

## Case Report

# A rare manifestation of scarlet fever with a staphylococcal abscess

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### ABSTRACT

Scarlet fever is a bacterial infection distinguished by a growing fever and a rapid rash, usually accompanied by pharyngitis, and can give rise to severe ramifications. We report a case of scarlet fever characterized by a sandpaper rash and strawberry tongue, accompanied by an atypical gluteal abscess. *Streptococcus pyogenes* had been isolated from a throat swab, whereas *Staphylococcus aureus* was recovered from a gluteal abscess at the assessment. The patient exhibited improvement with suitable treatment, devoid of adverse effects.

**Keywords:** Scarlet fever, Sandpaper rash, Strawberry tongue, Scaly rash

### INTRODUCTION

Scarlet fever, commonly known as scarlatina, is an illness caused by the organism group A beta-hemolytic streptococcus (GABS), which is primarily spread through nasal droplets or close contact from the external skin or secretions of patients with infection.<sup>1</sup> Most cases occur in children aged 5–15 years of age with a seasonal predilection for winter and spring.<sup>2</sup> The prevalence and morbidity associated with scarlet fever have decreased due to the advent of antibiotics. We present one such patient of scarlet fever, along with a concomitant gluteal abscess from our practice. We have also attempted to explain all the clinical features, including atypical presentations, in brief.

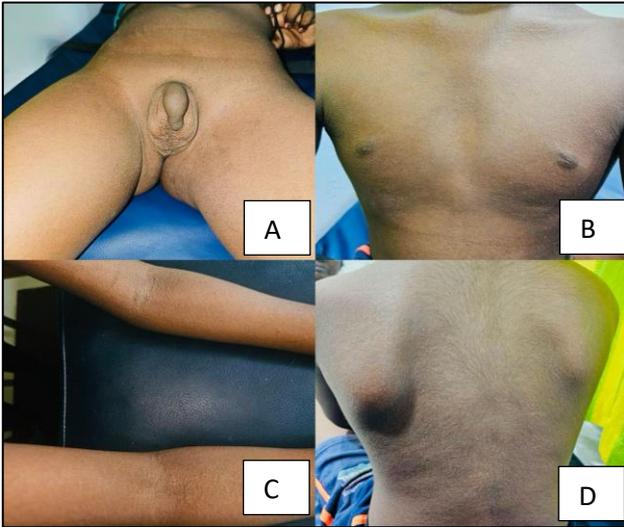
### CASE REPORT

A 9-year-old boy presented with a widespread scaly rash with a brush-like texture on the touch associated with itching. The rash initially started over the ears and progressed to the trunk, groin and extremities for two days, along with a history of fever, sore throat, cough,

and cold for seven days. The patient also complained of painful swelling over the gluteal region for four days, with a history of applying turmeric and Kumkum on their own, which is a common practice in South India among rural population. There was no history of atopy. Examination revealed a generalized pinhead-sized, skin-coloured papular exanthem with desquamation, rough in texture present over the ear lobules, neck, trunk, upper extremities, groin, and perineum (Figure 1).

There was also a fluctuant abscess 4×3 cm with few pustules and discoloration over the surface due to the application of condiments over the left gluteal region (Figure 2).

An increase in temperature and tenderness was elicited on palpation. A general physical examination revealed a temperature of 101°C. Mucosal examination revealed papillar hypertrophy over the dorsum of the tongue, suggestive of strawberry tongue, and mucosal erythema over the buccal mucosa, palatoglossal arch and pharyngeal wall (Figure 3).

