

Case Report

Tinea Corporis in a Mechanic Living in a Densely Populated Urban Settlement: A Family Medicine Case Report

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Abstract:

Tinea corporis is a superficial dermatophyte infection that is facilitated by warm and humid conditions, sweating, close contact, and inadequate environmental hygiene. Densely populated urban settlements may increase exposure through limited ventilation, shared facilities, and difficulty maintaining dry skin and clean clothing. A 29-year-old male mechanic living with his wife and two children in a densely populated neighborhood of Makassar, Indonesia, reported pruritus affecting the back and right arm for one week. Symptoms worsened with sweating, and an over-the-counter antipruritic medication had not produced meaningful improvement. He had no reported fever, other systemic symptoms, diabetes mellitus, or immunosuppressive disease. Vital signs were stable apart from mild tachycardia, and nutritional status was normal. The submitted clinical report diagnosed localized tinea corporis on clinical grounds; potassium hydroxide microscopy, fungal culture, standardized lesion measurements, and photographs were not documented. Topical terbinafine was prescribed for two weeks, accompanied by counseling on personal bathing equipment, clean clothing, changing clothes after sweating, and early reassessment if lesions spread or symptoms worsened. A family assessment identified limited health knowledge and suboptimal use of primary care despite available health insurance. This case illustrates that treatment of localized tinea corporis in crowded communities should combine appropriate topical antifungal therapy with household-level hygiene, exposure reduction, and follow-up to confirm clinical response.

Keywords: Tinea corporis; Dermatophytosis; Overcrowding; Family medicine; Terbinafine.

1. Introduction

Tinea corporis is a superficial dermatophyte infection of glabrous skin caused mainly by species of *Trichophyton*, *Microsporum*, and *Epidermophyton*, and contemporary reviews continue to emphasize the importance of accurate diagnosis and rational antifungal selection (1). Clinically, it usually presents as an annular, pruritic, scaly plaque with an active border and variable central clearing (2). Register-based data on superficial fungal infections in adults indicate that these infections remain a persistent component of routine dermatologic care (3).

Transmission may occur through direct contact with an infected person or animal, or indirectly through contaminated clothing, towels, bedding, and other fomites. Warm temperature, high humidity, sweating, occlusive clothing, crowding, and limited ventilation create conditions favorable to dermatophyte survival and person-to-person spread. Family-medicine guidance treats fungal infections as conditions that require both appropriate

therapy and practical prevention at the household level (4). Inappropriate use of agents without reliable activity against dermatophytes can delay effective treatment and remains a recognized problem in clinical practice (5).

Localized tinea corporis can often be managed in primary care with topical antifungal therapy, provided that the diagnosis is clinically coherent and the extent of disease is limited (6). Assessment should document lesion morphology and distribution, exposure history, previous self-medication, and potential reservoirs among household members, pets, clothing, and the environment. Clinical and mycological studies of tinea in primary care support the use of potassium hydroxide microscopy or culture when morphology is atypical or treatment response is inadequate (7). Recalcitrant dermatophytosis requires closer assessment of adherence, reinfection, diagnostic accuracy, and antifungal susceptibility (8). The emergence of *Trichophyton indotineae* has further increased concern regarding difficult-to-treat and terbinafine-resistant dermatophytosis (9).

This report describes a clinically diagnosed case of localized tinea corporis in a mechanic living in a densely populated settlement and examines the individual, occupational, environmental, and family factors relevant to management in primary care.

2. Case Presentation

Patient description

A 29-year-old man from Makassar, Indonesia, was assessed during a community-based visit in Pampang 5 on 28 April 2026. He worked as a mechanic and lived in a nuclear family with his wife and two children. The family had a lower-middle socioeconomic status, access to piped water, and access to primary care through national health insurance. Household ventilation was documented as inadequate.

Case history

The patient reported pruritus on the back and right arm for one week. The itching became more intense when he sweated. He denied fever, respiratory symptoms, gastrointestinal complaints, urinary symptoms, other areas of pruritus, and a history of immunosuppressive disease. The report also documented no previous major illness, hypertension, diabetes mellitus, allergy, cardiac disease, surgery, or sexually transmitted infection.

