

# Have Our Sacrifices Made Us Better?

## —A Survivor of the SARS Outbreak in SGH Reminisces

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Ten years ago in March, SARS struck Singapore General Hospital (SGH) and became a full-blown outbreak by April 2003. It left an indelible imprint on the psyche of many of us sucked into the maelstrom of that pandemic. We were seared not only by the upheavals wrought by the rapidity and ferocity of the outbreak, but also by the psychological uncertainty arising from confrontation with a novel disease. It would be a while before the world knew the etiology and full nature of SARS. A zoonotic virus had jumped from animal to man and was disseminated rapidly throughout the world, aided by the efficiency of modern air travel. No new disease had previously spread so rapidly. Singapore, a major international travel hub, was hit by the virus early in the pandemic.

Afflicted patients had atypical pneumonia. When the World Health Organization (WHO) coined it SARS, or severe acute respiratory syndrome, and described it as a disease “presenting after 1 November 2002”,<sup>1</sup> the scientific world was still grappling with the identity of the virus. The disease was diagnosed and defined clinically, but it was only very much later that the world had the certainty of laboratory confirmation. Important clinical and administrative decisions with far-reaching ramifications were made solely on uncertain clinical grounds.

Many more patients and healthcare workers could have died from SARS. That not more of us did could be attributed to a few important factors. On 15 March 2003, WHO put out an unusually early travel advisory in response to reports of SARS from widespread locations and termed SARS a “worldwide health threat”.<sup>2</sup> This brought international attention to the magnitude of the outbreak and provided health authorities reason to take precautionary steps. With the etiology still unknown, clinician-researchers from major academic medical centres in Toronto and Hong Kong characterised the clinical features of the disease. The *New England Journal of Medicine* rapidly published these online on 31 March<sup>3</sup> and 7 April<sup>4</sup> respectively. These two papers allowed clinicians everywhere to diagnose the disease on clinical grounds and take the necessary steps to limit its spread, even before the world knew what the causative agent was.

Working with microbiological samples from patients, virologists from the Chinese University of Hong Kong postulated in the *Lancet* on 19 April that a new coronavirus was responsible.<sup>5</sup> In record time, *Nature* reported on 15 May that Koch’s postulates were fulfilled through experiments

carried out on a monkey model by an international team.<sup>6</sup> A novel coronavirus had been established as the cause of SARS. The rapidity of transmission of a severe novel infectious disease had been matched by an equally rapid collaborative scientific response.

Healthcare staff in SGH responded with magnificent professionalism in the face of daunting uncertainties, often at great personal risk and cost. The epicentre of the SGH outbreak was the Department of General Surgery which was thus the first clinical unit to be shut down. Surgical staff were either quarantined or sequestered at Tan Tock Seng Hospital to look after our patients transferred there. Some



Photo: Dreamstime

of us were quarantined twice. A subsequent scientific publication summarised the situation at SGH succinctly: "all staff and patients in these wards were potentially exposed and were themselves potential sources".<sup>7</sup> Many of us made difficult decisions on whether we should continue to stay with our families.

At SGH we watched aghast, images on TV of healthcare workers in another country climbing through hospital windows to escape from quarantine. We do not remember any colleague who shirked from what he or she had to do. A number of us caught SARS in the course of duty. Some of us died. But we never stopped looking after our patients.

We questioned the soundness of some of the practices introduced. But there was not enough scientific data to help us decide differently. Toronto, Hong Kong and Singapore were the first major international cities to be hit by SARS. Primary scientific and clinical data to help the rest of the world would have to come from academic-clinicians in these three centres.

There have been comments in international scientific circles, that clinicians in Singapore seemed to have contributed much less scientifically in the fight against SARS than was expected of an international city. But we did contribute some. Using ourselves as study subjects and in collaboration with the National Environment Agency and DSO National Laboratories, staff at SGH's Department of General Surgery established that there was no subclinical state for SARS and that most of our practices were fortunately sound.<sup>7</sup> Other scientific groups subsequently confirmed our data. This was a new virus not well adapted to the human condition – while case mortality rate was high, the disease did not stay latent in humans. In that sense, we were lucky. Further outbreaks would not arise from those of us exposed to the virus. We were not dangerous to our patients or our families. In another publication, we established that the controversial practice of cohorting our patients, due to limited resources, was also fortunately safe.<sup>8</sup> SARS was not as transmissible as say, the common cold (which, on the other hand, does not usually kill people). We were again lucky.

With the same rapidity that it had appeared, the pandemic dissipated. On 30 May 2003, WHO took Singapore off the SARS list, although we officially stepped down to green alert only on 1 April 2004, one year later. We had won. How did we do it?

Administrative firmness from the Government and social cohesiveness helped to limit the spread of the disease. Added to that must be the professionalism and sacrifice of healthcare staff. The way the Singapore Government handled SARS has become an administrative model on how an epidemic should be managed. But all these would have come to naught if science and clinician-researchers had failed. There would have been many more lives lost and almost certainly a more protracted course. It would have

been difficult to sustain the economy of a small city-state.

SARS will not be the last pandemic to hit Singapore. We are an international travel hub and will always be in harm's way. If another similar pandemic hits Singapore and SGH tomorrow, will we be more prepared? And will we be as lucky? Perhaps the next time round, we will not have to depend again on other people in other places to do the important clinical and translational research that will save our lives and the lives of our patients and families. Maybe we will be equal partners with international collaborators. At the end of the day, scientific capability is not a luxury. It is important for our survival.

Celebrate life! **SMA**

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