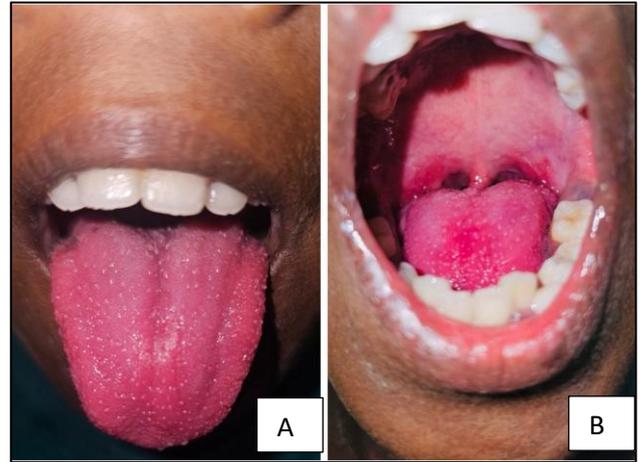


**Figure 1 (A-D): Diffuse skin coloured pinhead sized papular exanthem over trunk, upper extremity and groin.**



**Figure 2: Abscess over gluteal region.**

Investigations revealed leucocytosis with neutrophilia and raised ESR. Throat culture was positive for streptococcus pyogenes. Incision and drainage of the gluteal abscess was done, and purulent material was subjected to culture and sensitivity, which showed the growth of *Staphylococcus aureus*. The patient was treated with oral amoxicillin-clavulanate for one week, along with conservative management of itching, fever and pain with antihistamines, antipyretic and analgesics resulting in resolution of symptoms in 7 days.



**Figure 3 (A and B) : Strawberry tongue.**

## DISCUSSION

GABS, with its distinctive adaptation to the human body, primarily inhabits the pharynx and saliva. The primary means by which *Streptococcus pyogenes* causes scarlet fever are via nasal droplets and contact with infected individuals' saliva. Burns or streptococcal wound infections can also trigger it.<sup>3</sup> Ssa, SpeA, and SpeC are exotoxin genes associated with scarlet fever. *Streptococcus pyogenes*, a member of group A haemolytic *Streptococcus* (GAS), is the causative agent.<sup>4</sup> Recent research suggests that there may be an association between scarlet fever and the opportunistic bacteria *Streptococcus sanguis*.<sup>5</sup> The incubation period for scarlet fever varies from 2 to 7 days. Scarlet fever typically presents with acute pharyngitis characterised by hyperaemia of the pharynx, early pinpoint enanthema over the soft palate, and swollen, inflamed tonsils, which may or may not exhibit purulent exudates with an accompanying white strawberry tongue that turns red in the next couple of days after losing its covering resembling a red strawberry.<sup>6</sup> A papular exanthem, which spreads cephalocaudally, follows the pharyngeal symptoms in 1-2 days. The skin is generally coarse and abrasive owing to the exanthem, particularly pronounced at the flexures. The rash diminishes with palmoplantar peels and branny desquamation within approximately two weeks.<sup>7</sup> Superantigens secreted by GAS stimulates the immune system, causing an exaggerated hypersensitivity reaction which results in the distinctive clinical features observed in the scarlet fever (Table 1).<sup>3</sup>

High fever and evident systemic toxicity are the hallmarks of severe forms of scarlet fever, which can be linked to significant toxemia (toxic scarlet fever) and localized, hematogenous dissemination of the organism (septic scarlet fever).<sup>11</sup>

**Table 1: Enumerates the clinical features and their characteristics.**<sup>6-10</sup>

Clinical features	Strawberry tongue	Exanthem	Pastia's lines	Circumoral pallor
<b>Other names</b>	Raspberry tongue	Sandpaper rash (due to the coarse texture of the skin resulting from the prominent bumps) "Sunburn with goose pimples," "Boiled-lobster" appearance	Thompson's sign	Filatov's mask
<b>Appears on</b>	1-2 days after infection	3-4 days of the infection	3-4 days (seen in severe cases)	-
<b>Sites</b>	Dorsum of tongue	Cephalocaudal spread	Skin folds in the neck, axillae, cubital fossae, groin and knees	The rash typically spares the face, presenting with reddish discoloration of the cheek area and pallor surrounding the eyes and mouth.
<b>Cause</b>	The shedding of the keratinized epithelium from the filiform papillae results in a red, bare appearance resembling the external surface of a strawberry. This is mixed with fungiform papillae that are chronic, inflammatory, and hypertrophic (strawberry seeds). The tongue initially appears like a "white strawberry" because of the white covering that covers the hypertrophied papillae. After a few days, this covering desquamates, resulting in the classic "red strawberry" tongue.	Delayed-type hypersensitivity to an exotoxin	Capillary fragility	Unknown
<b>Variants</b>	1. Miliary (characterised by one-millimeter-sized vesicles with a whitish-yellow exudate). 2. Papular lesions primarily located on the knees and elbows. (usually seen simultaneously with typical sandpaper lesions).	-	Pastia lines are a hemorrhagic variant of exanthema, representing the severity of the condition.	-
<b>Atypical presentation</b>	Smooth macular rash, exanthema over the palmoplantar surface; erythema and oedema of the ear lobes, widespread erythroderma, localized facial erythroderma with coarse exanthema on the remainder of the body; oedema affecting the eyelids, cheeks, or distal extremities. Perianal dermatitis; and urticarial lesions	-	-	-
<b>Resolution</b>	-	Characteristic resolution of the rash with characteristic branny desquamation and lamellar (plate-like) peeling of the palmar and plantar aspect of extremities	-	-

