Will Severe Acute Respiratory Disease (SARS) Return?

The World Health Organisation announced in early July that were then no counties where local transmission of SARS was continuing and that all known chains of person to person transmission has been broken. This had followed an intense period of international co-operation and aggressive public health measures since March to detect and control the spread of the disease[1]. 8476 cases had been reported globally with 812 deaths. There had been some cautious optimism that such an outcome was possible even in the early phases of the outbreak and that SARS could be "driven back to nature". The observed epidemiology of this newly emerged infection suggested high virulence, particularly in the elderly, but low transmissibility within the exception of super spreading events in hospital and some community settings. Rapid detection and isolation of suspected cases formed the back bone of control measures put in place in those countries affected, coupled with the effective implementation of infection control measures in hospitals.

We could however be merely in the eye of the storm as part of a cyclical perhaps seasonal trend in the incidence of epidemic SARS. What can we glean that may help us decide whether SARS has truly been eliminated from the human population? Has SARS merely temporarily receded into the background noise of the multitude of other respiratory infections that assail us?

We can perhaps learn from observation of the epidemiology of influenza. The influenza virus shows minor short-term antigenic drift and major long-term antigenic shift that are respectively typified by epidemics and pandemics. In temperate climates these short and long-term cycles are overlaid on a background of distinct seasonal variation. In the

northern hemisphere Influenza appears to 'fade out' in the early Spring and Summer only to return later in the Autumn. Fade out is consistent with low-level endemicity of the virus that falls below the threshold of detection of existing surveillance systems[2]. A similar effect may be responsible for the current observed experience of SARS. It is known that the existing surveillance case definition for SARS has relatively low sensitivity and consequently some cases will be missed[3]. Until a more sensitive case definition can be agreed, supported by a specific and timely diagnostic test, a seasonal increase in SARS will not be easy to detect to focus infection control procedures and public health management. Furthermore the animal reservoirs of SARS associated Coronavirus remain and therefore the potential for the chain of events to re-occur that lead to outbreaks of SARS in China and elsewhere must be assumed to still exist.

On the balance of the current evidence it is possible that further cases of SARS will re-occur later this year riding on the tide of other seasonal respiratory viruses. How the next chapter on SARS will unfold will depend on effective targeting of enhanced surveillance programmes and rapid isolation of hospitalized cases. What is needed now is to translate the high level of international collaboration on research and control measures into developing more sophisticated integrated syndromic and virological surveillance systems for SARS to promptly detect and isolate suspected cases. Only then can we be sure of containing the public health and economic impact of this challenging newly emerged infection.

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