

Scrub typhus: Experience in management of cases with pulmonary involvement in critical care unit

Sir,

Scrub typhus is a potentially fatal mite-borne infectious disease caused by the organism *Orientia tsutsugamushi*.^[1] It is common in Asia and the Pacific island and sometimes encountered in the Western countries.^[2] In severe cases, there may be encephalitis, hepatic dysfunction, interstitial pneumonia, or acute respiratory distress syndrome (ARDS).^[3,4]

In our hospital, 238 patients with clinically suspected cases of scrub typhus were admitted from January 2014 to December 2014. This case series describes the clinical profile of 13 scrub typhus positive patients with varying degree of hypoxemia who were admitted to the critical care unit of our tertiary care hospital. We retrospectively reviewed the medical records and information was obtained about demographic, clinical, and laboratory characteristics of the patients. The cases were diagnosed by testing with rapid immunochromatographic tests followed by enzyme-linked immunosorbent assay immunoglobulin M for scrub typhus. The American-European Consensus Committee criteria were used for making a diagnosis of ARDS and other complications such as acute renal failure and hepatitis were also noted.

Most patients were below the age of 40 years. They were admitted to the Intensive Care Unit after a mean \pm standard deviation duration of 8.41 ± 4.65 days (3–15 days).

Six cases had milder symptom with breathlessness and cough. These patients responded well to oxygen therapy via the face mask and antibiotics doxycycline and azithromycin. Their symptoms improved within 6–8 days and hospital stay was mean 8.15 ± 5.26 days (range: 6–10 days).

Seven cases had symptoms suggestive of ARDS with severe dyspnea, tachycardia, and fall in blood pressure and four cases had altered sensorium. The time of

admission to intubation was mean 36 h (range: 0–76 h). The arterial blood gas (ABG) analysis at the time of intubation was PaO₂ mean 45 mmHg and PaCO₂ 48. All the patients were put on pressure control ventilation with a positive end-expiratory pressure. The duration of ventilatory support was mean 13.55 ± 8.34 days (range: 6–26 days). Weaning was started on the improvement of the ABG and better lung compliance. Control ventilation was for a mean duration of 8 days, followed by synchronized intermittent mandatory ventilation then continuous positive airway pressure mode. The complications in the study population were an acute hepatic failure (1 of 13), two subjects had acute renal failure, and one had a seizure.

Recently, there have been reports of an increase in the respiratory manifestation with cough, breathlessness, and tachypnea.^[5] It is important to understand that no mode of mechanical ventilation is inherently safer than another, as all can be provided safely or not, depending on the settings that the clinician selects and the vigilance with which the caregiver makes appropriate adjustments in response to the changing nature of the problem.^[6] Three of our patients died due to refractory hypoxia and multiple organ failures in spite of the various ventilator and other supportive strategies. The intensivist must be prepared for high individualized ventilator management depending on the severity of the hypoxia and hemodynamic status. Refractory hypoxia and multiple organ involvements are the most common cause of mortality.

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Conflicts of interest

There are no conflicts of interest.

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