題名:Pathophysiological mechanism of lung injury in patients with leptospirosis.

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摘要:AIMS: Acute lung injury (ALI) is a serious clinical problem. We investigated the pathogenetic mechanisms of ALI caused by leptospirosis. METHODS: The study included five cases of leptospirosis. We monitored the arterial pressure (AP) and heart rate (HR) and analysed the AP and HR variabilities for assessment of autonomic functions. Histopathological changes in the lung, brain, kidney, and liver were examined. In addition, we identified the expression of inducible nitric oxide synthase (iNOS) using immunohistochemical stain. RESULTS: Five patients associated with leptospirosis died of ALI. Before death, severe hypotension and bradycardia occurred. Spectral analysis of AP and HR variabilities indicated decreased sympathetic drive with increased parasympathetic activity. Pathological examinations revealed alveolar haemorrhage and necrotic lesions in various organs. Immunohistochemical stain disclosed iNOS activity in multiple organs. Biochemical determinations indicated hypoxia, hyperglycaemia, increased nitrite/nitrate, methyl guanidine and other factors. CONCLUSIONS: These changes suggest that leptospirosis causes severe hypotension and bradycardia accompanied by autonomic dysfunction. Finally, multiple organ failure and damage ensued. The pathogenesis of lung and organ injury may involve iNOS and NO production.