NEUROLOGICAL LETTER FROM...

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Practical Neurology, 2004, 4, 310–313

The Hong Kong Special Administrative Region (SAR) is one of two SARs, the other being Macau, set up by China at the end of the 20th century to administer the last two returned colonies, from Britain and Portugal, respectively. Like no other city in communist China, the two SARs are to be allowed to continue with their capitalist way of life for 50 years. For Hong Kong, that has meant that all the institutions that were in place before 1997, such as its civil service and legislative council, have remained in operation after the takeover. The few visible changes include the governor (now called the Chief Executive), the flag, the military (now

confined to barracks), and the opting-out of royal patronage for the likes of the Jockey and Golf Clubs.

In matters of health Hong Kong has, since the 1970s and 80s, enjoyed all the trappings of a first-world city. Cancer, heart attack and stroke are the top killers. Fatal infectious diseases like Japanese encephalitis and rabies, which are endemic in mainland China and south-east Asia, are nonexistent. And its health authorities, like similar bodies elsewhere in the 1990s, were too busy with their own reforms and reinventions to take much notice of the threat of emerging infections.

SARS in the

Hong Kong

the SAR, a tale of four buildings

Figure 1 The Metropole Hotel in urban Kowloon.

GROUND ZERO - THE METROPOLE HOTEL

On 21 February 2003, a professor of nephrology from Guangzhou (formerly Canton, 150 km north of Hong Kong) checked into room 911 on the ninth floor of this budget hotel (Fig. 1). He promptly went to the nearby Kwong Wah Hospital and told his medical attendants that he feared for his life, because he had all the symptoms of a mysterious illness that was killing people by the hundreds in his homeland. His attendants knew nothing about any such disease, but felt it necessary to admit the professor to an isolation room where he died 10 days later.

Meanwhile, other guests on the ninth floor continued on to their respective destinations, which included Singapore, Vietnam and Canada. A week later, the World Health Organization (WHO) epidemiologist Dr Carlo Urbani was sent to Hanoi to investigate an unusual outbreak of atypical pneumonia that he later termed Severe Acute Respiratory Syndrome (SARS), and from which he died on 29 March.

Figure 2 The Prince of Wales Hospital in suburban Shatin.

HEROIC MOMENTS – THE PRINCE OF WALES HOSPITAL

One of the other visitors to the ninth floor of the Metropole Hotel on 21 February was an airport worker who became ill and was admitted to Ward 8A of our teaching hospital on 4 March 2003 (Fig. 2). Four days later, staff and students working in Ward 8A began to fall ill, and by 11 March, 23 of them had been admitted to hospital. The few isolation rooms that were available were soon overwhelmed, and a 'dirty team' (which later won *Time* magazine's accolade of 'Asia's Heroes') was hastily assembled to look after these atypical pneumonia patients in Nightingale-style open wards. To protect their own families, many team members stayed away from home for weeks.

Meanwhile, the editor of the *New England Journal of Medicine* (NEJM) got wind of SARS in the SAR, and duly invited the chest physicians of the other medical school to write something about it. With data on 10 cases from three hospitals, 16 authors scrambled to help the NEJM to be the first medical journal to describe the clinical features of SARS on 31 March at <http://www.nejm.org>. A larger series of 138 cases from the Prince of Wales appeared on the same website a week later.

Having issued a global alert about SARS and,

for the first time in its history, a travel advisory against any country, the WHO daringly criticized China for covering up the true extent of SARS in their cities. In a move that surprised even their fiercest critics, China announced on 20 April that there were 10 times the number of previously admitted SARS cases in Beijing alone, and that the capital's mayor had been sacked along with the nation's minister of health.

THE INFERNO – THE AMOY GARDENS

In Hong Kong, people live in high-rise stacks of what look like shoeboxes, often grouped together by developers who call them gardens. On 19 March, a uraemic patient who lived in Shenzhen (a city adjacent to Hong Kong) came to stay in his brother's home in one such 'garden', the Amoy Gardens (Fig. 3). He had just been discharged from the Prince of Wales Hospital where he had showed up for routine haemodialysis with a fever 4 days before. He stayed overnight with his brother, long enough to infect him and subsequently no less than 328 other residents of the Amoy Gardens, of whom 42 died from SARS during the ensuing weeks. It is not exactly clear where he himself caught SARS.

Figure 3 Block E of the Amoy Gardens, showing a shaded light-well in the middle.

Figure 4 The Legco Building in central Hong Kong.

Among the Amoy residents who were infected with SARS, a great number lived on the upper floors. This led the local authorities to postulate that, besides person-to-person contact, the SARS coronavirus could have been transmitted through a 'chimney effect' caused by the updraft of warm air flowing through the narrow lightwell facing the bathrooms of the Amoy flats. Not many WHO experts agreed, at least not until April 2004 when the *NEJM* published the full epidemiological reasoning (rather like John Snow's, it reminded us) behind this hypothesis.

FINAL SHOWDOWN – THE LEGCO BUILDING

Housed in the former Supreme Court building (Fig. 4), the popularly elected Legislative Council (Legco) of Hong Kong has never had many teeth. However, it does have the power to summon any citizen or government official to appear before its committees. In June 2003, the Chief Executive of Hong Kong appointed his health minister to head an expert committee to enquire into the handling of the SARS outbreak, but was forced after a massive public protest on 1 July to name two outsiders, Sir Cyril Chantler and Professor Sian Griffiths, instead. With 299 lives lost, public opinion was such that anything short of the resignation of, or at least public apology by, one or two government officials would not suffice. Within weeks, the director of health left for a new job in Geneva. Once the expert committee found no wrongdoing by any official, Legco formed its own select committee to repeat the exercise.

At the time of writing this letter, the select committee is still in progress. We have seen the chairman of the Hospital Authority insisting

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that he was right in putting all SARS patients into one ill-prepared hospital, the former director of health sobbing in public, and the health minister blaming her for not having quarantined Amoy residents early enough. Whether the Chief Executive will consent to appear at this public hearing is unclear because, like the colonial governors before him, he is no ordinary citizen but a representative of the sovereign.

WHERE IS NEUROLOGY?

Nowhere. SARS does not affect the nervous system, except for the acute myopathy (which made ventilation more complicated) and the orthopaedic sequelae associated with the use of high-dose steroids in its treatment. But like other doctors in the SAR, neurologists fought alongside their colleagues during the SARS period.

Dr Richard Kay is a senior editor of the *Hong Kong Medical Journal*.