

Short Communication

Influenza Epidemic in 2008 : Observation in a Geriatric Ward in Aichi Prefecture

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ABSTRACT

I observed the effects of an influenza epidemic in a geriatric ward from February 1 through March 10, 2008. Almost all patients contracted influenza, even those who had received influenza vaccination. No clear difference was observed in the rate of fever (greater than 38°C) or the duration of disease in between patients who received vaccination and those who did not.

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Key words : influenza, vaccination, old age

INTRODUCTION

Influenza epidemics occur every winter. I observed the effects of an influenza epidemic in a geriatric ward of a hospital in Aichi Prefecture.

METHODS

The subjects were 51 patients (14 men and 37 women), with cerebral infarction or bleeding past history (40 patients), senile dementia (9 patients), or Parkinson disease (2 patients) aged 75 to 98 years in a ward of Toyokawa Aoyama Hospital, Toyokawa City, Aichi Prefecture. One group of patients received influenza HA vaccine, including Soviet type A and Hong Kong types A, and B (Seiken), the other group was not inoculated according to their hope. From February 1 through March 10, 2008, the development of fever was observed and assays were performed to detect influenza virus HA antigen during days 1 to 3 of fever (Hoctem influenza A/B, Simex Co., Ltd. Niigata)

RESULTS

Fever was observed in 48 of 51 patients (94.1%). Assay for the HA antigen was performed in 27 of the patients with fever and was positive in 21 of them (Table 1).

Fever was observed in 35 of 38 patients (92.1%) who had received vaccinations (Table 2).

Of the 17 patients who underwent vaccination and assay for the influenza HA antigen, 12 (70.5%) were positive for the HA antigen (Table 3).

Among 27 patients in whom the influenza HA antigen was assayed, 12 (44.7%) were positive for the HA antigen and had received vaccinations and 9 (33.3%) were positive for the antigen but had not received vaccinations ($p > 0.1$; Table 4). Therefore,

Table 1. Fever (body temperature > 38°C)

	<i>n</i>	Influenza virus HA antigen		
		(+)	(-)	no sample
Fever	48 (94.1%)	21	6	21
No Fever	3 (5.9%)			3

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Table 2. Influenza vaccination and Fever up

	<i>n</i>	Fever (>38°C)
Vaccination (+)	38	35 (92.1%) ^a
Vaccination (-)	13	13 (100%) ^b

^{ab}*p*>0.1

Table 3. Detection of influenza virus HA antigen and vaccination

	<i>n</i>	Vaccination	No vaccination
HA-positive	21	12 (70.5%) ^a	9 (90%) ^b
HA-negative	6	5	1
	27	17	10

^{ab}*p*>0.1

Table 4. Symptoms (fever, duration, pneumonia) and HA detection

	<i>n</i>	Fever	(°C)	Days
<i>Pneumonia</i>				
Vaccination, HA-positive	12 (44.4%) ^a	39.8	3.8	3
Vaccination, HA-negative	5 (18.5%)	38.6	3.6	2
No vaccination, HA-positive	9 (33.3%) ^b	39.0	4.7	1
No vaccination, HA-negative	1 (3.7%)	38.0	4.0	0
	27			

^{ab}*p*>0.1

vaccination produced no decrease in symptoms.

DISCUSSION

Of 59 influenza viruses isolated in samples collected at the Public Research Institute, Nagoya City, Aichi Prefecture, during a period of epidemic, 58 were Soviet type A (Table 5)¹. Therefore, the present HA detected was Soviet type A.

Influenza was contracted both by patients who had received vaccinations and by patients who had not. Soviet-type HA was included in the vaccine used, and, therefore, the vaccination antigen was consistent with the infecting influenza. However, the vaccination was observed to have little effect. Symptoms were not decreased in patients who received vaccinations. In patients not receiving vaccinations,

Table 5. Influenza epidemic research 2008 in Aichi Prefecture Public Hygiene Institute¹

Epidemic Research	January	February	March
Samples number	73	27	34
Detection number	59	16	14
Soviet A	58	11	6
Hong Kong A	1	3	6
B	0	2	2

Table 6. Protection effect of disease with influenza

	Influenza vaccination		
		yes	no
Disease with Influenza	yes	38	13
	no	3	0

no : disease ratio : 13/13=1

yes : disease ratio : 38/41=0.93

Effectiveness : 1-0.93/1=0.07

the infection rate was 100% (13 of 13 patients), and in patients receiving vaccinations, the disease rate was 93% (38 of 41 patients). Therefore, the effectiveness of vaccination was 7% (100%-93%/93% ; Table 6)^{2,3}. Ikematsu et al. have reported the effectiveness of vaccine against influenza⁴. They reported that fever developed in 28 of 86 patients (32.6%) receiving vaccination and in 61 of 123 patients (49.6%) not receiving vaccination ; therefore, they concluded that vaccination was effective. However, such a conclusion is questionable. It was not agreeable as effectiveness of vaccination.

Ikematsu has reported that vaccination is effective for preventing influenza in elderly inpatients and disease ratio was 0.45-0.66⁴. The disease rate in the present study was 93%.

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