza —



≥ 65 y/o

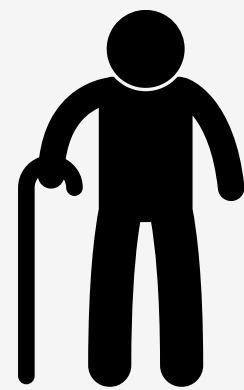


< 5 y/o
 < 2 y/o



Pregnant
/2wk postpartum

— Risk of complication of influenza —



≥ 65 y/o



< 5 y/o
 < 2 y/o

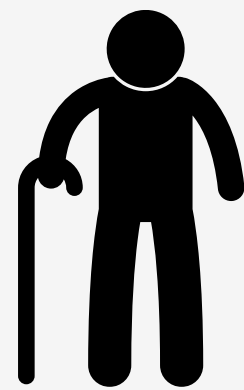


Pregnant
/2wk postpartum



Nursing home
Long term care

– Risk of complication of influenza —



≥ 65 y/o



< 5 y/o
 < 2 y/o



Pregnant
/2wk postpartum



Nursing home
Long term care

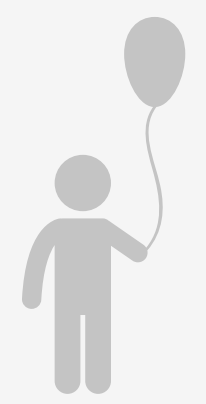


Medical
condition

– Risk of complication of influenza —



≥ 65 y/o



< 5 y/o
 < 2 y/o



Pregnant
/2wk postpartum



Nursing home
Long term care



Medical
condition

Medical condition associated with complication of influenza

- Neurological and neurodevelopmental conditions
- Asthma
- Chronic lung disease
- Heart disease
- Kidney disorder
- Liver disorder
- Endocrine disorders
- Metabolic disorder
- BMI ≥ 40
- Blood disorder
- Weakened immune system
- Children <19 y/o under long-term ASA

– **Complication of influenza**



– **Complication of influenza**

- **Respiratory**

– **Complication of influenza**

- Respiratory
- Extrapulmonary

– **Complication of influenza**

- **Respiratory**
- Extrapulmonary

– Respiratory complication of influenza –

- Pneumonia

– Symptom of pneumonia

- Cough with dyspnea
- Tachypnea
- Hypoxia
- Fever

— Type of pneumonia in influenza —

-

-

-

— Type of pneumonia in influenza

- Primary influenza viral pneumonia

– Type of pneumonia in influenza —————

- Primary influenza viral pneumonia
- Secondary bacterial pneumonia

– Type of pneumonia in influenza —————

- Primary influenza viral pneumonia
- Secondary bacterial pneumonia
- Mixed viral and bacterial pneumonia

— Type of pneumonia in influenza —

- **Primary influenza viral pneumonia**
 - Persistent fever and symptom after 3-5 days of symptom

– Type of pneumonia in influenza —————

- **Secondary bacterial pneumonia**
 - Improvement of influenza symptom
 - Relapse of fever and cough with purulent sputum

– Type of pneumonia in influenza ———

- **Mixed viral and bacterial pneumonia**
 - Gradual progression
 - or Transient improvement followed by worsening

– **Complication of influenza**

- Respiratory
- **Extrapulmonary**

– Extrapulmonary complication of influenza –

- Cardiac
- Central nervous system
- Myositis and rhabdomyolysis
- Multisystem organ failure
- Concomitant infection

– Extrapulmonary complication of influenza –

- Cardiac
- Central nervous system
- Myositis and rhabdomyolysis
- Multisystem organ failure
- Concomitant infection

– Extrapulmonary complication of influenza –

- **Cardiac**

- Myocardial infarction
- Myocarditis/Pericarditis

– Extrapulmonary complication of influenza –

- **Central nervous system**
 - Guillain-Barre syndrome

– Guillain-Barre syndrome

- Incidence of GBS after influenza
 - 30 days: 16.64 (95% CI: 9.37-29.54)
 - 90 days: 7.35 (95% CI: 4.36-12.38)

