



## CASE REPORT

# Case Report: Murine Typhus in Pregnancy

Gillian Wright, BS\*, Emily Zhang, BS and Vibha Sripadam, BBA

University of Texas Medical Branch John Sealy School of Medicine, USA

\*Corresponding author: Gillian Wright, University of Texas Medical Branch John Sealy School of Medicine, 301 University Blvd. Galveston, Texas, 77555-0569, USA, Tel: 512-909-4618



## Abstract

*Rickettsia typhi* causes murine typhus which is commonly spread by fleas in endemic areas like South Texas. Infection presents as a mild febrile illness without complications. Our pregnant patient presented with a serious febrile illness that progressed to severe acute hepatitis and septic shock, confounding her final diagnosis of murine typhus. Her condition was reported in 3 other case studies.

## Introduction

*Murine typhus* is an underreported and understudied cause of illness during pregnancy. It is caused by *Rickettsia typhi* which is spread by rat fleas [1]. In Texas specifically, cat and possum fleas are a reservoir for transmission [2]. Murine typhus is an acute febrile illness that can cause sequela such as sepsis, meningitis, pancreatitis, and rhabdomyolysis. It is common in states such as California and Texas [3].

## Case Description

A pregnant patient at 33 weeks gestation presents with a week of fever and myalgia and one day with a macular rash. She was diagnosed with a urinary tract infection at her home clinic. Admission labs showed severely elevated transaminitis, acute kidney injury, bandemia, thrombocytopenia, and hyponatremia. The patient was started on empiric antibiotics. Her condition deteriorated. She developed septic shock and was transferred to MICU. She developed stroke-like symptoms that prompted further workup. With further

exploration, family reported a new stray kitten at home. Her *R. typhi* infection was confirmed via serology. At 37 weeks, she delivered her baby without complications. Treatment with doxycycline improved her condition and allowed for discharge.

## Discussion

*Murine typhus* is a challenging diagnosis. It mimics other infectious diseases and pregnancy-related conditions. In this case, presentation with acute hepatitis and neurological symptoms further complicated diagnosis with fears of HELLP syndrome or meningitis. Endemic areas like Texas must consider murine typhus as a differential in pregnant patients presenting with febrile illness in order to have early diagnosis and treatment, especially since it can progress to severe complications as seen in this patient.

## References

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3. Afzal Z, Kallumadanda S, Wang F, Hemmige V, Musher D (2017) Acute febrile illness and complications due to murine typhus, Texas, USA. *Emerg Infect Dis* 23: 1268-1273.