



## Topics in Pediatrics

# Cellulitis of the Knee in a 16-Month-Old Boy: A Case Report



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Received 12 September 2014; received in revised form 28 August 2015; accepted 8 September 2015

### Key indexing terms:

Cellulitis;  
Skin diseases;  
Infectious;  
Methicillin-resistant  
*Staphylococcus aureus*

### Abstract

**Objective:** The purpose of this case report is to describe the presentation of cellulitis in a 16-month-old boy to a chiropractic clinic.

**Clinical Features:** The patient presented with nontraumatic, sudden onset of nonpurulent erythema on the right knee. A plain film radiograph of the knee showed a 40-mm thickening of the anterior knee. A diagnosis of cellulitis was rendered based on the presentation of the rapidly spreading erythema and radiographically confirmed findings.

**Intervention and Outcome:** The patient was immediately referred to the local emergency room. The patient was hospitalized, treated with clindamycin and amoxicillin for 3 days, and then discharged. The patient's pediatrician discontinued clindamycin treatment at the posthospitalization follow-up. Two weeks after treatment was discontinued, the patient was diagnosed with recurrent cellulitis.

**Conclusion:** This case demonstrated that for this young patient with cellulitis of the knee, timely recognition and referral, together with patient or parent education and immediate treatment, were essential to a successful outcome.

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## Introduction

Cellulitis is an infection of the skin and subcutaneous tissues that can spread rapidly. It is clinically diagnosed based on the presentation of a nonpurulent erythemic rash with irregular margins, edema, and local tenderness.<sup>1–8</sup>

The most common presentation for cellulitis of the lower extremities is a secondary condition due to trauma, which is most commonly seen in sports-related trauma or trauma involving foreign bodies. Other common presentations are seen among patients with a body mass index higher than 31, geriatric patients, and patients with a history of diabetes or immune compromise.<sup>6,9–14</sup>

The presentation of cellulitis to a chiropractic clinic is not commonly reported in the literature. At present, only 1 case report exists which describes the

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presentation in an adolescent.<sup>5</sup> Therefore, the purpose of this case report is to describe the presentation of cellulitis in a 16-month-old boy to a chiropractic clinic.

## Case Report

An otherwise healthy 16-month-old boy presented to a chiropractic clinic with initial chief complaint of a “red, angry rash” on the right knee, as described by the patient’s mother.

The patient’s mother noticed the erythematous reaction during a diaper change on the morning of the visit but denied any noticeable erythematous rash, pyrexia, or skin markings on the day before the office visit.

The patient exhibited no signs of distress and no apparent guarding while walking. Patient’s medical history revealed no allergies, no medication, and no changes in food or environment. It also included no recent hospitalizations, except when he was previously treated for an upper respiratory infection 4 months prior. He was treated with amoxicillin, and the infection was resolved with no exacerbations or complications.

The physical examination findings were as follows: vital signs: temperature, 98.6°F; heart rate, 92 beats per minute; blood pressure, 90/64; Resp. 22 rmp other findings included the patient’s right knee, which had a warm, nonpurulent erythema with an irregular border over the anterior aspect. There were visible striations of petechiae noted arising from the right knee, extending up into the posterior torso, but not crossing the spine. There were no signs of insect bites, scratches, or trauma noted on observation, and the knee was painful to palpation (Fig 1). The abdomen and all other areas of the body were inspected and examined, showing no erythema, palpatory tenderness, insect bites, or trauma.

During the initial consultation and examination of the patient, it was noted that there was a rapid change in presentation of symptoms that indicated a quickly spreading erythematous reaction. Considering the patient’s age and presentation, cellulitis, streptococcal toxic shock syndrome, necrotizing fasciitis (NF), and methicillin-resistant *Staphylococcus aureus* (MRSA) were not diagnoses to be dismissed or disregarded. They all have similar initial presentation, and their outcome could vary from antibiotic treatment, surgical debridement, toxic shock, or death.<sup>9,10,15–18</sup> Taking into consideration the fast progression of the erythematous reaction, irregular margins, striations, and non-purulent presentation, the patient was diagnosed with



**Fig 1.** Patient’s right knee at time of presentation to chiropractic clinic; arrow pointing to initial *erythema* presentation.

acute cellulitis. The importance of immediate care was explained to the parents, and the patient was referred to the local emergency department (ED).

Upon arrival to the ED, the patient’s symptoms had progressed to warm nonpurulent erythema with irregular striations over the abdomen, torso, and bilateral knee. He was then diagnosed with viral exanthema and treated with Benadryl. The abdomen and left knee areas were not affected 1 hour before at the chiropractic clinic (Fig 2). Because of the presence of the additional erythema, the patient remained in the ED under observation until additional tests were performed.

Tests ordered at the hospital included complete blood count, microspecimen, and basic metabolic panel along with a plain film radiograph of the right knee. The results were indicative of the presence of an acute infection. The plain radiograph report of the right knee indicated a mild, nonspecific radioopaque stranding 40 mm thick immediately anterior to the knee, which may represent subcutaneous edema or developing cellulitis, with no evidence of right knee joint effusion (Fig 3A and B).

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