SARS (and Me) (Part 1)

By Prof Chee Yam Cheng, Editorial Board Member

This article is a diary, my diary, of events.

Editorial Note:
The following article was submitted on 31 March 2003. Contents are accurate and current as at this date. Part 2 will be published in the next issue of SMA News.

UK BOUND – THE HK CONNECTION

On the night of Sunday 9 March 2003, I left Singapore for London on Singapore Airlines. I was headed for Glasgow and arrived safely there on Monday morning. I was there for some medical meetings of the Royal College of Physicians. The meetings proceeded as planned and on Friday evening, I was on the night flight of Singapore Airlines. I arrived in Singapore on Saturday 15 March evening. While in Glasgow, the TV programmes were about Tony Blair and his war efforts. He was being taken to task by his own MPs and members of the public. He was accused of being reckless. Also on TV was European football. Arsenal, Liverpool, Celtic and Real Madrid. There was nothing about SARS, Hong Kong, Guangdong or Hanoi.

However, on CNN, there was mention of SARS. So I asked my Hong Kong doctor friend, also present at the same meetings, about the SARS situation in Hong Kong. It was not rosy. He promised to send me updates on our return home.

HOME AGAIN

It was Monday 17 March when I returned to Tan Tock Seng Hospital. As usual, I ran my clinic at KKWCH that morning. I was aware that there were already SARS cases in the ICU. That afternoon, I was present at the meeting chaired by an anesthetist, with nurses and doctors discussing how best to deal with the resources available in our ICUs. As you are all aware, Tan Tock Seng Hospital has 4 different ICUs – Neuro, Cardio, Surgical and Medical. The advice was to cohort cases as SARS was noted to be highly contagious. At that time, Tan Tock Seng Hospital continued to function as it always did – as a general hospital. Patients were still admitted through Emergency Department (Tan Tock Seng Hospital ED is the busiest ED in Singapore), and elective operations were ongoing. ICU beds were in demand.

That meeting gave me the first inkling of the pulse of our staff. Yes, there was fear. Yes, nobody would volunteer to manage the cases. All quite natural reactions. We were not fully aware of what SARS was about, at that time. Nonetheless, once the decision was taken to allocate certain resources (staff, equipment, wards, ICU, etc.) to manage SARS patients, everyone did their best and showed their commitment to their professional standing and ethical standards.

What did we tell them? These were our assumptions:

SARS is Severe Acute Respiratory Syndrome. As its name implies, the severely ill ones suffer respiratory failure from ARDS. It is acute. Usually, by the third day of illness (first day defined as when the fever starts), lower respiratory tract involvement begins. The chest X-ray starts to white out, the PaO2 falls, and supplementary oxygen is mandatory to maintain life. Further deterioration means assisted ventilation. Of course, some do not go that far and after oxygen therapy for a few days, start to improve, fever settles, and appetite returns.

The cause is viral. Which virus – initially thought to be paramyxovirus (as are measles, mumps and RSV and Nipah) – but now, it may be the corona virus (as is influenza).

The next critical assumption is that the spread, contagious as it is, is by close contact and droplet. It is not airborne. This has huge implications on the protection of our staff. Therefore, for those dealing with suspect or probable cases (the difference being the latter has CXR infiltrates), protection of self meant the wearing of the 3M N95 mask, properly fitted, and with gloves and gown.

Patients were in 3 categories: for observation, suspect SARS and probable SARS. It was essential that there be a history of contact with a SARS patient, or history of recent travel to the 3 countries mentioned earlier. Of course, patients could still be febrile from URTI, UTI, cellulitis, and so on, but in such cases, they were treated as non-SARS, in the usual manner. Most cases were admitted to the CDC low lying wards with lots of fresh air, open ventilation, sunshine and green grassland pleasing to the eyes. If they deteriorated and became breathless, CXR with infiltrates, then they were moved over to Tan Tock Seng Hospital's main building, and isolated in single rooms in certain wards on certain levels. Segregation of SARS and non-SARS patients in main Tan Tock Seng Hospital had begun. Likewise, staff were divided into the SARS and non-SARS teams.

Remember at this stage that Tan Tock Seng Hospital was still operating as per usual. We are a large hospital with over 1,000 beds and the busiest ED in Singapore.

