

The severe acute respiratory syndrome revisited

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For many of us last year's SARS epidemic was an extraordinary period in our lives. Since that time we have learned a fair amount about the disease. We know it is caused by the SARS corona virus [1], is probably spread by respiratory droplets and the airborne route, causes a predominantly respiratory illness with little other organ failure [2] and has an overall mortality of 7-17% (http://www.who.int/csr/sars/country/table2004_04_21/en/). Not surprisingly the mortality amongst those who required ICU admission was higher (27-52%) [3,4,5]. It is only moderately infectious overall but there are appear to be superspreading events or patients which can result in infection of large numbers of people [6,7]. I suspect most of us also learned a fair bit about ourselves and our colleagues. Much publicity was given in the popular press to the refusal of a few healthcare workers to look after patients with SARS, less to the selfless work of so many. In the medical literature there has been virtually no mention of it. In this issue of *Critical Care and Shock* Dr. Tai redresses this deficiency, giving a personal account of the SARS story in Singapore, with an emphasis on intensive care. Much of what he says will strike a chord with those who were in a similar situation. The article is not scientific in the narrow sense of the word but is valuable documentation of and a well-deserved tribute to the selfless contribution of healthcare workers in Singapore. In Hong Kong, we too felt humbled by the willingness of healthcare workers to work in the frontline. Not only did our own Intensive Care Unit (ICU) staff excel, but many staff who had no need to be exposed to SARS vol-

unteered to work in our ICU. When considering the commitment of these workers it is important to remember that at the time of the outbreak little was known about SARS except that it caused potentially life threatening respiratory failure and that it appeared to be highly infectious.

Another important aspect of Dr. Tai's paper is that no ICU healthcare workers developed SARS after the implementation of full protective measures. This is important because it suggests that, with adequate protection, the risk of occupational infection is low. However, before concluding that this is the case, one has to consider the possibility that no super-spreaders were admitted to the ICU. A hospital in Vietnam reported no occupational infection despite variable use of infection control measures and personal protective devices [8]. It is therefore possible, although I believe unlikely, that the low infection rate in Singapore merely reflects an absence of exposure to superspreading events. My belief is based on three lines of evidence. Firstly, excluding superspreading events, SARS is moderately transmissible with an estimated 2.7 secondary infections per case at the start of the epidemic [6]. Secondly, viral shedding is maximal at about day 10 of the illness. The median day of admission to the Singapore ICU was day 8 [5] and therefore patients would be expected to be maximally infectious at the time of ICU admission. Thirdly, a number of studies have shown a decreased SARS infection risk associated with use of many of the individual components of infection control measures (eg use of gloves, gowns, caps, masks) [9,10].

References

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