

Emerging respiratory viruses: is it ‘much ado about nothing’? (Shakespeare)

J. McConnell¹ and D. Raoult²

1) *The Lancet Infectious Diseases*, London, UK and 2) *Unité de Recherche sur les Maladies Infectieuses et Tropicales Emergentes*, Faculté de Médecine, Université de la Méditerranée, Marseille, France

E-mail: cmi.raoult@gmail.com

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In Marseille in 2013, extensively drug-resistant tuberculosis clone Beijing [1] and *Clostridium difficile* O27 [2] were the most common causes of severe emerging infectious diseases: nine patients died. No patients infected with the most feared and publicized pneumonic viruses (except the well-known H1N1, H3N2, respiratory syncytial virus and rhinovirus) have been hospitalized in Marseilles during the past 10 years. This discrepancy between media reports and clinical practice leads to a reflection on what is real and what is predicted or publicized among emerging infections.

Following the emergence of new respiratory viral infections, there has been in recent years an explosion of publications in the best medical and scientific journals based on the fear of another catastrophic outbreak equivalent to ‘Spanish flu’. This fear started with the arrival of severe acute respiratory syndrome (SARS) [3] from China. The reservoir for the SARS coronavirus seemed to be bats. The evolution of disease is still poorly understood because the epidemic started with a period of apparent contagiousness in Hong Kong but its eventual disappearance occurred without anyone really understanding the reasons why the outbreak petered out. Worldwide, there were 8096 SARS cases, including 774 deaths [3]. There was only one case in France. Based on ISI-Thomson-Reuters data, there are 8943 publications with the keyword SARS (more than 12 per death) and 146 235 citations. H5N1 avian flu was then the subject of widespread concern in the media, and much activity in scientific journals and at WHO. It justified the establishment of human vaccines while evidence of inter-human transmission remained extremely low. In terms of human disease, the risk of H5N1 remains low with 615 cases recorded and 362 deaths (mainly in Indonesia, Egypt and Vietnam) [4]. Despite this, there have been since 2005, 6748 publications and 64 729 citations (source ISI-web October 2013)—a ratio of 20 publications per death. The disease has remained a zoonosis with regional circulation; there has been no case in France.

This reactivity and fear vis-à-vis emerging viruses shows no sign of abating. Hence, for the new avian influenza H7N9 there have been 180 publications in 2013, based on 135 cases including 44 deaths (in China and Taiwan) [5–8], or a ratio of

four papers per death. There has been no case in France. The new coronavirus emerging in the Middle East has generated 142 publications during the year 2013, although only 138 cases have been reported with 60 deaths (mainly in Saudi Arabia) [9–12]. This is a ratio of 2.4 publications per death. There have been two cases in France. In total, these four viral respiratory infections have generated a number of publications that is disproportionate to the public health problem.

By contrast—for example—this year in India there has been an outbreak of acute encephalitis syndrome (probably caused by Japanese encephalitis virus, but other factors may be involved) that has caused around 1200 deaths (<http://www.flutrackers.com/forum/showthread.php?p=514124>), but has been the subject of just six publications (data from *Scopus* Nov 13, 2013), or 0.005 publications per death. Moreover, tuberculosis kills around 1.4 million people worldwide each year, with the extensively drug-resistant form causing particular concern. The emerging epidemic Beijing clone (856 publications, 1596 citations) caused at least 13% (180 000) of tuberculosis deaths [13]. That is a true emerging killer! Emerging *Clostridium difficile* clone O27 (477 publications, 7980 citations) has received much less attention than SARS, despite the reality of a worldwide pandemic that has killed thousands of people, with a case fatality rate of 30%. It has killed at least 200 people in France [14] and causes a significant proportion of the 14 000 *C. difficile* deaths per year in the USA reported by the CDC, which have multiplied threefold during the past 10 years. A comparable figure is observed in Europe (E.J. Kuijper, personal communication).

It is our duty as medical journals to report ongoing and emerging outbreaks, but to try to avoid disproportionate reactions that ultimately influence governments and international agencies, and lead to costly control strategies that are of questionable value including from the scientific community. The main reason we do not publish more on the “real” epidemics is that we are not sent the papers. What does this over-representation of emerging viral agents of pneumonias reflect? Is it people’s fear of the unknown, the power of the involved scientists, or perhaps the financial interest of the vaccine and pharmaceutical industries? Modelling of outbreaks,

by considering the most catastrophic scenarios, might also lead to a disproportionate response despite its repeated failure to give accurate predictions [15]. We should not confuse prediction and reality: for the moment the new respiratory viruses have been 'much ado about nothing'.

Transparency Declarations

The authors declare no conflicts of interest.

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