

# 恙蟲病患者臨床病理、免疫組織化學染色及核酸檢測研究

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## 摘要

恙蟲病是由恙蟎叮咬傳播恙蟲病立克次體的一種人畜共通傳染病。通常人被恙蟎叮咬後會在傷口處形成焦痂或引起皮膚丘疹，進而破壞身體各器官甚至喪命。本研究收集 12 例有焦痂或結節狀隆起的皮膚切片，經 47KD 免疫組織化學染色證實為恙蟲病，組織病理發現有 10 例出現白血球碎裂性血管炎，2 例是淋巴球浸潤性血管炎，同時追蹤這些病人病原核酸及免疫球蛋白變化有 10 例陽性(PCR 或 IgG/IgM 陽性)。另外收集 3 例因恙蟲病致死解剖案例，分析發現大部分病人感染恙蟲，曾經由巨噬細胞擴散到心臟引起心肌炎，擴散到肺臟引起間質性肺炎，導致肺水腫致死，擴散到腦膜形成腦膜炎，擴散到腎臟腎小管導致急性腎衰竭；有 1 例肝臟、脾臟及淋巴系統被侵犯合併嗜血症候群及 2 例腸胃系統遭受破壞。同時為釐清肺水腫致死原因，以一氧化氮合成酶 (iNOS) 免疫組織化學染色，發現肺臟肺泡內巨噬細胞 iNOS 呈現陽性反應，顯示恙蟲病立克次體可能誘發 iNOS 合成，因而產生大量的一氧化氮(NO)，大量的 NO 具有毒性，可能是造成致死的原因。

**關鍵字：**恙蟲病立克次體、免疫組織化學染色、一氧化氮合成酶

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## **Studies on Clinicopathology, Immunohistochemistry and PCR of Patients with Scrub Typhus.**

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### Abstract

Scrub typhus is a zoonotic disease caused by *Orientia tsutsugamushi*, which is transmitted by chiggers. The patient in bitten by chiggers, eschar formation developed in the wound then the rickettsia may disseminate into visceral organs leading to death. In this study, a total of 12 cases of skin specimens confirmed scrub typhus using 47KD immunohistochemistry stain was collected. Skin histopathology revealed leukocytoclastic vasculitis in ten cases and lymphocytic vasculitis in two cases. PCR positive or IgG / IgM result used to confirm scrub typhus was seen in ten cases.

Three autopsy cases were studied to detect *Orientia tsutsugamushi* distribution in the tissues of the body. The results showed the rickettsia may disseminate into heart resulting in interstitial myocarditis, lung with interstitial pneumonitis then ARDS developed, meninx with aseptic meningitis, brain with encephalitis, renal tubular cells with acute renal failure; liver, spleen, lymph nodes with hemophagocytic syndrome in one case and gastrointestinal tract involvement in two cases. We also demonstrated iNOS in the alveolar macrophages of lungs of in three cases. This finding revealed the infected rickettsia may induce iNOS, then production of large amount of NO which is toxic substance and leads to death.

**Key words: Scrub typhus, Immunohistochemistry, iNOS, *Orientia tsutsugamushi*.**