– Guillain-Barre syndrome

- Incidence of GBS after influenza
 - 30 days: 16.64 (95% CI: 9.37-29.54)
 - 90 days: 7.35 (95% CI: 4.36-12.38)
- Clinical presentation
 - Progressive and symmetric muscle weakness
 - Absent or depressed deep tendon reflexes

— 臨床表現 —

- 在流感流行期，臨床診斷的正確率高
- **Uncomplicated influenza**中，全身症狀，如發燒和肌肉痠痛等，是流感的特色
- **Influenza complication**中，肺炎是最常見的併發症，如果病程超出預期，要特別注意

— 流感臨床診斷與檢驗

| 臨床表現

| 診斷工具

| 鑑別診斷

Case



42 years old



Case



42 years old

Cough with sputum and rhinorrhea for one week
Fever with chilliness for 4 days

Case

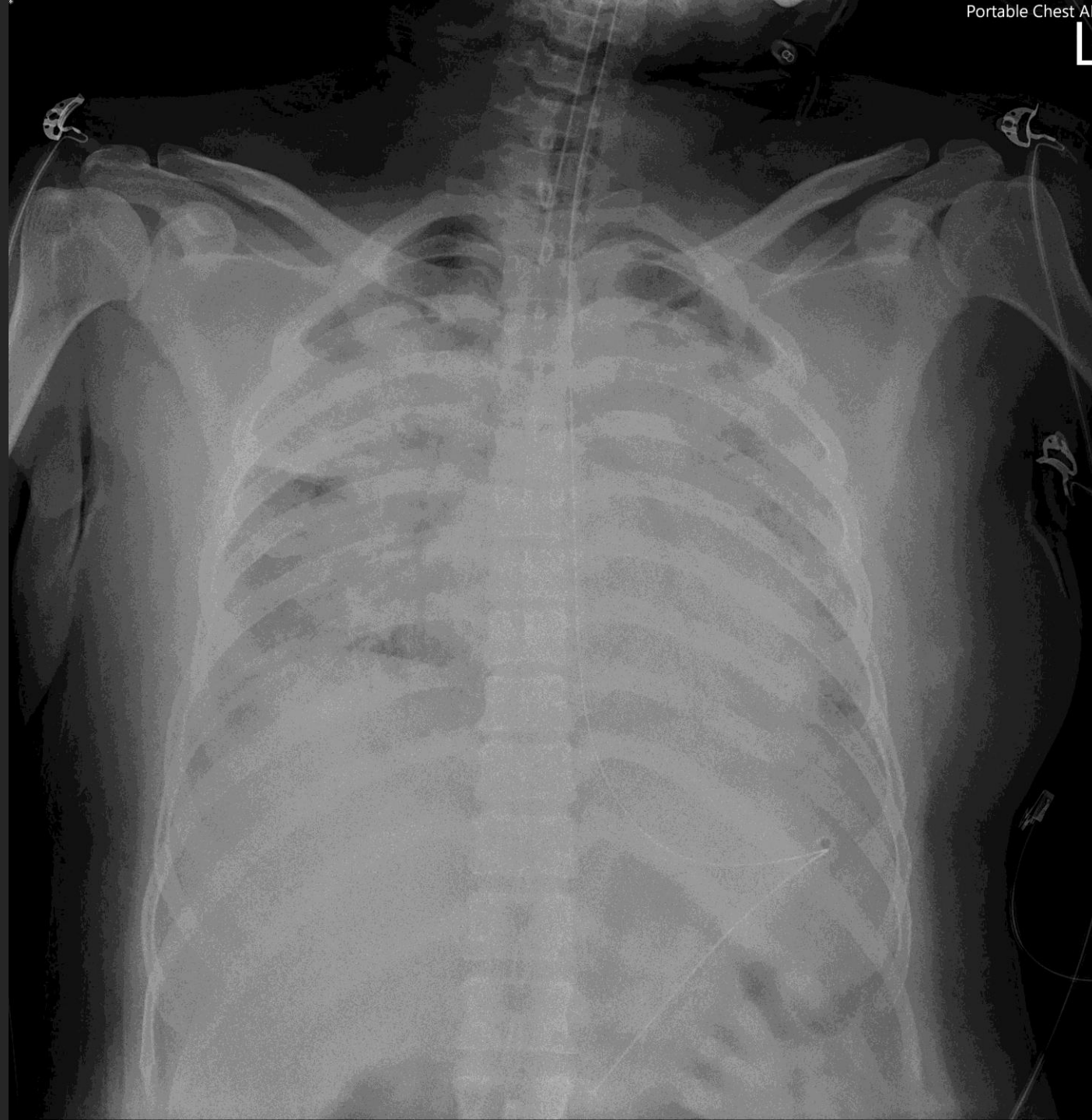


42 years old

Cough with sputum and rhinorrhea for one week

Fever with chilliness for 4 days

- Diarrhea



Case



42 years old

法定傳染病通報送檢檢驗報告

通報疾病：SARS-CoV-2病毒檢測

檢體種類：鼻咽拭子/咽喉拭子

病原體檢驗方法：螢光定量聚合酶連鎖反應(real-time PCR)

檢驗結果：陰性

綜合檢驗結果：陰性

檢驗單位：國立成功大學醫學院附設醫院

Case



42 years old

法定傳染病通報送檢檢驗報告

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綜合檢驗結果：陰性

檢驗單位：國立成功大學醫學院附設醫院

Influenza virus type A+B antigen(酵素免疫法)(快診-流行感冒病毒A+B型抗原檢驗(酵素免疫法))

Influenza virus type A antigen Negative

Influenza virus type B antigen Negative

排除流感？

— 流感診斷工具



— 流感診斷工具

- Why to test

— 流感診斷工具

- Why to test
- Whom to test

— 流感診斷工具

- Why to test
- Whom to test
- What to test

— 流感診斷工具

- Why to test
- Whom to test
- What to test
- How to test

— 流感診斷工具 —

- Why to test
- Whom to test
- What to test
- How to test

— Why to test

- Reduce unnecessary testing for other etiologies

— Why to test

- Reduce unnecessary testing for other etiologies
- Reduce inappropriate antibiotic use

– Why to test

- Reduce unnecessary testing for other etiologies
- Reduce inappropriate antibiotic use
- Improve the effectiveness of infection prevention and control measures

– Why to test

- Reduce unnecessary testing for other etiologies
- Reduce inappropriate antibiotic use
- Improve the effectiveness of infection prevention and control measures
- Increase the appropriate use of antiviral medications

