

Treating emerging viral infections

To the Editor—I read with interest the recently published article on the use of plasma from a convalescent patient to treat severe acute respiratory syndrome.¹ The therapeutic use of serum products in managing infectious disease reminds us of the pioneering work of Robert Koch's students, who developed a sheep antiserum against diphtheria toxin in 1891; a girl dying of diphtheria received the antiserum, recovered within hours and survived.² Since then, the strategy of administering plasma from survivors of various epidemics of viral illness has been used with success. Examples include treatment of Bolivian haemorrhagic fever (during an epidemic in the 1960s caused by Machupo virus),³ Argentinian haemorrhagic fever (caused by Junin virus, a close relative of Machupo virus),⁴ and Lassa fever in Nigeria.⁵ Reduction in mortality by giving this type of therapy has been attributed to the immunoglobulin fraction of the plasma—the source of neutralising antibody. A perhaps more familiar example is the experimental use of immunoglobulin from survivors of West Nile encephalitis,⁶ which is being considered for further clinical trials to manage infection with West Nile virus.

Clearly, plasma from convalescent patients who had a viral infection has a unique role in therapeutic medicine, especially in the face of emerging (and often devastating) viral infection outbreaks. Above all, these accounts make a strong case for public health authorities to store batches of

hyperimmune plasma in case outbreaks of these diseases strike in the future.

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Authors' reply

To the Editor—We thank Drs Chow, Burnouf and Radosevich for their valuable comments. Dr Chow provided important examples of when convalescent plasma has been used to treat other severe viral illnesses. Drs Burnouf and Radosevich suggested ways of improving convalescent plasma therapy. Our institution has analysed more than 20 patients who received convalescent plasma for severe acute respiratory syndrome. Among patients who had pulsed methylprednisolone for more than 1.5 g, those receiving concomitant plasma had better survival and earlier discharge from hospital (unpublished data).

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Modelling the severe acute respiratory syndrome epidemic

To the Editor—The most direct way to assess the trend in the severe acute respiratory syndrome (SARS) epidemic is to study the number of reported cases. There are two quantities related to reported cases: the cumulative number and the daily number of cases. Based on these

observations, epidemiologists try to fit models to describe the epidemic.

Firstly, fitting a statistical model by extrapolation not only ignores the possibility of the effect of interventions,