

# **A Cluster of Severe Acute Respiratory Syndrome (SARS) Cases related to Koway Court, Chai Wan**

## **Background**

Koway Court is a high-rise private housing estate located in Chai Wan. It was built in 1984. It consists of four blocks (1-4), 22 floors per block with eight units (A-H) per floor. The four blocks are built on a podium, underneath which there is a four-storey shopping arcade housing a few restaurants and an elderly home among other facilities.

To date, a total of 12 persons in connection with Koway Court were diagnosed as SARS. Ten of them were residents from eight families of Koway Court and the other two worked inside shops on the ground and first floor of the shopping arcade.

## **Epidemiological investigations**

The 12 cases included 6 males and 6 females. Their age ranged between 4 and 72 years.

The index patient (first case of the outbreak) was a 42-year-old man who worked in Block 14, Ngau Tau Kok Lower Estate before his onset of symptoms. Since there were active SARS cases occurring in Ngau Tau Kok Lower Estate at that time, it was likely that he contracted the disease there. His symptoms started on 25 March and he was admitted to Princess Margaret Hospital on 1 April. He resided in a B unit of Block 2 of Koway Court.

The onset dates of the other cases were between 3 April and 12 April.

Among the residents in the cluster, another four cases from three families also lived in B units of Block 2. The remaining five cases from four families were scattered in other units of Block 2 as well as Block 3.

## **Environmental investigations**

Environmental investigations were conducted by a multidisciplinary team comprising staff from Department of Health, Food and Environmental Hygiene Department, Buildings Department, Electrical and Mechanical Services Department, and Environmental Protection Department to identify the modes of spread of the disease.

### *Environmental hygiene*

District health inspectors from the Food and Environmental Hygiene Department inspected the common areas of Koway Court and the shopping arcade on 10 April and 11 April. The general cleanliness, refuse collection and disposal were found satisfactory. Advice had been given to the property management company to step up cleansing of the common areas. District health inspectors supervised the disinfection of the shopping arcade by the building management.

### *Sewage system*

Officers from the Department of Health accompanied Buildings Department staff to inspect the sewage system of Koway Court on 12 April. The property management company informed that all drainage system of Koway Court domestic units had been renovated in the year 2000, using uPVC pipes and adopting the approved drainage design. Inspection revealed that each block has eight vertical combined soil & waste (S&W) pipes. Branch pipes collecting waste water (i.e. from basin, bathtub and floor drain in bathroom; sink and floor drain in kitchen) and soil water (i.e. from water closet in bathroom) were fitted with U-traps, preventing foul smell and insects in the S&W pipes from entering the units. An anti-syphonage pipe ran parallel with each S&W pipe. No apparent crack/leakage was found with all S&W and anti-syphonage pipes.

### *Pest infestation*

Inspections of Koway Court and its associated shopping arcade for pest infestation were performed on 14 April and 15 April by district health inspectors and staff of Pest Control Advisory Section of the Food and Environmental Hygiene Department respectively. Larvicide and poison baiting were applied to potential breeding places. A cockroach sample was collected for polymerase chain reaction test which was tested negative for coronavirus.

### *Ventilation system*

Ventilation system of the shopping arcade had been jointly inspected in details by the Environmental Protection Department, Electrical and Mechanical Services Department and Department of Health on 15 April and 17 April. The ventilation pipes were inspected and photos were taken for examination of pest infestation. No signs of pest infestation were detected.

### **Laboratory investigations**

A total of 49 environmental swabs and 4 water samples were taken from various sites from affected and non-affected units as well as from the shopping arcade. All were tested negative for coronavirus by polymerase chain reaction test.

## **Actions by Department of Health**

The Department of Health distributed a household disinfection guideline to the residents of Koway Court through the property management company on 9 April. The residents were advised to fill up the U-traps of drainage outlets to ensure proper functioning. Residents were also advised to disinfect their flats as precautionary measures.

Door-to-door questionnaire interviews with Koway Court Block 2 residents were conducted on 11 April. Those not at home at the time were followed up by telephone interviews. Symptomatic residents were advised to take precautionary actions and to seek medical attention. Health talk delivered by officers from the Department of Health and the Food and Environmental Hygiene Department was held on the podium of Koway Garden in the evening of 11 April.

Co-workers of the two SARS cases working in the shopping arcade were put under surveillance by the Department of Health. Throat swabs and faecal samples were obtained from these co-workers. All of the co-workers were asymptomatic and all their specimens were tested negative.

An epidemiological study using a questionnaire was conducted to identify possible risk factors contributing to the infection. No factor was found to be significantly associated with developing SARS.

## **Summary**

No structural defect in the sewer system was found to have contributed to this cluster of SARS cases. It is probable that person-to-person spread among Koway Court residents in the estate and the shopping arcade had occurred. Samples collected from environmental specimens were all found to be negative. Actions taken by the Department of Health and the multi-disciplinary team have proven effective in halting the spread of the disease. No further case has been reported since thorough disinfection of units and drainage outlets.

Department of Health  
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