Scarlet fever can lead to both local and systemic complications. The local consequences are abscesses in the peritonsillar and retropharyngeal areas. Systemic complications include endocarditis, pneumonia, acute rheumatic fever, glomerulonephritis and meningitis. Rarely, scarlet fever can cause the development of splenomegaly, hepatitis, or gallbladder hydrops.<sup>3</sup> No complications were observed because of the infection in our case.

Our patient also had a gluteal abscess, which was dealt with by incision and drainage. *Staphylococcus aureus* was isolated in the drained purulent material when subjected to culture and sensitivity testing. There are also documented cases of staphylococcal scarlet fever in literature, which is believed to represent a mild case of SSSS or TSS.<sup>12</sup> The presence of exanthem with enanthema and tongue involvement (hypertrophied papillae) suggests streptococcal scarlet fever, as a strawberry tongue is characteristic of streptococcal but not staphylococcal scarlet fever.<sup>13</sup>

Diagnosis is contingent upon multiple elements, including a comprehensive history of all clinical symptoms before the exanthem, a positive familial history, the site and evolution of the lesions, a history of systemic medication, and the recent travel history of the child and their careers.<sup>14-17</sup>

A thorough medical history, along with a distinctive clinical appearance, is typically used to make a diagnosis of scarlet fever. A culture of the throat swab should be performed in order to confirm the diagnosis.<sup>15-18</sup> Rapid antigen tests that are more convenient and faster have high specificity—95% or more. Since the culture is more sensitive than the rapid antigen testing, it is best to confirm the negative rapid antigen test result in adolescents and children with a throat culture.<sup>19</sup> Serological testing, which detects antibodies against a streptococcal infection, is necessary since the body needs two to three weeks to develop the antibodies (antistreptolysin O and anti-deoxyribonuclease B). It does not help in diagnosing current scarlet fever but can be performed when assessing a person with complications from a previous streptococcal infection.<sup>20</sup>

The prompt initiation of antibiotic therapy in scarlet fever is essential since it reduces the infection's duration and mitigates the risk of sequelae. Since an individual loses their contagiousness after receiving treatment after 24 hours, it prevents disease transmission among the pediatric population.<sup>15-18</sup> Beta-lactam antibiotics are the preferred treatment for GAS infections due to their safety profile in paediatric patients and their clinical and economic efficacy.<sup>19</sup> Penicillin or amoxicillin, administered in suitable dosages and regimens, remain the preferred antibiotic for the treatment of GAS infection; they appear to be more efficacious than cephalosporins and macrolides. If the patient is allergic to

penicillin, clindamycin or a first-generation cephalosporin may be administered.<sup>15</sup>

Oral Amoxicillin clavulanate along with symptomatic treatment was given in our patient, to which he responded well with the resolution of symptoms in 1 week.

IVIg is recommended in individuals experiencing complications from scarlet fever or those with concurrent toxic shock syndrome due to inadequate specific antitoxic immunity.<sup>21</sup>

Most of the patients who receive timely therapeutic intervention have excellent outcomes. Resolution often occurs within 3-6 days, although cutaneous symptoms may necessitate 14-21 days for complete subsidence.<sup>22</sup> There was a resolution of both skin and mucosal features in a week with no untoward sequelae in our case.

## CONCLUSION

Scarlet fever is a bacterial infection induced by *Streptococcus pyogenes*, exhibiting a clinical spectrum from mild to severe manifestations. Though we encountered a gluteal abscess due to staphylococcal origin, we ruled out staphylococcal scarlet fever from the presence of enanthema and strawberry tongue and throat culture showing a growth of *streptococcus pyogenes*. Early detection and management of scarlet fever are essential to prevent local and systemic complications.

