In late 2002 through early 2003, sudden emergence of the atypical pneumonia that became known as severe acute respiratory distress syndrome (SARS) captured global attention. From the time of its apparent initial appearance in Guangdong Province of China, its prevalence and high-case fatality rate in household contacts and healthcare workers who cared for affected individuals were of alarming concern. Spread to other regions of Asia and then to North America along with the rapid identification of the responsible viral pathogen illustrate the classic behavior of this type of virus. It also illustrates the investigation of a new epidemic (see von Overbeck’s article in this issue).

In a study of 138 patients with suspected SARS admitted to a Hong Kong hospital, clinical, laboratory, and radiographic data were collected and studied. This cohort included 69 healthcare workers, of which 5 died. At the time these cases presented, the etiologic agent was not known. Therefore, diagnosis was based on clinical criteria that excluded common bacterial and viral pathogens that cause pneumonia, and application of a case definition that included fever (>38°C), a chest radiograph or CT image (or both) showing evidence of consolidation with or without respiratory symptoms (dyspnea, cough), and exposure to a patient suspected to have SARS, or direct contact with a patient who became ill after exposure to an index patient.

After the onset of fever, 108 of the 138 patients (78.3%) had abnormal chest radiographs, all of which showed air space consolidation. The initial changes were indistinguishable from those associated with bronchopneumonia due to other causes. Peripheral involvement was predominant; while effusions, hilar adenopathy and cavitation were absent. In those that clinically deteriorated, lung opacities enlarged and multiple areas of involvement were seen. Successful response to treatment was accompanied by resolution of...
lung opacities. In those that did not have typical lung opacities on chest radiographs at presentation, CT images were helpful in identifying "ground glass" opacification in the periphery of the affected lung. In this study, "treatment" included antibiotic coverage for community pneumonia pathogens and influenza. Corticosteroids and ribavirin were added if fever and leukopenia persisted longer than 48 hours.

Figures 1, 2 and 3 illustrate sequential chest radiographs in a case of SARS involving a 46-year-old man.

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REFERENCE