

Rapidly Fatal Leptospirosis Pulmonary Hemorrhage Syndrome in a Previously Healthy Young Male: A Case Report from Sabah.

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KEYWORD: Leptospirosis Pulmonary Hemorrhage Syndrome, LPHS, leptospirosis

INTRODUCTION

Leptospirosis is a zoonotic disease endemic in Malaysia, ranking as the third most deadly infectious disease after dengue and malaria. Its clinical spectrum ranges from a mild flu-like illness to severe multiorgan failure. One rare and life-threatening complication is Leptospirosis Pulmonary Hemorrhage Syndrome (LPHS), which involves diffuse alveolar haemorrhage and carries a mortality rate exceeding 70%.

CASE DESCRIPTION

A 31-year-old man with no known medical history presented with a 5-day history of fever, chills, rigors, epigastric pain, lethargy, reduced oral intake, and loose stools. On arrival at the Emergency Department (ED), he was in compensated shock and respiratory distress, with an oxygen saturation (SpO₂) of 88% on room air and a respiratory rate of 32 breaths per minute. Examination revealed jaundice, conjunctival suffusion, and bibasal crepitations.

Initial chest X-ray (CXR) showed bilateral perihilar reticulonodular opacities. Due to worsening respiratory distress, the patient was intubated three hours after ED admission. A follow-up CXR performed one-hour post-intubation demonstrated features consistent with diffuse pulmonary haemorrhage. Despite high ventilator settings and appropriate resuscitation, the patient's condition continued to deteriorate, leading to multiorgan failure and eventual death.

DISCUSSION

LPHS in leptospirosis is a rare but life-threatening complication characterized by acute respiratory distress and alveolar bleeding. This case highlights the rapid deterioration seen in LPHS, which requires intensive respiratory support. The cause of LPHS is thought to involve immune-mediated damage to capillaries, with the deposition of immune proteins in the alveolar lining. Early treatment with intravenous methylprednisolone and immunomodulatory therapies such as plasmapheresis or cyclophosphamide can improve survival. In severe cases, mechanical ventilation and extracorporeal membrane oxygenation (ECMO) may also be necessary. A study reported a low mortality rate of 9.1 % among LPHS patients who received ECMO.

CONCLUSION

LPHS is a rare but rapidly fatal complication of leptospirosis. Early recognition and prompt immunomodulatory treatment are essential. In severe cases, advanced support such as mechanical ventilation and ECMO may improve survival and should be further considered in Malaysian clinical practice.

REFERENCE

1. Dong WH, Chen Z. Leptospirosis with pulmonary haemorrhage and multiple organ failure: a case report and literature review. *J Int Med Res*. 2021 May;49(5):3000605211019665.
2. Dolhnikoff M, Mauad T, Bethlem EP, et al. Pathology and pathophysiology of pulmonary manifestations in leptospirosis. *Braz J Infect Dis* 2007; 11: 142–148.
3. Gouveia EL et Al. Leptospirosis-associated severe pulmonary hemorrhagic syndrome, Salvador, Brazil. *Emerg Infect Dis*. 2008 Mar;14(3):505-8

Scan for
CXR

