

Managing The First Body of Deceased COVID-19 Patient in Taiwan, 2020

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Abstract

Taiwan Centers for Disease Control (Taiwan CDC) retrospectively tested the cases who were reported as severe complicated influenza from Jan 31 to Feb 15, 2020. A patient who died on the same day was diagnosed with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection. In responding to the first deceased with confirmed coronavirus disease 2019 (COVID-19), the Taiwan CDC investigated the case and supervised infection control. According to the Communicable Disease Control Act, Taiwan CDC classified COVID-19 as a Category 5 communicable disease on Jan 15, 2020. The deceased bodies should be double-bagged and cremated. Health care workers or mortuary staff handling the body should wear personal protective equipment (PPE), including high filtration masks, gloves, and gowns. The environment should be cleaned and disinfected immediately after transporting the bodies. The procedures to handle the dead body shows the confliction between religious or cultural practices and the prevention of infectious diseases. The local health bureau plays an important role in communication with the family. When handling the deceased bodies, there might be a risk to contract the disease. We recommend mortuary staff practicing for putting on and taking off PPE and staff should be familiar with the standard operating procedures.

Keywords: COVID-19, handling of deceased bodies

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Weekly Data of Notifiable Inases (by week of diagnosis)

Case diagnosis year		Week 3★		Week 1–3			
Classification	Disease Diagnosed	2022	2021	2022		2021	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
	Acute Flaccid Paralysis	1	3	3	0	4	0
Category II	Acute Viral Hepatitis type A	2	3	6	0	6	0
	Amoebiasis	9	3	15	1	12	6
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	0	0	0	0
	Cholera	0	0	0	0	0	0
	Dengue Fever	0	0	0	0	1	1
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus syndrome	0	0	0	0	1	0
	Malaria	0	0	0	0	0	0
	Measles	0	0	0	0	0	0
	Meningococcal Meningitis	0	0	0	0	0	0
	Paratyphoid Fever	0	0	0	0	0	0
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
	Shigellosis	3	5	5	0	13	0
	Typhoid fever	0	0	0	0	0	0
	West Nile Fever	0	0	0	0	0	0
Zika virus infection	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	3	3	12	0	5	0
	Acute Viral Hepatitis type C	8	10	27	0	38	0
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	0	0	0	0
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	1	0	0	1	0
	Haemophilus Influenza type b Infection	0	0	0	0	0	0
	Japanese Encephalitis	0	0	0	0	0	0
	Legionnaires' Disease	4	5	27	0	35	0
	Mumps	7	9	16	0	28	0
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	0	0	0	0
	Tetanus	0	0	0	0	1	0
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	1	0	1	0	5	0
	Endemic Typhus Fever	0	2	0	0	2	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Influenza Case with Severe Complications	0	0	0	0	0	0
	Invasive Pneumococcal Disease	3	6	11	0	22	0
	Leptospirosis	1	0	2	0	4	0
	Listeriosis	2	0	4	0	7	0
	Lyme Disease	0	0	1	1	0	0
	Melioidosis	0	0	0	0	1	0
	Q Fever	1	0	1	0	0	0
	Scrub Typhus	1	8	5	0	25	0
	Toxoplasmosis	1	0	2	0	1	0
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome	0	0	0	0	0	0
	Coronavirus Infections	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Severe Pneumonia with Novel Pathogens	477	33	1210	947	76	63
Yellow Fever	0	0	0	0	0	0	

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen's Disease and Creutzfeldt-Jakob Disease are excluded from the table.
- Numbers of mumps and tetanus cases are summed up by the week of report.
- Since 2020/1/15, "Severe Pneumonia with Novel Pathogens" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Twenty-four clusters related to diarrhea (12), tuberculosis (7), upper respiratory tract infection (4) and varicella (1) were reported during week 3.

Imported Infectious Diseases

- There were 297 imported cases from 45 countries during week 3.
Severe Pneumonia with Novel Pathogens : 296 (USA 139, the Philippines 17, UK 14, Vietnam 13, India 12, Canada 11, France 11), The remaining 38 countries have less than 10 cases.
Amoebiasis : 1 Indonesia.
- During week 1–3, there were 949 imported cases from 70 countries. The top three countries are USA (485), Vietnam (41), and Canada (38).
- During week 1–3, the notifiable diseases with the highest number of imported cases are Severe Pneumonia with Novel Pathogens (947).