不能因為要等檢驗

而延遲抗病毒藥使用

— 流感診斷工具 —

- Why to test
- **Whom to test**
- What to test
- How to test

– Principle about Whom to test

– Principle about Whom to test ---

- If result will influence management

– Principle about Whom to test ---

- If result will influence management
- Public health activity

– Principle about Whom to test ---

- If result will influence management
- Public health activity

– Principle about Whom to test ---

- If result will influence management
 - Antiviral or antimicrobial agents

– Principle about Whom to test ---

- If result will influence management
 - Antiviral or antimicrobial agents
 - Further diagnostic evaluation

– Principle about Whom to test ---

- If result will influence management
 - Antiviral or antimicrobial agents
 - Further diagnostic evaluation
 - Prophylaxis for high risk contacts

– Principle about Whom to test —————

- If result will influence management
 - Antiviral or antimicrobial agents
 - Further diagnostic evaluation
 - Prophylaxis for high risk contacts
 - Infection control intervention

– Principle about Whom to test —————

- If result will influence management
- Public health activity

– Principle about Whom to test ---

- Public health activity
 - Interventions for outbreak management

**Strategy about whom to test
is based on the circulation of influenza**

**Strategy about whom to test
is based on the circulation of influenza**

- Influenza is circulating
- Influenza is not circulation

**Strategy about whom to test
is based on the circulation of influenza**

- Influenza is circulating
- Influenza is not circulation

Whom to test

Influenza is circulating

- Present influenza-like illness
 - Immunocompromised
 - high risk of complication

Whom to test

Influenza is circulating

- Present influenza-like illness
 - Immunocompromised
 - high risk of complication
- Acute respiratory symptoms
 - Exacerbation of chronic medical condition
 - Influenza complication

