

The Investigation of Scrub Typhus Cluster in Sandimen, Pingtung County, Taiwan, 2017

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Abstract

This first indigenous scrub typhus cluster from Pingtung County occurred in January 2017 and related to traveling in Sandimen Township. The index case was confirmed on 9th February. The investigation, initiated by local health authority and coordinated by Taiwan Centers for Disease Control, revealed that traveling to the mountain in Sandimen Township was associated with this cluster. A total of 19 companions traveled to Sandimen on January 16. Among them, 6 cases had symptoms; 5 of the 6 cases were confirmed as having scrub typhus after laboratory examination, except for the index case, and 1 had been infected in the past. The infection source might be mountain traveling. Scrub typhus clusters associated with traveling in Pingtung County were rare. Moreover, this cluster occurred earlier than the endemic period in recent years. The most important control measure on scrub typhus is the awareness and self-protection of scrub typhus infection. We recommended that public health authorities enhancing health education for communities in aboriginal areas.

Keywords: *Scrub typhus*, Pingtung County, TOCC

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An Outbreak of Ciprofloxacin-Resistant Serogroup B Meningococcal Disease in a Military Base, 2017

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Abstract

On July 23, 2017, a hospital in Taoyuan reported a suspected case of meningococcal disease, who was a soldier in a military base, to Taoyuan Department of Health. After investigation, another two soldiers who served in the same base with the index case developed symptoms of meningitis and were reported subsequently. Blood cultures from all three cases yielded serogroup B *Neisseria meningitidis* with indistinguishable pulsed-field gel electrophoresis patterns. A total of 114 contacts received chemoprophylaxis with rifampin or ciprofloxacin. Nevertheless, the hospital laboratory found that the isolate from the index case was resistant to ciprofloxacin. Of the 98 contacts receiving ciprofloxacin as initial chemoprophylaxis, 54 contacts were offered azithromycin while the rest 44 contacts declined. No secondary cases were identified in the contacts during the one-month follow-up period. The outbreak underscores the importance of antimicrobial surveillance of *Neisseria meningitidis*. The antimicrobial profiles of isolates from the cases should be reviewed and taken into consideration in terms of chemoprophylaxis for contacts.

Keywords: meningococcal meningitis, outbreak, military camp, prophylactic administration, drug resistance

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

Case diagnosis year		Week 11★		Week 1-11			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				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	2	1	25	0	7	0
	Acute Viral Hepatitis type A	1	16	15	5	160	11
	Amoebiasis	11	7	65	20	73	44
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	1	1	2	2
	Cholera	0	0	0	0	0	0
	Dengue Fever	2	2	23	23	61	61
	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 Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	0	0	1	0
	Malaria	0	0	0	0	0	0
	Measles	0	1	1	0	2	2
	Meningococcal Meningitis	1	0	3	0	2	0
	Paratyphoid Fever	0	0	0	0	2	2
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
Shigellosis	2	1	33	5	44	17	
Typhoid fever	0	1	4	2	5	5	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	3	2	25	2	36	2
	Acute Viral Hepatitis type C	15	2	88	1	48	0
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	0	0	2	0	5	2
	Acute Viral Hepatitis untype	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	1	1	8	0	1	0
	Haemophilus Influenza type b Infection	0	0	1	0	1	0
	Japanese Encephalitis	0	0	0	0	0	0
	Legionellosis	4	4	42	0	21	3
	Mumps	13	13	109	2	130	1
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	1	3	0	3	0
	Tetanus	1	0	3	0	2	0
	Category IV	Botulism	0	0	0	0	0
Brucellosis		0	0	0	0	0	0
Complicated Influenza		2	0	9	0	5	1
Complicated Varicella		0	2	4	0	2	0
Endemic Typhus Fever		0	0	0	0	0	0
Herpesvirus B Infection		13	10	131	0	135	2
Invasive Pneumococcal Disease		0	1	9	0	17	0
Leptospirosis		0	0	13	0	0	0
Lyme Disease		0	0	0	0	0	0
Melioidosis		1	0	4	0	6	0
Q Fever		0	0	1	0	2	0
Scrub Typhus		1	3	80	0	82	0
Toxoplasmosis		25	11	537	4	125	0
Tularremia		0	1	5	0	3	0
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	1	1
	Yellow Fever	0	0	0	0	0	0
	Zika Virus Infection	0	0	0	0	0	0

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- The following chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
- Numbers of mumps, neonatal tetanus and tetanus cases are summed up by the week of report.
- Since 2016/1/22, "Zika Virus Infection" was listed as a Notifiable Infectious Disease.
- Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Forty-two clusters were reported, including 18 diarrhea clusters, 11 upper respiratory tract infection clusters, 8 influenza-like illness clusters, 3 fever of unknown origin clusters and 2 varicella clusters.