MBBS EXAM – THE HK CONNECTION

Then came Tuesday 18 March. I had my reply from my Professor HK doctor whom I met in Glasgow. His e-mail said the situation was bad. I then asked for the medical protocol they were using in HK. This came a day later. It consisted of several antibiotics plus the usual management for ARDS. This day, I was

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Examiner for the Final MBBS held at SGH (and I was to be involved for the whole week). There, I met the External Examiner for Medicine who happened to be from HK. So I asked him about his perspective, the situation, the treatment, and the success stories. He is a hepatologist but he told me they tried ribavirin and steroids, and these seemed to work. So henceforth, we considered the same, but found in Singapore that we had thousands of tablets but little intravenous ribavirin.

On Wednesday, the Minister of Health visited Tan Tock Seng Hospital in the afternoon. (This he said himself in one of his subsequent press conferences.) It was good that he saw for himself the situation, met, and spoke with some staff and some patients. He visited the ICU where the seriously ill were. Precautions at that stage for visitors were that SARS patients were allowed one visitor for 10 minutes only, and under the supervision of our staff ensuring their masks were properly worn.

Thursday was fine and sunny in Singapore. The ultimatum given to Mr Saddam Hussein was due to expire at 9.15am. The MBBS medicine clinical examination, scheduled to be held at Tan Tock Seng Hospital, was relocated back to SGH, and there in the Examiner's room, the TV set was on. CNN was on telecast. Soon after, the war started. Bombs fell. The skies darkened over Baghdad although dawn was just breaking. The number of cases related to SARS continued to rise from the twenties, to the forties. About half were healthcare workers. The MICU housed 8 to 10 patients.

At Tan Tock Seng Hospital, there was now the daily operation room meeting once in the morning, and sometimes also in the evening. MOH had begun regular meetings with senior staff of the acute care restructured hospitals. Everyone was prepared to take in SARS patients and care for them. Hospitals were cancelling elective surgical operations for the following week. More masks were being ordered. Press conferences were being held.

Saturday 22 March started off for us at 8am, at the Lecture Theatre of Tan Tock Seng Hospital. I was chairing a seminar on "SARS – All you need to know". All the senior staff were present. The theatre was full. Staff were interested. A reporter tried to sneak in but was turned away. What did I say? SARS is a viral illness. Today it is thought to be a paramyxovirus in the same family as measles, mumps, RSV and Nipah virus. It is spread by close contact. TODAY newspaper reported the deadly sneeze of the Beijing Professor who stayed at the Metropole Hotel in HK, resulting in Singapore's first 3 index cases contracting the disease. At this stage, I was interrupted by a senior doctor saying rhinorrhoea and sneezing are not common symptoms (less than 25%).

Our doctors presented the epidemiology and clinical features. Management protocol was shown. Precautions were re-emphasised for all staff. Then, the CEO took the stage to give out policy statements regarding how the hospital was dealing with the SARS outbreak as it affected staff morale (many taken ill were healthcare workers). MOH was standing solidly behind Tan Tock Seng Hospital in this war against SARS.

WHO LIST

At 11am on the same day, Saturday 22 March, I attended for the first time, the MOH briefing. It was announced that schools would reopen on Monday 24 March. It was also announced that Tan Tock Seng Hospital had been designated the SARS hospital with immediate effect. So that meant, we were to stop ED admissions, stop admissions/transfers from other hospitals unless the patients were SARS-related. And of the non-SARS patients still in hospital, we were to gradually discharge them when they were better, and so empty our wards to only look after SARS-related patients. The outpatient clinics were also closed.

At the meeting, some questions were asked. Is it true that Singapore is now in the WHO list of countries with SARS together with Hong Kong, Vietnam and Guangdong? If yes, what does this mean? What are the implications for our people, our doctors, and our airlines? Can MOH give some guidance to our doctors who are asked to certify fitness to travel abroad? I will leave it at that, as it is another story.

The next week from 24 March unfolded with the finding that some of our TTSH staff had fallen ill, seen a GP or polyclinic doctor, and were at home on medical leave. We at TTSH worried they might have SARS. So we had to do daily roll calls on all staff to ensure they were healthy. And if they were ill, to verify that they did not have SARS, and a staff clinic was set up purposely for this reason. Meanwhile, patients by themselves, or referred by GPs, were being screened at Ward 72 CDC. From these 2 sources, SARS-related patients were warded and the numbers rose. At ED itself, although it was supposedly closed, patients still came and had to be seen. If they were serious enough to warrant admission and were not SARS, they were transported to the other hospitals.