Whom to test

Influenza is circulating

- Present influenza-like illness
 - Immunocompromised
 - high risk of complication
- Acute respiratory symptoms
 - Exacerbation of chronic medical condition
 - Influenza complication
- Hospitalized patients
 - Acute respiratory symptoms
 - Exacerbations of chronic medical condition

流行期間

有風險/症狀惡化可檢驗

**Strategy about whom to test
is based on the circulation of influenza**

- Influenza is circulating
- Influenza is not circulation

Whom to test

— **Influenza is not circulating**

- Relevant epidemiologic exposure

Whom to test

Influenza is not circulating

- Relevant epidemiologic exposure
 - Exposure to person with influenza

Whom to test

Influenza is not circulating

- **Relevant epidemiologic exposure**
 - Exposure to person with influenza
 - Outbreak of respiratory illness of uncertain cause

Whom to test

Influenza is not circulating

- **Relevant epidemiologic exposure**
 - Exposure to person with influenza
 - Outbreak of respiratory illness of uncertain cause
 - Recent travel in an area with influenza activity

非流行期間

要有曝觸才要驗

— 流感診斷工具 —

- Why to test
- Whom to test
- **What to test**
- How to test

What to test



– What to test

- Molecular assay

– What to test

- Molecular assay
- Antigen detection assay

– What to test

- Molecular assay
- Antigen detection assay
- Others

– What to test

- Molecular assay
- Antigen detection assay
- Others

What to test

Molecular assay is preferred if available

What to test

— **Molecular assay is preferred if available** —

- High sensitivity
- High specificity

What to test

Molecular assay is preferred if available

-

-

-

What to test

— **Molecular assay is preferred if available** —

- Conventional RT-PCR

What to test

Molecular assay is preferred if available

- Conventional RT-PCR
- Rapid molecular tests

What to test

Molecular assay is preferred if available

- Conventional RT-PCR
- Rapid molecular tests
- Multiplex RT-PCR

What to test

— **Molecular assay is preferred if available** —

- Conventional RT-PCR
- Rapid molecular tests
- Multiplex RT-PCR

What to test - Molecular assay

Conventional RT-PCR

- Distinguish influenza A and B

What to test - Molecular assay

Conventional RT-PCR

- Distinguish influenza A and B
- Influenza A subtype

Conventional RT-PCR

- Distinguish influenza A and B
- Influenza A subtype
- Turnaround time: 1-8 hours

What to test - Molecular assay

Rapid molecular tests

- Distinguish influenza A and B

What to test - Molecular assay

Rapid molecular tests

- Distinguish influenza A and B
- No influenza A subtype

Rapid molecular tests

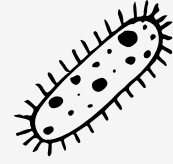
- Distinguish influenza A and B
- No influenza A subtype
- Turnaround time: 15~30 min

What to test - Molecular assay

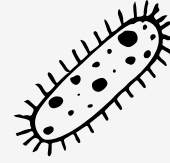
Multiplex RT-PCR

- Several pathogens detection

– Filmarray respiratory panel



— Filmarray respiratory panel —

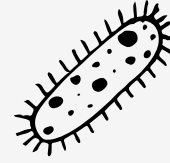


- Adenovirus
- Human Rhinovirus/ Enterovirus
- Influenza virus
- Respiratory syncytial virus
- Parainfluenza
- Human metapneumovirus
- Coronavirus
 - SARS-CoV-2

— Filmarray respiratory panel —



- Adenovirus
- Human Rhinovirus/ Enterovirus
- Influenza virus
- Respiratory syncytial virus
- Parainfluenza
- Human metapneumovirus
- Coronavirus
 - SARS-CoV-2



- Chlamydia pneumoniae
- Bordetella pertussis
- Bordetella parapertussis
- Mycoplasma pneumoniae