Imported Infectious Diseases .

Disease \ Country	Indonesia	Cambodia	Vietnam	Malaysia	Thailand	Total
Amoebiasis	4		1			5
DF		1		1		2
Acute Hepatitis B					1	1
Total	4	1	1	1	1	8

Note: The statistics listed in this table include imported cases that were either **confirmed** or **updated** in the previous week.

- 8 confirmed cases were imported from 5 countries during Week 11 of 2018.
- A total of 63 confirmed cases were imported from 12 countries in 2018, the top 3 countries are : Indonesia (20), Philippines (12), Malaysia (9).
- Top 3 imported diseases : Dengue Fever (23), Amoebiasis (20), Shigellosis (5), Acute Hepatitis A (5).

Summary of Epidemic

- Influenza** : The epidemic has gradually ebbed. As large temperature fluctuations have continued to persist, influenza activity is likely to fluctuate.

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

Case diagnosis year		Week 12★		Week 1-12			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				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	2	0	27	0	7	0
	Acute Viral Hepatitis type A	0	14	15	5	174	12
	Amoebiasis	4	10	69	22	83	48
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	1	1	2	2
	Cholera	0	0	0	0	0	0
	Dengue Fever	1	3	24	24	64	64
	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 Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	0	0	1	0
	Malaria	0	0	0	0	0	0
	Measles	0	0	1	0	2	2
	Meningococcal Meningitis	0	0	3	0	2	0
	Paratyphoid Fever	0	0	0	0	2	2
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
	Shigellosis	4	4	37	6	48	18
Typhoid fever	0	0	4	2	5	5	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	7	6	32	2	42	2
	Acute Viral Hepatitis type C	14	8	102	2	56	1
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	0	0	2	0	5	2
	Acute Viral Hepatitis untype	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	0	8	0	1	0
	Haemophilus Influenza type b Infection	0	1	1	0	2	0
	Japanese Encephalitis	0	0	0	0	0	0
	Legionellosis	2	3	44	0	24	3
	Mumps	11	6	120	2	136	1
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	1	1	4	0	4	0
	Tetanus	0	0	3	0	2	0
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Influenza	0	1	9	0	6	1
	Complicated Varicella	0	3	4	0	5	0
	Endemic Typhus Fever	0	0	0	0	0	0
	Herpesvirus B Infection	15	11	146	0	146	2
	Invasive Pneumococcal Disease	0	2	9	0	19	0
	Leptospirosis	4	0	17	0	0	0
	Lyme Disease	0	0	0	0	0	0
	Melioidosis	0	0	4	0	6	0
	Q Fever	1	0	2	0	2	0
	Scrub Typhus	3	4	83	0	86	0
	Toxoplasmosis	35	9	572	4	134	1
	Tularremia	0	1	5	0	4	0
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	1	1
	Yellow Fever	0	0	0	0	0	0
Zika Virus Infection	0	0	0	0	0	0	

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- The following chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
- Numbers of mumps, neonatal tetanus and tetanus cases are summed up by the week of report.
- Since 2016/1/22, "Zika Virus Infection" was listed as a Notifiable Infectious Disease.
- Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Thirty-seven clusters were reported, including 7 tuberculosis clusters, 11 diarrhea clusters, 7 upper respiratory tract infection clusters, 8 influenza-like illness clusters, 1 fever of unknown origin cluster and 3 varicella clusters.

Imported Infectious Diseases

Disease \ Country	Indonesia	Macau	China	Thailand	Total
Amoebiasis	2				2
DF				1	1
Acute Hepatitis C			1		1
Shigellosis		1			1
Total	2	1	1	1	5

Note: The statistics listed in this table include imported cases that were either **confirmed** or **updated** in the previous week.

- 5 confirmed cases were imported from 4 countries during Week 12 of 2018.
- A total of 68 confirmed cases were imported from 12 countries in 2018, the top 3 countries are : Indonesia (22), Philippines (12), Malaysia (9).
- Top 3 imported diseases : Dengue Fever (24), Amoebiasis (22), Shigellosis (6).

Summary of Epidemic

- **Influenza** : The epidemic is gradually ebbing. However, the influenza activity is likely to fluctuate due to recent large temperature changes.

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