Before the assessment, he had purchased an unspecified antipruritic medication from a local shop, but the symptoms did not improve. He then delayed formal medical care in the expectation that the condition would resolve spontaneously. His occupation involved regular exposure to heat and sweating, while routine exercise was limited.

Physical examination

The patient appeared mildly ill but was alert and fully oriented. Blood pressure was 129/79 mmHg, pulse rate 102 beats/min, respiratory rate 21 breaths/min, and body temperature 36.2°C. Body weight was 50 kg and height was 155 cm, corresponding to a body mass index of 20.8 kg/m². The cardiopulmonary and peripheral examinations were unremarkable in the source report.

The source report identified lesions on the back and right arm as clinically compatible with tinea corporis; however, standardized documentation of lesion number, diameter, border activity, scaling, central clearing, secondary infection, and clinical photographs was not provided.

Pathological tests and other investigations

No potassium hydroxide preparation, fungal culture, dermoscopy, biopsy, or molecular identification was reported. The diagnosis was therefore clinical. This limitation is important because non-fungal papulosquamous diseases can imitate tinea corporis, as illustrated by reports of pityriasis rubra pilaris initially resembling tinea corporis (10). Persistent or atypical lesions also warrant broader diagnostic reasoning, because delayed recognition has been described in other cutaneous fungal diseases (11). In a typical localized presentation, empirical treatment may be reasonable in primary care, but failure to improve should trigger mycological confirmation and reassessment of the differential diagnosis.

Table 1. Summary of the documented clinical and contextual findings

Domain	Documented finding	Clinical relevance
Symptoms	Pruritus on the back and right arm for 1 week; worse with sweating.	Compatible with localized superficial fungal infection.
Systemic features	No fever or other systemic symptoms.	Supports uncomplicated localized disease.
Host factors	No reported diabetes or immunosuppressive disease.	Lower documented risk of invasive or unusually extensive infection.
Environmental factors	Dense settlement and inadequate household ventilation.	May increase humidity and contact-related transmission.
Occupational factors	Mechanic with heat and sweating exposure.	Persistent moisture may favor dermatophyte growth.
Diagnostics	Clinical diagnosis; no KOH microscopy or culture reported	Limits species confirmation and assessment of antifungal resistance

Treatment plan

Topical terbinafine cream was prescribed as a thin application for two weeks. The patient was counseled to use personal bathing equipment, keep clothing and skin clean, change clothes after sweating, avoid sharing towels and clothes, and seek reassessment if pruritus became severe or lesions spread. Broader primary-care trials of topical antifungal therapy reinforce the need to match drug choice and treatment duration to the anatomical site and fungal diagnosis (12). The patient was also advised to avoid unsupervised corticosteroid-containing combination creams because steroid-modified dermatophytosis may present as tinea incognito and obscure the original morphology (13). The report did not document the exact application frequency, the amount applied beyond the visible lesion margin, or a planned date for clinical review.

Family and contextual assessment

The household consisted of the patient, his wife, and two children. The Family APGAR score was 7, indicating some limitation in family functioning according to the classification used in the source report. Family assessment identified limited knowledge about tinea corporis, suboptimal early use of primary care, and a need to strengthen family support for personal and environmental hygiene. Economic and medical access were described as adequate because primary care and national health insurance were available. However, research on dermatology service use shows that formal access does not necessarily translate into timely or appropriate use of primary, specialist, or emergency care (14).

Table 2. Individual and household interventions proposed for risk reduction

Identified issue	Family-focused intervention	Target outcome
Sweating and prolonged moisture exposure	Change damp work clothes promptly; dry skin carefully after bathing and work.	Reduced moisture at infected sites.
Inadequate ventilation and dense housing	Improve airflow where feasible and avoid drying damp clothing indoors near sleeping areas.	Lower household humidity and fomite persistence.
Potential sharing of personal items	Use separate towels, clothing, and bathing equipment until lesions resolve.	Reduced household transmission.
Limited disease knowledge	Explain transmission, treatment duration, and the risk of steroid-containing combination creams.	Improved adherence and safer self-care.
Delayed use of primary care	Arrange reassessment if there is no clear improvement within 1-2 weeks or if lesions spread.	Earlier diagnostic confirmation and treatment adjustment.