What to test - Molecular assay

Multiplex RT-PCR

- 貴又容易被核刪

Multiplex RT-PCR

- 貴又容易被核刪
- 哪些族群建議檢測

Multiplex RT-PCR

- 貴又容易被核刪
- 哪些族群建議檢測
 - Immunocompromised

Multiplex RT-PCR

- 貴又容易被核刪
- 哪些族群建議檢測
 - Immunocompromised
 - Requiring hospitalization

Multiplex RT-PCR

- 貴又容易被核刪
- 哪些族群建議檢測
 - Immunocompromised
 - Requiring hospitalization
 - During period of influenza and COVID-19

– What to test

- Molecular assay
- Antigen detection assay
- Others

What to test

Antigen detection assay is alternative

- Low to moderate sensitivity
- High specificity

What to test

Antigen detection assay is alternative

- Low to moderate sensitivity 50~70%
- High specificity

What to test

— **Antigen detection assay is alternative**

- Interpret with caution

What to test

— **Antigen detection assay is alternative**

- Interpret with caution
 - False negative result are common

What to test

Antigen detection assay is alternative

- Interpret with caution
 - False negative result are common
- Not used for hospitalized

What to test

Antigen detection assay is alternative

- Need molecular test recheck

What to test

Antigen detection assay is alternative

- Need molecular test recheck
 - Negative Ag in high community influenza, and indication for confirmation

What to test

Antigen detection assay is alternative

- Need molecular test recheck
 - Negative Ag in high community influenza, and indication for confirmation
 - Positive Ag in low community influenza

What to test

Antigen detection assay is alternative

- Need molecular test recheck
 - Negative Ag in high community influenza, and indication for confirmation
 - Positive Ag in low community influenza
 - Recent exposure to pigs or poultry

– What to test

- Molecular assay
- Antigen detection assay
- Others

What to test

Others

- Viral culture

What to test

Others

- Viral culture
- Serological tests

What to test

Others

- Viral culture: public surveillance
- Serological tests

Others

- Viral culture: public surveillance
- Serological tests: not routine test

— 流感診斷工具 —

- Why to test
- Whom to test
- What to test
- **How to test**

不就這樣採？



— How to test —

- 檢測時間點

How to test

- 檢測時間點
- 採哪裡

How to test

- 檢測時間點
- 採哪裡
- 用什麼採檢

— 檢測時間點

- Within 4 days of symptom onset

採哪裡

- 首選為Nasopharynx

— 採哪裡

- 首選為Nasopharynx
- 其次是Nasal加上Throat swab

採哪裡

- 首選為Nasopharynx
- 其次是Nasal加上Throat swab
 - 若非要選一個，就選nasal swab

— 採哪裡

- Greater and prolonged respiration in lower respiratory tract

採哪裡

- Greater and prolonged respiration in lower respiratory tract
- Ventilated patients with negative upper respiratory tract
 - Endotracheal aspirate
 - Bronchoalveolar lavage fluid

— 用什麼採

— 用什麼採

- Flocked swab

— 用什麼採

- Flocked swab



Case



42 years old

法定傳染病通報送檢檢驗報告

通報疾病：SARS-CoV-2病毒檢測

檢體種類：鼻咽拭子/咽喉拭子

病原體檢驗方法：螢光定量聚合酶連鎖反應(real-time PCR)

檢驗結果：陰性

綜合檢驗結果：陰性

檢驗單位：國立成功大學醫學院附設醫院

Influenza virus type A+B antigen(酵素免疫法)(快診-流行感冒病毒A+B型抗原檢驗(酵素免疫法))

Influenza virus type A antigen Negative

Influenza virus type B antigen Negative

Case



42 years old

Rapid molecular test-Flu A
Positive

Viral nucleic acid detection-influenza A virus(病毒核酸檢驗-A型流感病毒)
Positive (H1),請確認是否通報流感併發重症

— 診斷工具 —

- 當檢驗結果會影響後續決策或是要進行流病調查時，才需要進行流感的檢測
- 流感診斷以核酸檢測為原則，若是用抗原檢測，則需要小心判讀
- 在病程早期進行檢測的陽性率較高，最好是取鼻咽的檢體

