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Case Report

Staphylococcal scalded skin syndrome: case report

Síndrome da pele escaldada estafilocócica: relato de caso

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Abstract

Objective: to report a case of a child with Staphylococcal Scalded Skin Syndrome, with typical manifestations of this pathology, highlighting its clinical and dermatological aspects, in addition the treatment. **Materials and Methods:** this is a descriptive case report study. Data from the electronic medical record were used. **Case report:** a four-month-old patient with initial symptoms of irritability, rash and edema in eyelids, lips and ears and eye discharge, with evolution of the rash to other regions of the body. He was diagnosed with Staphylococcal Scalded Skin Syndrome. The patient received treatment with antibiotic therapy, eye drops to improve the conjunctivitis and clinical support, evolving with complete improvement of the condition, without intercurrences and without sequelae. **Conclusion: w**ith early diagnosis and adequate approach, it is possible to obtain treatment success, with good prognosis in this age group.

Keywords: Staphylococcal Scalded Skin Syndrome. Ritter disease. Staphylococcus aureus. Pediatric.

Resumo

Objetivo: relatar um caso de uma criança com Síndrome da Pele Escaldada Estafilocócica, com manifestações típicas desta patologia, destacando seus aspectos clínicos e dermatológicos, além do tratamento. **Materiais e Métodos:** trata-se de um estudo descritivo do tipo relato de caso. Foram utilizados dados do prontuário eletrônico. **Relato de caso:** paciente de quatro meses de idade com quadro inicial de irritabilidade, exantema e edema em pálpebras, lábios e orelhas e secreção ocular, com evolução do exantema para outras regiões do corpo. Foi diagnosticado com Síndrome da Pele Escaldada Estafilocócica. Recebeu tratamento com antibioticoterapia, colírio para a conjuntivite e suporte clínico, resultando melhora total do quadro, sem intercorrências e sem sequelas. **Conclusão:** com o diagnóstico precoce e abordagem adequada é possível obter sucesso no tratamento, com um bom prognóstico nessa faixa etária.

Palavras-chave: Síndrome da Pele Escaldada Estafilocócica. Doença de Ritter. *Staphylococcus aureus*. Pediatria.

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Introduction

Staphylococcal Scalded Skin Syndrome (SSSS) or Ritter's Disease is an epidermolytic, bullous condition characterized by a detachment of the skin, called Nikolsky's sign[1-3]. It is caused by an exfoliative toxin from group II Staphylococcus aureus, which are Endotoxins A and B, that leads to the cleavage of the desmoglein-1 complex[4-6], whose desmosomes are present and are responsible for ensuring the union of epidermal cells[5,6].

It is a rare skin condition[4,6] with an incidence between 0.09 and 0.56 cases/million[5-7]. They usually originate from an infection focus, such as purulent conjunctivitis, otitis media, nasopharyngeal infection, or even some pre-existing skin infection[1-3,7,8].

The first symptoms are typically systemic, such as irritability, general malaise and sudden onset of fever[1,5], and then the confluent scarlatiniform erythematous rash appears, followed by the formation of fragile bullous lesions, which can progress to epidermal detachment and exfoliation[1,2,5,7,8]. These lesions usually start on the face, with a caudal progression. Erythema is usually most severe in flexures such as the neck, armpit, popliteal fossae, groin, and periorificial (perianal) areas[1,2,7,8].

It mainly affects infants and young children and is less frequent later on[1,9]. Two hypotheses are reported to explain the greater involvement in younger children, one is the inability of the immune system to fight this pathogen, as the child has not yet developed protective antibodies against it. And the other possibility refers to immature renal clearance, which hinders the excretion of toxins[1,2,7].

Accurate and timely diagnosis is critical due to the infectious cause and the need for antimicrobial therapy[1]. Oxacillin, cloxacillin, dicloxacillin, flucloxacillin, and nafcillin are first-line antibiotics[6]. In patients allergic to penicillin, macrolides or aminoglycosides may be used. If the patient does not respond to these drugs, or develops disease progression even when using antibiotics, must be evaluated the possibility of methicillin-resistant Staphylococcus aureus (MRSA)[1,10]. In that case, vancomycin or clindamycin should be added to the therapy[1-3,6,7,11]. Corticosteroids are contraindicated[1,5-7].

