Relapse of SARS upon tapering corticosteroid

Published online: 1 May 2004 © Springer-Verlag 2004

Keywords Severe acute respiratory syndrome (SARS) · Multiple organ dysfunction syndrome (MODS) · Recombinant human activated protein C (rhAPC)

Sir: Corticosteroid has been generally considered beneficial for patients with severe acute respiratory syndrome (SARS), but the standard treatment protocol is still uncertain [1]. We describe a SARS patient who twice experienced relapse of SARS which was complicated with shock and acute disseminated intravascular coagulopathy (DIC) during stepping down the corticosteroid dose.

A 56-year-old woman experiencing fever and progressive dyspnea visited our emergency service on the 5th day of fever. Hypoxia was noted and chest radiography showed bilateral lung infiltrates. Mechanical ventilatory support was given and she was admitted to an isolated room. Nasopharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay and pharyngeal aspirates were positive for SARS-CoV RNA by RT-PCR assay.

Because fever subsided and oxygenation improved, corticosteroid was tapered to oral prednisolone (2,000 mg stat, then 1,000 mg daily for 7 days), moxifloxacin (400 mg daily), and intravenous methylprednisolone (2 mg kg daily) were given from admission onwards (5th day of fever).

The corticosteroid dose was reduced again from the 28th day of fever and the patient was weaned from ventilatory support on the 33rd day of fever. However, severe hypoxemia with profuse lung infiltrates occurred on the next day. Even under broad-spectrum empirical antibiotics (imipenem with cilastatin sodium and vancomycin), she still developed signs of multiple organ dysfunction syndrome (MODS): persistent shock, hypoxemia, and acute DIC (D-dimer 5510 ng/ml, prothrombin time (PT) 15.5 s, activated partial thromboplastin time (aPTT) 50.3 s). A surge in serum concentrations of interleukin-6 (IL-6) and interleukin-8 (IL-8) was also observed.

In this patient, hypercytokinemia was associated with the relapse of SARS upon tapering corticosteroid. Although in this particular patient we successfully reversed acute DIC-associated MODS using a combination of pulse corticosteroid and a novel drug with immunomodulatory and anticoagulant effects, rhAPC, further controlled trials are strongly recommended to clarify the standard of care for avoiding disease relapse and associated catastrophic complications.

References

1. Peiris JS, Yuen KY, Osterhaus AD, Stohr K (2003) The severe acute respiratory syndrome. N Engl J Med 349:2431–2441
2. Nicholls JM, Poon LL, Lee KC, Ng WF, Lai ST, Leung CY, Chu CM, Hui PK, Mak KL, Lim W, Yan KW, Chan KH, Tsang NC, Guan Y, Yuen KY, Peiris JS (2003) Lung pathology of fatal severe acute respiratory syndrome. Lancet 361:1773–1778
3. So LK, Lau AC, Yam LY, Cheung TM, Poon E, Yung RW, Yuen KY (2003) Development of a standard treatment protocol for severe acute respiratory syndrome. Lancet 361:1615–1617
4. Ho JC, Ooi GC, Mok TY, Chan JW, Hung I, Lam B, Wong PC, Li PC, Ho PL, Lam WK, Ng CK, Ip MS, Lai KN, Chan-Yeung M, Tsang KW (2003) High-dose pulse versus nonpulse corticosteroid regimens in severe acute respi-
5. Bernard GR, Vincent JL, Laterre PF, LaRosa SP, Dhainaut JF, Lopez-Rodriguez A, Steingrub JS, Garber GE, Helterbrand JD, Ely EW, Fisher CJ Jr (2001) Efficacy and safety of recombinant human activated protein C for severe sepsis. N Engl J Med 344:699–709

J.-Y. Chien · S.-C. Chang · J.-J. Hwang
C.-J. Yu (✉) · P.-C. Yang
Department of Internal Medicine, National Taiwan University Hospital, No. 7 Chung-Shan South Road, Taipei, Taiwan
e-mail: jeffery@ntumc.org
Tel.: +886-2-23562905
Fax: +886-2-23582867

P.-R. Hsueh
Department of Laboratory Medicine, National Taiwan University Hospital, Taipei, Taiwan

ratory syndrome. Am J Respir Crit Care Med 168:1449–1456

P.-R. Hsueh