

The Management of Severe H1N1 and Flu Related Infection in ICU

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H1N1 2009 was first recognized as a pathogen in March of 2009, when there was a spike in the number of cases of influenza-like illness leading to severe and at times fatal pneumonia. The etiologic agent was then identified as a novel H1N1 influenza A virus, which subsequent spread rapidly throughout the globe. Most countries reported cases of severe viral pneumonitis requiring intensive care unit (ICU) admission. However, among patients admitted to hospitals, 20 to 33% were hospitalized in intensive care units (ICUs) because of influenza-associated pneumonia and acute respiratory distress syndrome (ARDS). Mortality in patients admitted to the ICU with respiratory failure varied between 17 and 28% and was associated with greater illness severity scores and the need for mechanical ventilation on admission as well as the presence of comorbid conditions and older age. Despite attempts to optimize ventilator settings, some patients developed refractory hypoxemia or hypercapnia and received extracorporeal membrane oxygenation (ECMO) as a rescue therapy. Severe disease was noted to occur more commonly in younger patients than those typically affected by seasonal influenza and obesity and pregnancy were associated with severe disease. The majority of patients requiring ICU admission met criteria for ARDS and case fatality ratio was estimated at less than 0.5%. Chest radiographs and pathology resembled ARDS and most patients were treated with low tidal volume ventilation, high positive end expiratory pressure and at times, rescue therapies. Available evidence suggests that early antiviral treatment improves outcomes from H1N1 2009. Prompt recognition and treatment with antivirals improves outcomes.