Regarding topical treatment, it is recommended to apply sterile gauze soaked in saline solution to the exfoliated areas of the skin[1,7]. Topical antimicrobials, such as fusidic acid, mupirocin, and bacitracin, are particularly indicated for localized infections and should be used with caution to avoid the use of desensitizing topicals[1,3,6]. Skin lesions show significant improvement

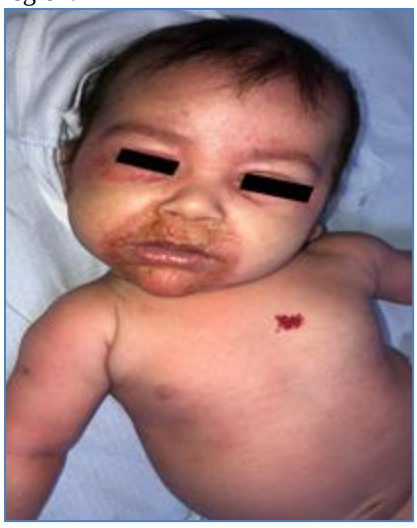
within two to three weeks[7]. Topical application of silver sulfadiazine is not recommended due to potential adverse effects[1].

Possible complications should always be investigated, such as sepsis, dehydration, hypothermia and secondary infections, such as pneumonia[1]. The mortality rate of SSSS is less than 4% in children[6]. With the exception of patients with complications, the prognosis of children with SSSS is excellent[1]. This paper aims to present the case of a four-month-old child who acquired SSSS, highlighting the clinical and dermatological aspects as well as the treatment.

Case report

Male patient, four months old, born in Minas Gerais, attended the Emergency Room, of a hospital in Montes Claros, Minas Gerais, Brazil, with symptoms of irritability, rash and edema on the eyelids, lips and ears, and ocular discharge (Figure 1). On this day, prednisone and antihistamine were prescribed.

Figure 1 – Edema in the periorbital region and exfoliation in the oral region.

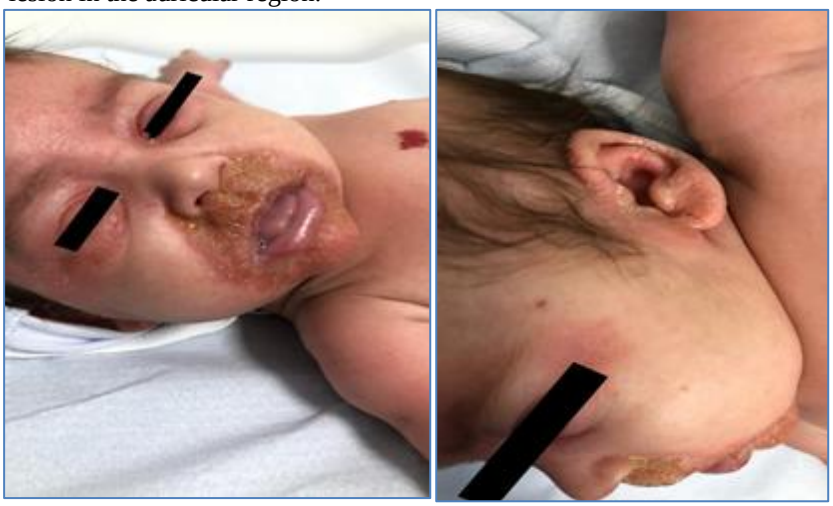


The following day, the rash spread throughout the body, mainly in the genital region, in which the diagnostic hypothesis of allergy to the milk formula that the child was ingesting was suggested. The doctor on duty replaced the Pregomin Pepti formula for Aptamil pregomin and instructed the mother to restrict the use of milk and derivatives.

On the third day of evolution, the accompanying returns with the patient to the service due to the worsening of the condition, with the appearance of crusts and secretion in the perioral region

(Figure 2A), neck and ears (Figure 2B). The accompanying denied episodes of fever, vomiting and nausea; accepting oral diet and physiological eliminations.

Figure 2A – Exfoliative lesion in the oral region. **Figure 2B –** Exfoliative lesion in the auricular region.



At the initial examination, the patient was in regular general condition, mucous membranes were a normal color, anicteric, acyanotic, hydrated, eupneic, isophotoreactive pupils, cranial nerves without alterations and without edemas; cardiovascular, respiratory and digestive system without significant alterations. Skin with perioral cutaneous rashes with meliceric crusts and maculopapular rash all over the body.