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## REFERENCES

1. CDC- National Center for Immunization and Respiratory Diseases, Division of Bacterial Diseases- Scarlet fever. Available at: <https://www.cdc.gov/groupastrep/diseases-public/scarlet-fever.html>. Accessed on 22 November 2025.
2. Matsubara VH, Christoforou J, Samaranayake L. Recrudescence of Scarlet Fever and Its Implications for Dental Professionals. *Int Dent J*. 2023;73(3):331-6.
3. Ślebioda Z, Mania-Końsko A, Dorocka-Bobkowska B. Scarlet fever - a diagnostic challenge for dentists and physicians: A report of 2 cases with diverse symptoms. *Dent Med Probl*. 2020;57(4):455-9.
4. Silva-Costa C, Carriço JA, Ramirez M, Melo-Cristino J. Scarlet fever is caused by a limited number of *Streptococcus pyogenes* lineages and is associated with the exotoxin genes *ssa*, *speA* and *speC*. *Pediatr Infect Dis J*. 2014;33(3):306-10.
5. Huang Y, Wen Y, Jia Q, Wang L, Cheng Q, Liu W, et al. Genome analysis of a multidrug resistant *Streptococcus sanguis* isolated from a throat swab

- of a child with scarlet fever. *J Glob Antimicrob Resist.* 2020;20:1-3.
6. Pavlyshyn H, Horishna I, Sarapuk I. Severe scarlet fever in a child with Down syndrome - a case report. *Germs.* 2020;10(3):260-5.
  7. Adya KA, Inamadar AC, Palit A. The strawberry tongue: What, how and where?. *Indian J Dermatol Venereol Leprol.* 2018;84:500-5.
  8. Shah VS. *Infectious Diseases. Atlas of Pediatric Emergency Medicine.* 2013.
  9. Fernández Romero V, Rodríguez Sánchez I, Gómez Fernández G. Unusual clinical findings in an outbreak of scarlet fever. *Rev Pediatr Aten Primaria.* 2016;18:231-41.
  10. Stoicescu M. *Skin Lesions. General Medical Semiology Guide Part II, Elsevier.* 2020;1-178.
  11. Stevens DL, Bryant AE. *Severe Group A Streptococcal Infections.* 2016.
  12. Mun SJ, Kim SH, Baek JY, Huh K, Cho SY, Kang CI, et al. Staphylococcal scarlet fever associated with staphylococcal enterotoxin M in an elderly patient. *Int J Infect Dis.* 2019;85:7-9.
  13. Weston WL. *Bacterial Infections (Pyodermas) and Spirochetal Infections of the Skin'. Color Textbook of Pediatric Dermatology.* 2007;61-80.
  14. Muzumdar S, Rothe MJ, Grant-Kels JM. The rash with maculopapules and fever in children. *Clin Dermatol.* 2019;37(2):119-28.
  15. Shulman ST, Bisno AL, Clegg HW, Gerber MA, Kaplan EL, Lee G, et al. Clinical practice guideline for the diagnosis and management of group A streptococcal pharyngitis: 2012 update by the Infectious Diseases Society of America. *Clin Infect Dis.* 2012;55(10):1279-82.
  16. O'Connell J, Sloand E. Kawasaki syndrome and streptococcal scarlet fever: A clinical review. *J Nurse Pract.* 2013;9(5):259-64.
  17. Ribeiro de Castro MC, Ramos-E-Silva M. The rash with mucosal ulceration. *Clin Dermatol.* 2020;38(1):35-41.
  18. Basetti S, Hodgson J, Rawson TM, Majeed A. *Scarlet fever: A guide for general practitioners. London J Prim Care (Abingdon).* 2017;9(5):77-9.
  19. Wessels MR. *Pharyngitis and scarlet fever. Streptococcus pyogenes: Basic Biology to Clinical Manifestations.* 2016.
  20. Brockmann SO, Eichner L, Eichner M. Constantly high incidence of scarlet fever in Germany. *Lancet Infect Dis.* 2018;18(5):499-500.
  21. Khaertynov KS, Anokhin VA, Abilmazhganova LM, Ismagilova MI. The case of toxic shock syndrome in a patient with scarlet fever. *Vestn Sovrem Klin Med.* 2013;6:32-5.
  22. Yung CF, Thoon KC. A 12-year outbreak of scarlet fever in Singapore. *Lancet Infect Dis.* 2018;18(9):942.

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