



ORIGINAL RESEARCH PAPER

Clinical Microbiology

SCRUB TYPHUS MIMICKING POSTOPERATIVE COMPLICATION AFTER TOTAL KNEE REPLACEMENT: A CASE REPORT

KEY WORDS: Scrub typhus, postoperative fever, total knee replacement, tropical infection, prosthesis swelling

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ABSTRACT

Background: Scrub typhus, caused by *Orientia tsutsugamushi*, is an underdiagnosed zoonotic infection endemic in northern India, including Himachal Pradesh. Its nonspecific presentation can mimic postoperative complications, delaying diagnosis. **Case Presentation:** A 70-year-old woman from rural Himachal Pradesh developed gross right lower limb swelling and fever two weeks after right total knee replacement (TKR), following an uneventful left TKR. Suspecting deep vein thrombosis (DVT) or prosthetic joint infection, initial workup was negative. Scrub typhus IgM ELISA was positive. She was treated with doxycycline and enoxaparin, achieving complete recovery at six months. **Conclusion:** This case underscores the need to consider scrub typhus in postoperative fever and swelling in endemic areas. Early diagnosis can prevent unnecessary interventions and improve outcomes for orthopaedic patients.

INTRODUCTION

Scrub typhus, caused by *Orientia tsutsugamushi* and transmitted by chigger mites, is endemic in northern India, including Himachal Pradesh. It presents with fever, myalgia, thrombocytopenia, and transaminitis, often lacking the pathognomonic eschar. In postoperative settings, its symptoms can mimic surgical complications like prosthetic joint infection (PJI) or deep vein thrombosis (DVT), leading to diagnostic delays.

We report a rare case of scrub typhus presenting as acute postoperative swelling after total knee replacement (TKR), highlighting the need for a high index of suspicion in endemic regions.

Case Presentation

A 70-year-old female, Mrs. Shakti Devi, from a semi-rural area of District Shimla, Himachal Pradesh, underwent staged bilateral TKR for severe osteoarthritis. She had controlled hypertension and no other comorbidities. Preoperative evaluation was normal.

Surgical Course:

Left TKR: Performed uneventfully with smooth recovery.

Right TKR: Conducted 14 days later under spinal anaesthesia, also uneventful.

Postoperative Complication:

On postoperative day 5 after right TKR, the patient developed: Gross right lower limb swelling extending beyond the surgical site Low-grade fever, malaise, and mild breathlessness

No pus, redness, or discharge at the surgical site

No eschar on examination

Initial Workup:

D-dimer: Elevated

Duplex Doppler: No DVT

CRP and ESR: Mildly elevated

Blood cultures: Sterile

Knee X-ray: Prosthesis intact, no peri-prosthetic lucency

Liver function tests: Elevated transaminases

Platelet count: Borderline low

Scrub typhus IgM ELISA: Strongly positive

Other tropical infections (e.g., dengue, leptospirosis) were ruled out via serology.

Diagnosis: Acute scrub typhus infection, likely unmasked by surgical stress, mimicking PJI or DVT.

Treatment:

Doxycycline 100 mg orally twice daily for 10 days
Enoxaparin 40 mg subcutaneously daily for thromboprophylaxis

Supportive care and limb elevation

Outcome:

Fever resolved within 72 hours

Swelling subsided over 10 days

Gradual mobilization achieved

At 6-month follow-up: Full range of motion, no recurrence
Informed consent for publication was obtained from the patient.

DISCUSSION

This case highlights scrub typhus as a rare mimic of postoperative complications after TKR. In endemic areas like Himachal Pradesh, surgical stress may unmask latent infections, leading to vasculitis, capillary leak, and limb swelling. Unlike PJI or DVT, scrub typhus lacks local signs of infection, and its diagnosis relies on serological testing. Similar tropical infections, such as dengue or leptospirosis, may also present with fever and thrombocytopenia but are less likely to cause gross limb swelling. The rapid response to doxycycline, an accessible and cost-effective treatment, underscores its utility in resource-limited settings. This case emphasizes the need for routine scrub typhus screening in postoperative patients with unexplained fever in endemic regions, potentially reducing diagnostic delays and unnecessary interventions.

CONCLUSION

Scrub typhus can mimic postoperative complications like PJI or DVT in TKR patients. In endemic areas, clinicians should maintain a high index of suspicion and include scrub typhus in the differential diagnosis of postoperative fever and swelling. Early serological testing and doxycycline therapy can lead to excellent outcomes. Routine screening in high-risk regions may further improve diagnostic accuracy.

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