

—Preliminary Note—

Isolation of influenza viruses in Thailand during June~August, 1984

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We have studied influenza viruses in Thailand since 1979¹⁻¹³⁾. The purpose is to clarify the ecology of the virus in East Asia and to predict the epidemic virus in Japan in the succeeding winter. In the rainy season of 1984, 45 strains of the virus were isolated in Thailand, i.e., 42/45 (93.3%) : A-Hong Kong subtype; 3/45 (6.7%) : type B. The prevalence of A-Hong Kong subtype in Thailand did not reflect the prevalence of A-USSR subtype in Japan in the winter of 1983~1984¹⁴⁾, but the occurrence of type B virus in Thailand in 1984, which was not found there in 1983, preceded the epidemic of the same type in Japan in the winter of 1984~1985.

More than 243 throat swabs or throat garglings were collected from suspected patients in Bangkok and Chiang Mai during June~August, 1984 as described in **Table 1**. They were inoculated into the amniotic cavity of hen's developing eggs and 45 strains of influenza viruses were isolated in the laboratories of Virus Research Institute, Bangkok, National Institute of Health, Tokyo, and Nippon Medical School, Tokyo. Methods have been described elsewhere¹⁵⁾. The virus strains were typified with hemagglutination inhibition (HI) tests using postinfection ferret antisera raised against reference strains of USSR (H1N1) and Hong Kong (H3N2) subtypes of the virus.

Among 45 strains, 42 were A-Hong Kong subtype and three were type B as shown in **Table 1**. Detailed sources of the virus strains are described in **Table 2**.

During September, 1983 to July, 1984 in Japan, of 957 influenza virus isolates, 96.1%

Table 1 Isolation of influenza viruses in Thailand, June~August, 1984

Specimens			Virus			
Date	Location	Number	H1N1	H3N2	B	Total
June 18~July	Bangkok	—	0	20	1	21
Aug. 7~17	BK-SIR	53	0	3	0	3
Aug. 7 and 20	BK-PHC	23	0	2	1	3
Aug. 9~17	CM-IMC	42	0	3	1	4
Aug. 9~14	CM-STC	20	0	1	0	1
Aug. 9~16	CM-PED	76	0	13	0	13
Aug. 23	CM-WAT	29	0	0	0	0
Total		243	0	42	3	45

Ages of patients from whom throat swabs were collected were 0~11 years in BK-SIR, 0~60 years in BK-PHC, 13~57 years in CM-IMC, 18~22 years in CM-STC, 0~13 years in CM-PED, and 6~13 years at CM-WAT.

BK : Bangkok. PHC : Prachatipatai Public Health Center, Pranakorn. SIR : Department of Pediatrics, Siriraj Hospital. CM : Chiang Mai. IMC : Department of Internal Medicine. STC : Student Clinic. PED : Department of Pediatrics. WAT : Schools.

Twenty-one strains in Bangkok were presented from Dr. K. Chatiyononda, Virus Research Institute, Bangkok.

Table 2 Influenza virus strains isolated in Thailand, June~August, 1984

Name of strain	Patients	
	Age of years	Location
A/Bangkok/1/84	6	Bangkok
A/Bangkok/2 and 4/84	3	Bangkok
A/Bangkok/5/84	10	Bangkok
A/Bangkok/6 and 7/84	UK	Bangkok
A/Bangkok/23/84	0	Siriraj Hospital
A/Bangkok/31/84	4	Siriraj Hospital
A/Bangkok/32/84	11	Siriraj Hospital
A/Bangkok/107/84	19	Public Health Center
A/Bangkok/134/84	6	Public Health Center
A/Bangkok/6059, 6897, 7181, 7415, 7417, 7437 to 3440, 7443, 7444, 7446, 7447 and 7765/84	UK	Bangkok
A/Chiang Mai/1/84	27	Internal Medicine of CM Hospital
A/Chiang Mai/2/84	44	Internal Medicine of CM Hospital
A/Chiang Mai/3/84	50	Internal Medicine of CM Hospital
A/Chiang Mai/4/84	19	Student Clinic of CM Hospital
A/Chiang Mai/5, 11 and 14 to 17/84	3	Pediatrics of CM Hospital
A/Chiang Mai/6 and 18/84	5	Pediatrics of CM Hospital
A/Chiang Mai/7/84	2	Pediatrics of CM Hospital
A/Chiang Mai/8 and 10/84	1	Pediatrics of CM Hospital
A/Chiang Mai/9/84	0	Pediatrics of CM Hospital
A/Chiang Mai/12/84	11	Pediatrics of CM Hospital
A/Chiang Mai/13/84	4	Pediatrics of CM Hospital
B/Bangkok/3/84	5	Bangkok
B/Bangkok/121/84	1	Public Health Center
B/Chiang Mai/39/84	25	Internal Medicine of CM Hospital

All strains of type A are H3N2. CM : Chiang Mai. UK : unknown.

were A-USSR subtype, 3.0% were type B and 0.8% were A-Hong Kong subtype¹⁰). On the other hand, 97.2% out of the 1235 viruses isolated in Japan during December, 1984 to May, 1985 were type B. Therefore, occurrence of type B virus in Thailand in 1984 can be reasonably considered as the precursor of the epidemic of type B virus in Japan in the winter of 1984~1985.

In Thailand, Type B virus has not been the major epidemic influenza virus, and our previous surveys reported the isolation of type B virus only in 4/66 (5.3%), 6/33 (18.2%), 7/24 (29.2%), and 3/45 (6.7%) in 1980, 1981, 1982, and 1984, respectively, and it was not isolated in Thailand in 1979 and 1983^{1,2,4-6,11}). Epidemics of type B virus, which accounted for the 84~98% of the virus isolates, were reported in Japan in the winter of 1981~1982¹⁰ and 1984~1985. Occurrence of type B virus, even in a small number, in the rainy season of Thailand could be a warning against the occurrence of the type B epidemic in Japan in the succeeding winter.

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