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# A case of adult respiratory syncytial virus-induced ARDS treated with oral ribavirin.

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Respiratory syncytial virus is an important cause of lower respiratory tract infection in infant and young children, causing severe bronchiolitis leading to hospitalization and deaths. However, this virus has not been appreciated in adults, where high-risk groups are the elderly, those with cardiac diseases, and immunocompromised. We, herein, report a case of severe community-acquired respiratory syncytial virus pneumonia in a previously healthy adult. An 81-year-old male was admitted to our hospital with symptoms of coughs, febrile sensation, and dyspnea for 2 days. He denied any past medical history. Laboratory findings showed marked leukocytosis with elevated serum levels of c-reactive protein. Arterial blood gas analysis showed hypoxemia (PaO2 63 mmHg). Chest X-ray and computed tomography showed patchy diffuse ground-glass opacity in both lungs, with small amounts of pleural effusions in the right hemithorax. Despite empirical antibiotics for four days, lung lesions worsened rapidly along with aggravated hypoxemia. Microbiological tests for bacteria, fungi and tuberculosis were negative. On the fourth day of admission, the patient required intubation and mechanical ventilation. Multiplex real-time reverse-transcriptase polymerase chain reaction (RT-PCR) tested with respiratory specimens tested positive for respiratory syncytial virus. With a diagnosis of acute respiratory distress syndrome due to respiratory syncytial virus pneumonia, oral ribavirin and intravenous corticosteroid were administered along with broad-spectrum antibiotics. His hypoxemia and radiology gradually improved after 2 weeks of treatment. He was extubated on hospital day 18 and discharged without any complications. Community-acquired respiratory syncytial virus pneumonia is a rare but rapidly deteriorating condition, with a high mortality similar to influenza. However, there are no vaccines developed nor any established treatments. This case report demonstrates clinical significance of early detection using multiplex real-time RT-PCR, and a potential usefulness of oral ribavirin for the treatment of community-acquired respiratory syncytial virus pneumonia.

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# The Case of Severe Fever with Thrombycotopenia Syndrome related Encephalitis

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Severe fever with thrombocytopenia syndrome (SFTS) is a viral hemorrhagic fever caused by a novel bunyavirus, first reported in the year 2009 by Chinese researchers. Fever, myalgia, nausea and vomiting are common symptoms, and central nervous system manifestations, such as seizure and confusion, could be presented in about 6% of SFTS patients. However in South Korea, only a few data on SFTS related encephalitis has been reported. Here we introduce the case of a male patient diagnosed and treated with reversible encephalitis despite normal initial CSF findings. A 20-year old soilder, who had experienced three days of fever, headache, nausea and vomiting visited our medical center via the military hospital. He had no underlying disease but had a history of receiving military training in the wilderness. Physical examination showed no meningeal irrigation signs. The laboratory studies revealed thrombocytopenia, leukopenia and elevated liver enzymes; alanine aminotransferase and aspartate aminotransferase. Initial CSF analysis showed normal results. The serum SFTSV result was positive by RT-PCR. On day 5, the patient suddenly presented generalized tonic-clonic seizure and myoclonus in the right side limbs. On brain MRI, focal high signals at the cerebral cortex were detected and follow up CSF analysis showed pleocytosis (WBC : 34/uL [normal range : 0~5/uL]) (Table1). The patient was treated using corticosteroid. In about one month, symptoms and abnormal laboratory findings, such as liver enzyme and hematologic abnormalities, were normalized. This case reveals that fatal disease of SFTS could manifest as late-onset encephalitis. In cases where initial CSF findings are normal, we should not exclude the possibility of SFTS related encephalitis.

Table 1. Trends of Cerebrospinal fluid analysis from admission to day 5

| Day | 1 | 5 |
|---|---|---|
| White blood cell (/uL) | 3 | 34 |
| PMN cells (%) | 30 | 2 |
| Protein (mg/dL) | 27.3 | 101.9 |
| Glucose (mg/dL) | 85 | 145 |
| C/S ratio | 0.94 | 0.61 |