On Wednesday 26 March, came the decision that all schools (from pre-schools up to Junior College, but excluding ITE, Polytechnics and Universities) would be closed from the following day Thursday 27 March.

That week, my usual clinics had been closed. Nonetheless, I was reviewing my patient's case sheets, writing prescriptions and making copies of investigation results to give to them when they came to collect their medication at the pharmacy. Those in need of urgent attention were given letters of referral to doctors of other hospitals. The idea was for well non-SARS patients to have no contact with SARS patients and doctors/ staff managing SARS patients. This has worked as the number of new cases has seen a decrease in recent days.

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Friday 28 March, I gave my scheduled talk on "Current Concepts on Hypertension" at the Ang Mo Kio Polyclinic. That over, I answered questions on SARS to reassure them that the situation appeared to be getting better (although 2 have died) and that the measures taken to protect staff were effective. However, the same night, things seemed to take a turn for the worse when it was announced that a new case was being investigated. She (somehow all the index cases are ladies) had returned to Singapore on China Southern Airlines CZ 355 at 5.40am, landing at Changi Airport Terminal 1. She was met by her mother, had taken a taxi to SGH whereupon she was redirected to Tan Tock Seng Hospital and promptly admitted. Intensive contact tracing is now in progress.

VIRAL ATTACK

The virus – now thought to be coronavus – is an enveloped single stranded RNA virus. It is thought to be able to survive on environmental surfaces for up to 3 hours. It is highly infectious with attack rates of more than 50% among healthcare workers caring for patients with SARS.

SARS was first recognised at the end of February in Hanoi Vietnam, when a doctor at the Vietnam-French private hospital reported it to WHO. However, it is now known that since late November 2002, the disease as it is now recognised, was already ravaging Southern China with sporadic spread into Hong Kong. And it was in Hong Kong that our 3 index cases contracted the disease. The incubation period is thought to be 5 to 9 days. The most common early, systemic symptoms include fever, malaise, myalgia, headache and dizziness. So it would look like any other viral illness. Hence, clinicians need a high index of suspicion, and need a history of travel or contact to make the diagnosis.

After 3 to 7 days of fever, the lower respiratory tract involvement results in a non-productive cough, with dypsnoea and chest pain. Breathlessness worsens, oxygen therapy is required, and ventilatory support is needed in 15% of those who have lung infection. Lymphocytopenia is common, and occasionally liver function values are raised. *(Reference: BMJ 29 March 2003 pg. 669-70.)*

SQ INVOLVEMENT

The SQ problem revolves around our colleague Dr Leong, who working in the CDC Tan Tock Seng Hospital, saw and treated one of our index cases. At that time, he and the index case did not know what the latter had. Therefore, no precautions to protect staff in the wards were in place.

He travelled to New York, attended the conference as planned, and on Friday 14 March boarded SQ in New York. (That same evening I boarded my SQ flight in London.) He took ill and was promptly quarantined in Frankfurt by the authorities who knew what disease they were dealing with, and therefore took more than the necessary precautions (being in space suits).

The other passengers and crew were also quarantined in a gymnasium, and later allowed to fly on to their destinations. The passengers were flown back on another SQ plane (not the one from NY – Frankfurt which Dr Leong flew in), and those who disembarked in Singapore were met by MOH officials at the airport, and given advisories regarding what to do should SARS symptoms develop. Others in transit made their way to other places. Later, when the German authorities were satisfied the SQ aircraft could leave, it together with its crew (who flew with Dr Leong) returned home. As was reported in the press, SQ disinfected the plane, burnt the carpets and seat cushions, and so on. The crew were on daily surveillance as part of contact tracing. Unfortunately, at least one of the crew is now warded at Tan Tock Seng Hospital.

A CHRONICLE

I have tried to live up to Channel News Asia's motto – giving you insights from the inside. Hopefully, this will lead to a better understanding of how things were handled and are being handled. Ignorance breeds fear, and fear leads to panic and paralysis. This should not happen in Singapore.

This article is a diary, my diary, of events. It is free of judgement in any and all forms, and there is no intention whatsoever to judge anybody, any decision, any policy, anything and anyone. ■