

## Laboratory and Epidemiology Communications

### Norovirus Gastroenteritis in Kanagawa Prefecture in December 2004

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There were 9 cases of gastroenteritis outbreaks caused by noroviruses (NVs), including 4 foodborne cases in restaurants and a hotel (Table 1) (1) and 5 cases in welfare facilities and hospitals (Table 2) (2,3), in December 2004 in Kanagawa Prefecture, excluding the large cities of Yokohama, Kawasaki,

Yokosuka and Sagami-hara.

Cases 1 to 4 (Table 1) were considered to be foodborne; the patients attended the same dinner party and had the same dishes, and the onset of the cases was almost simultaneous. However, in these cases, because the incriminated foodstuffs were not retained, we could not examine foodstuffs for virus isolation.

In Case 1, 150 persons were served with the same full-course dishes composed of hors d'oeuvres, raw and cooked fish, tempura, vegetables dressed with various sauces (aemono), steamed eggs and the like at one restaurant on December 17,

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Table 1. Foodborne disease

Case	Date of onset	Place of preparing food	Consumers	Patients			Kitchen staff		Genogroup
				no.	Sampled	Positive	Sampled	Positive	
1	Dec. 17	restaurant	150	65	32	27	34	5	GII
2	Dec. 17	restaurant	153	58	34	27	8	1	GI, GII, GIGII
3	Dec. 18	hotel	50	25	4	3	12	5	GII
4	Dec. 20	restaurant	24	17	12	11	6	3	GII

Table 2. Gastroenteritis outbreaks

Case	Date of onset	Setting of outbreak	Classification	Patients	Samples	Positive	Genogroup
5	Dec. 21	welfare facility	residents	30	7	5	GII
			staff members	8			
6	Dec. 27	hospital	patients	5	8	6	GII
			staff members	3			
7	Dec. 28	welfare facility	residents	30	46	30	GII
			staff members	16			
8	Dec. 29	hospital	patients	72	30	22	GII
			staff members	13			
9	Dec. 30	welfare facility	residents	14	6	4	GII
			staff members	3			

2004. Sixty-five persons developed disease with diarrhea, abdominal pain and vomiting. Thirty-two patient stool samples were tested, and NVs were detected in 27 stools. It is notable that NVs were detected in stool samples of 5 kitchen staffs. The relationship of individual dishes and the illness was surveyed for the causative specific food. Among served subjects, aemono was considered to be associated with the illness (data not shown).

In Case 2, 58 persons out of 153 who ate the same dishes at another restaurant on December 17 presented similar symptoms, such as diarrhea, abdominal pain and vomiting. In this case, persons had raw or uncooked oysters. NVs genogroup I (GI) and genogroup II (GII) were detected from stools of patients as well as kitchen staff. From 6 stools, only GIs were detected. From 10 stools, only GIIs were detected. Both GI and GII were detected in 12 stools.

It is of note that in all cases, NVs were detected from stools of patients as well as kitchen staff. In particular, in Cases 1, 3 and 4, it is very likely that the cause was contamination of foodstuffs or cooking wares by infected kitchen staffs.

As shown in Table 2, Cases 5 to 9 were gastroenteritis outbreaks caused by NVs occurred in 3 welfare facilities and 2 hospitals. NVs of GII were detected in all of the cases. In all cases, residents in the welfare facilities, patients and staff members had similar symptoms such as diarrhea, abdominal pain and vomiting.

In Case 9, a staff member had vomiting and abdominal pain on December 30. From January 2 to January 3, 2 other staff members and 7 residents had vomiting and diarrhea. In 10 days a total of 17 persons developed the disease. This case indicated that a staff member was the index case and NV subsequently spread to other staff members and residents.

At welfare facilities and hospitals, where staff members come into contact with stools of residents and patients, staff

members had many chances to become infected. In such circumstances, a virus can easily spread and transmission can then occur from residents to staff members. As we learned from Case 9, staff members must be extremely careful not to bring NVs into welfare facilities. In practice, frequent and extensive hand washing with soap and water is effective. It is also important that staff members wear masks and use disposable gloves while cleaning areas substantially contaminated by stools or emesis (4).

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