Summary of Epidemic

- **Severe Pneumonia with Novel Pathogens** : The COVID-19 pandemic remains serious globally. The number of new COVID-19 cases continues to be confirmed in Taiwan. The epidemic is spreading regionally, and some cases with unknown sources of infection were found. The risk of locally-acquired SARS-CoV-2 infection rises.

Weekly Data of Notifiable Infectious Diseases (by week of diagnosis)

Case diagnosis year		Week 4-5★		Week 1-5			
Classification	Disease Diagnosed	2022	2021	2022		2021	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	0	0	3	0	4	0
	Acute Viral Hepatitis type A	3	2	9	0	8	0
	Amoebiasis	7	4	22	2	16	9
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	0	0	0	0
	Cholera	0	0	0	0	0	0
	Dengue Fever	0	1	0	0	2	2
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus syndrome	0	1	0	0	2	0
	Malaria	0	1	0	0	1	1
	Measles	0	0	0	0	0	0
	Meningococcal Meningitis	0	0	0	0	0	0
	Paratyphoid Fever	0	0	0	0	0	0
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
Shigellosis	0	6	5	0	19	0	
Typhoid fever	0	0	0	0	0	0	
West Nile Fever	0	0	0	0	0	0	
Zika virus infection	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	1	6	13	0	11	0
	Acute Viral Hepatitis type C	10	37	37	0	75	0
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	0	0	0	0
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	0	0	0	1	0
	Haemophilus Influenza type b Infection	0	0	0	0	0	0
	Japanese Encephalitis	0	0	0	0	0	0
	Legionnaires' Disease	9	11	36	0	46	0
	Mumps	7	15	23	0	43	0
	Neonatal Tetanus	0	0	0	0	0	0
Pertussis	0	0	0	0	0	0	
Tetanus	1	0	1	0	1	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	0	1	1	0	6	0
	Endemic Typhus Fever	0	0	0	0	2	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Influenza Case with Severe Complications	0	0	0	0	0	0
	Invasive Pneumococcal Disease	2	13	13	0	35	0
	Leptospirosis	0	2	2	0	6	0
	Listeriosis	5	3	9	0	10	0
	Lyme Disease	0	0	1	1	0	0
	Melioidosis	0	1	0	0	2	0
	Q Fever	0	0	1	0	0	0
	Scrub Typhus	6	13	11	0	38	0
Toxoplasmosis	1	1	3	0	2	0	
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome	0	0	0	0	0	0
	Coronavirus Infections	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Severe Pneumonia with Novel Pathogens	852	40	2060	1470	116	96
Yellow Fever	0	0	0	0	0	0	

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen's Disease and Creutzfeldt-Jakob Disease are excluded from the table.
- Numbers of mumps and tetanus cases are summed up by the week of report.
- Since 2020/1/15, "Severe Pneumonia with Novel Pathogens" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Eleven clusters related to diarrhea (6), tuberculosis (3) and upper respiratory tract infection (2) were reported during week 4.
- Sixteen clusters related to diarrhea (13), tuberculosis (2) and upper respiratory tract infection (1) were reported during week 5.

Imported Infectious Diseases

- There were 267 imported cases from 49 countries during week 4.
 - Severe Pneumonia with Novel Pathogens** : 266 (USA 92, the Philippines 16, UK 15, China 11, Vietnam 11, India 11), The remaining 43 countries have less than 10 cases.
 - Amoebiasis** : 1 Indonesia.
- There were 259 imported cases from 50 countries during week 5.
 - Severe Pneumonia with Novel Pathogens** : 259 (USA 82, Malaysia 22, UK 13, India 10, the Philippines 10, The remaining 45 countries have less than 10 cases.
- During week 1–5, there were 1473 imported cases from 86 countries. The top three countries are USA (659), the Philippines (63), and UK (63).
- During week 1–5, the notifiable diseases with the highest number of imported cases are Severe Pneumonia with Novel Pathogens (1470).

Summary of Epidemic

- **Severe Pneumonia with Novel Pathogens** : Covid-19 is continuing to spread worldwide and remains a severe public health threat. While the number of passengers arrivals show a sign of easing, the imported cases are expected to decrease. In addition, there have been new clusters in recent weeks, and the epidemic in Kaohsiung City has been believed to spread to the community. Due to the flow of people and gatherings increasing during the Lunar New Year Holiday, the risk of the epidemic is rising.

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