— 流感臨床診斷與檢驗

| 臨床表現

| 診斷工具

| 鑑別診斷

Case



26 years old

- Rheumatoid arthritis

Case



26 years old

Cough since last night

- Fever
- Headache
- Chest pain
- Nausea/vomiting, diarrhea

Case

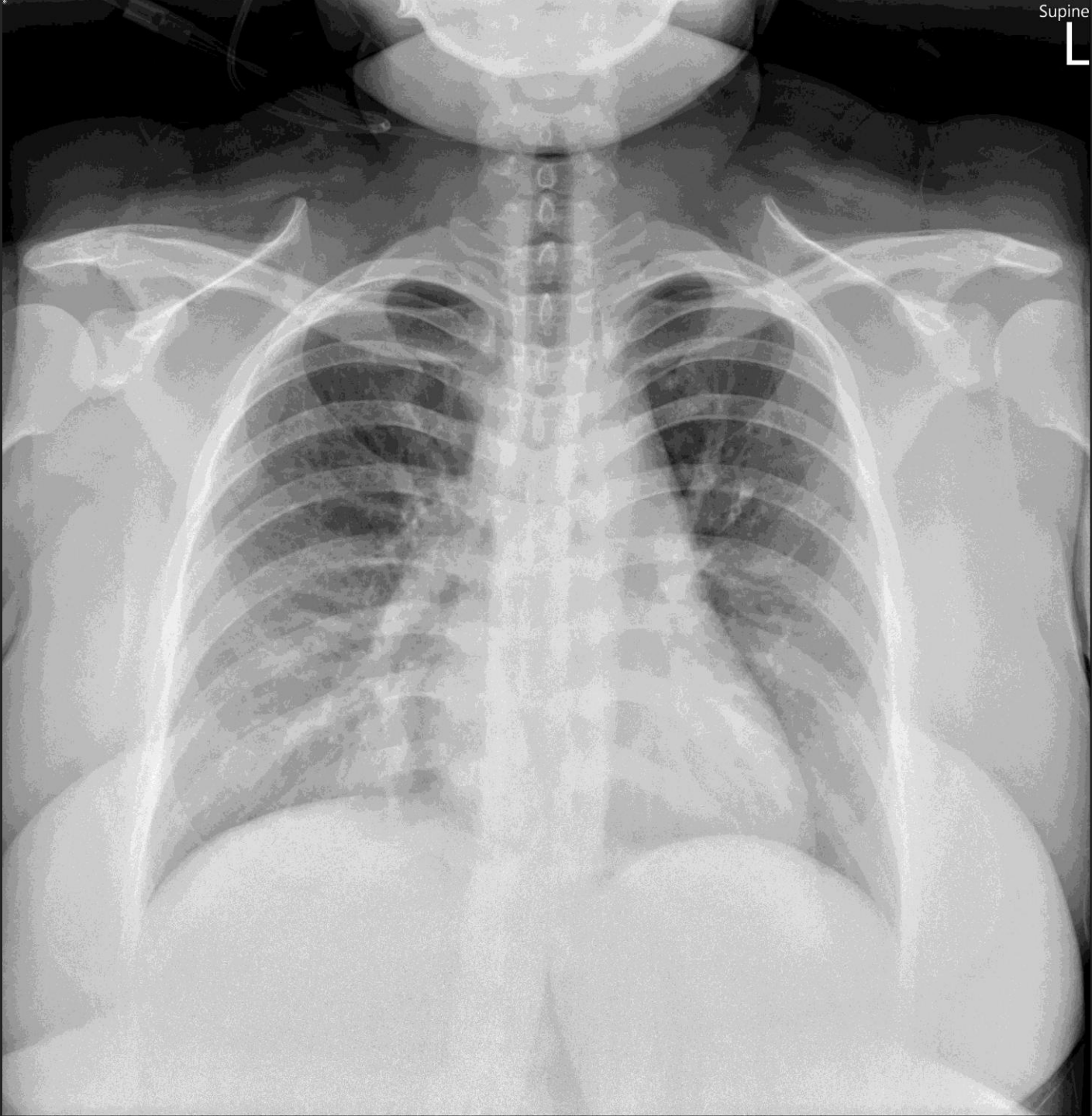


26 years old

Cough since last night

- Fever
- Headache
- Chest pain
- Nausea/vomiting, diarrhea

Dyspnea with desaturation



Supine
L

是什麼診斷？

何時要考慮其它診斷

何時要考慮其它診斷

- Signs and symptom for pneumonia

何時要考慮其它診斷

- Signs and symptom for pneumonia
- Abnormal lung auscultation

何時要考慮其它診斷

- Signs and symptom for pneumonia
- Abnormal lung auscultation
- Persistent fever > 3~5 days