In the anamnesis, the mother stated that she had attended all the prenatal consultations, serologies, and that the patient had been born at term, had an uneventful cesarean section, had an Apgar score of 9/9 and had a birth weight of 3,665 grams. Patient without allergies, comorbidities and previous hospitalizations. Making use of vitamin D and Colidis (Lactobacillus Reuteri).

He was hospitalized and a laboratory review was carried out, which showed a blood count result with a moderate decrease in the red series (4,190,000 / mcl) and an increase in the global leukocyte count (12,440 / mcl); C-reactive protein 5.97 mg/L (Reference Value: less than 5.00 mg/L).

He received a diagnostic hypothesis of Staphylococcal Scalded Skin Syndrome and was immediately prescribed oxacillin (200 mg/kg/day, intravenous, in equally divided doses every 6/6 hours). On the second day of hospitalization, he observed involution of the skin lesions. After evaluation by the ophthalmologist, Tobramycin® eye drops 0.3% - 5 ml every 4 hours, and Lacrifilm® eye drops 5mg/ml - 1 drop every 4 hours, were prescribed due to conjunctivitis. On the

third day of hospitalization, the child presented with adherent crusty lesions on the scalp and scaly skin with improvement of the lesions. Prescribed Bepantol® ointment and Cerave® moisturizer for skin lesions. The patient maintained a favorable evolution of the general condition, with improvement of crusted lesions on the scalp and perioral skin lesions and maculopapular rash throughout the body.

The treatment with oxacillin was maintained until the 7th day, when the patient was discharged from the hospital, starting treatment at home with cefadroxil (25 mg/kg/day) orally divided into two doses every 12/12 hours for 07 days and guidance on skin hydration and non-exposure to the sun until the lesions improve. The patient achieved complete resolution of the signs and symptoms after treatment, with success in the therapy instituted (figure 3).

Figure 3 – Patient recovered.

Ethical care

The project was approved by Funorte Research Ethics Committee under approval number 4,850,159.

Discussion

SSSS has a low incidence, being, in general, preceded by pharyngitis or conjunctivitis associated with systemic symptoms and caused by staphylococcal infection[12]. The diagnosis is, in general, clinica[2]. The main factors for the differential diagnosis are symptoms of irritability, general malaise, fever, skin sensitivity and rash[1,5]. Eyelid edema was mentioned in a case report[5]. In the present study, the patient did not have fever, but irritability, edema in the eyelids and, in the evolution of the case, there was the development of signs on the skin typical of SSSS, in addition to

the diagnosis of conjunctivitis, which was probably the gateway to the onset of the disease. syndrome.

Hospitalization is necessary to reduce morbidity and potential mortality, whose treatment consists of eradicating the infectious agent, pain control, adequate hydration and correction of electrolyte imbalances[1]. Hospitalization occurred three days after the onset of the condition, due to the appearance of characteristic signs on the skin, paying attention to probable SSSS.

There is indication of treatment with intravenous oxacillin and an oral antibiotic may be used in continuity[1,3,6]. The duration of intravenous and oral treatment with the appropriate antibiotic is ten days, which can be extended to fourteen days in cases of patients with little expansiveness to the treatment (persistence of erythema, fever and progression of lesions after the seventh day of treatment)[1,3,8]. In the present case, the child received treatment with oxacillin until the 7th day and was discharged from the hospital, home treatment consisted of oral antibiotics, cefadroxil, and guidance on skin care. It is important to obtain a reduced hospitalization time, since, in this environment, you can be exposed to other pathologies.

Conclusion

This report described epidemiological data, presence of a primary focus and signs and symptoms compatible with SSSS, in a patient who achieved complete resolution of the condition after treatment.

SSSS is a rare condition and, although the disease can cause morbidity and mortality, in most cases, treatment is successful, and it is important to pay attention to a quick diagnosis and adequate treatment.

Contributions

The authors participated in the conception and design of the study, analysis and interpretation of data, writing or relevant critical review of the intellectual content of the manuscript, final approval of the version to be published, and are responsible for all aspects of the work, including ensuring the its accuracy and completeness.

Interest conflicts

The authors declare that there is no conflict of interest.

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