Expected outcomes

The expected outcomes were progressive reduction in pruritus, cessation of lesion expansion, clinical resolution after completion of topical therapy, improved hygiene practices, and prevention of transmission to other household members. Persistent disease would warrant re-evaluation of the diagnosis, adherence, exposure sources, and the possibility of resistant dermatophytes.

Actual outcomes

The source report documented initiation of treatment and patient education but did not provide a follow-up skin examination, symptom score, lesion measurements, mycological testing, recurrence status, or household outcomes. Consequently, treatment effectiveness cannot be determined from the available record.

3. Discussion

This case illustrates a common primary-care presentation of localized tinea corporis in which exposure-related factors may be as important as the initial prescription. The distribution on the back and right arm, worsening with sweating, occupational heat exposure, and inadequate household ventilation are compatible with conditions that favor dermatophyte growth. Crowding can also increase opportunities for contact with contaminated clothing, towels, surfaces, and infected household members, even when a specific source is not identified. Importantly, a substantial proportion of dermatologic diagnoses are made during non-dermatology outpatient visits, which reinforces the need for diagnostic competence among family physicians and other generalists (15).

The diagnosis of tinea corporis is frequently clinical when a characteristic annular plaque with a scaly active border and central clearing is present. In this case, however, the absence of standardized documentation of lesion number, diameter, border activity, scaling, and central clearing limits the certainty of retrospective assessment. Potassium hydroxide microscopy would have been a practical next step if the morphology was unclear or if the lesions failed to respond. Culture or molecular identification would become more important in extensive, recurrent, or treatment-refractory disease, particularly when resistant dermatophytes are suspected.

Topical terbinafine was a reasonable initial option for localized disease, but treatment success depends on correct application, completion of the prescribed course, control of moisture, and reduction of reinoculation from personal items or close contacts. The clinical plan would have been stronger if it had specified application frequency, the margin beyond the visible lesion, and a scheduled review date. Avoiding unsupervised topical corticosteroids is also important because altered morphology may make subsequent diagnosis more difficult.

A family medicine approach is particularly useful in crowded communities because management extends beyond the visible lesion to behavior, household exposures, care-seeking, and the availability of support. Education should include separate towels and clothing, adequate laundering and drying, prompt changing of damp work clothes, and early assessment of similar lesions among close contacts. The Family APGAR score of 7 suggested that support was present but could be strengthened. Available insurance and nearby primary care were protective resources, but delayed help-seeking showed that access alone did not guarantee timely use of care. Dermatologic conditions also contribute to emergency-department workload, underscoring the value of accessible early management and clear criteria for escalation (16).

The main uncertainty in this case is the absence of follow-up. Without documented lesion morphology at baseline and after treatment, the response to terbinafine cannot be evaluated and alternative diagnoses such as nummular eczema, pityriasis rosea, psoriasis, contact dermatitis, or tinea incognito cannot be fully excluded. Primary-care research has specifically examined opportunities for earlier recognition of psoriasis (17), while contemporary papulosquamous reviews continue to frame psoriasis as an important morphologic differential (18). Educational interventions have also been developed to support recognition of chronic plaque psoriasis (19), and structured frameworks for describing skin lesions aim to make clinical documentation more reproducible (20). Consumer artificial-intelligence tools are likewise being evaluated for recognition of skin conditions in primary-care settings; in ambiguous suspected dermatophytosis, however, they should remain adjunctive to direct examination and mycological testing rather than replace them (21). Future case documentation should include lesion size and number, border characteristics, scale, central clearing, photographs with consent, exposure history, treatment instructions, and a defined review interval. Standardized recording also supports continuity of care and the broader morbidity-monitoring function of primary care (22).

4. Conclusion

Localized tinea corporis in densely populated settings should be managed as both a clinical infection and a household exposure problem. In this patient, sweating related to mechanical work, inadequate ventilation, delayed care-seeking, and limited family knowledge were relevant modifiable factors. Topical terbinafine and hygiene counseling were reasonable initial measures, but a planned follow-up and better lesion documentation were

necessary to confirm cure. Persistent or spreading disease should prompt mycological testing, review of adherence and exposure sources, and consideration of antifungal resistance.

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