何時要考慮其它診斷

- Signs and symptom for pneumonia
- Abnormal lung auscultation
- Persistent fever > 3~5 days
- Fever after initial defervescence

何時要考慮其它診斷

- Signs and symptom for pneumonia
- Abnormal lung auscultation
- Persistent fever > 3~5 days
- Fever after initial defervescence
- Worsening symptom

— 其它鑑別診斷

— 其它鑑別診斷

- Respiratory viral infection

— 其它鑑別診斷

- Respiratory viral infection
- Bacterial pneumonia

— 其它鑑別診斷 —

- Respiratory viral infection
- Bacterial pneumonia

Respiratory viral infection

- COVID-19
- Respiratory syncytial virus
- Common cold
- MERS-CoV
- Novel influenza A virus infection

Respiratory viral infection

COVID-19

- Difficult to distinguish

COVID-19

- Difficult to distinguish
- More common in COVID-19
 - Fatigue
 - Diarrhea
 - Olfactory disorders
 - Taste disorders

Respiratory viral infection

COVID-19

- Diagnosed by antigen / PCR

Respiratory viral infection

Respiratory syncytial virus

- More common in children

Respiratory syncytial virus

- More common in children
- Also important in
 - Older adults
 - Immunocompromised

Common cold

- Several virus
 - Rhinovirus
 - Parainfluenza
 - Common cold coronavirus

Common cold

- Mild symptom than influenza
- Nasal congestion milder
- Low risk of complication

Respiratory viral infection

Common cold

- Diagnosis by clinical manifestation

Respiratory viral infection

MERS-CoV

- History of Arabian peninsula

MERS-CoV

- High risk of complication
 - Acute kidney injury
 - Disseminated intravascular coagulation

Respiratory viral infection

MERS-CoV

- Diagnosis by PCR

Respiratory viral infection

Novel influenza A virus

- Symptom not distinguish from seasonal influenza A

Respiratory viral infection

Novel influenza A virus

- Exposure history
- Travel history

Respiratory viral infection

– **Novel influenza A virus**

- Exposure to
 - Poultry
 - Pigs
 - Ill person with animal associated influenza

Respiratory viral infection

Novel influenza A virus

- Travel to region with local transmission
 - H7N9: China
 - H5N1: Asia, Middle east

Respiratory viral infection

Novel influenza A virus

- Diagnosis by PCR

Bacterial pneumonia

- Complication of influenza
- Infection alone

Bacterial pneumonia

- Complication of influenza
 - Initial improvement
 - Relapse of fever and productive cough

Bacterial pneumonia

- Fever
- Dyspnea
- Cough
- Sputum production

Case



26 years old

Influenza virus type A+B antigen(酵素免疫法)(快診-流行感冒病毒A+B型抗原檢驗(酵素免疫法))

Influenza virus type A antigen Positive

請確認是否通報流感併發重症

Influenza virus type B antigen Negative

SARS-CoV-2 Ag (公費快篩-有症狀/醫用)

Positive

— 鑑別診斷 —

- 各種會造成呼吸道感染的病原體都要考慮
 - Common cold以臨床診斷就可以
 - MERS-CoV和新型A流則需要利用核酸作診斷
- 除了病毒，細菌性肺炎也是需要思考

– Take home message

- 在只有流感流行時，臨床診斷的正確率可達80~90%
- 流感除了呼吸道症狀，全身性的症狀會特別明顯，像是發燒、頭痛、痠痛等
- 在流感非流行期，有相關的曝露史，再進行流感相關檢測
- 流感的檢測以核酸為原則，使用抗原時要謹慎解讀
- 除了流感，呼吸道相關的感染症也要考慮。
- 適時地診斷出流感，才能及時給予適當的治療