NAPKIN PSORIASIS - CASE REPORT

Anca Creţu¹, Elena Crihan³, A. Oaş⁴, Carmen Sălăvăstru⁵, D. Brănişteanu²*, Daciana Elena Brănişteanu¹
University of Medicine and Pharmacy “Grigore T. Popa” – Iaşi
Faculty of Medicine
1. Department of Medical Specialties (II)
2. Department of Surgery
“Providenţa” Clinic – Iaşi
3. Department of Dermatology
University of Medicine “Transilvania”- Braşov
4. Department of Dermatology
University of Medicine and Pharmacy “Dr. Carol Davila”- Bucureşti
5. Department of Dermatology
*Corresponding author. E-mail: dbranisteanu@yahoo.com

NAPKIN PSORIASIS - CASE REPORT (Abstract): Psoriasis is a chronic inflammatory disease that can affect up to 1% of children. Genetic (family history of psoriasis) and environmental factors (bacterial or viral infections, stress, and trauma) are frequently involved in its occurrence. Napkin psoriasis is a particular form of psoriasis affecting mainly children younger than 2 years of age and can be classified together with other diseases under diaper rash. We present the case of a 4-month-old infant, born at term, naturally, weight and height within the normal range, who was brought to the Dermatology Clinic for the occurrence of erythematous lesions in the anogenital area, buttocks and upper third of the thighs, with subsequent dissemination of lesions. The onset of symptoms began a few days after a respiratory tract infection. Initially he received treatment with systemic antibiotic and topical corticosteroid and antibiotic with unfavorable outcome. Laboratory tests revealed iron-deficiency anemia, leukocytosis, thrombocytosis, accelerated ESR, marked hepatic cytolysis, hyperphosphatemia and nasal carriage of Staphylococcus aureus. A systemic antihistamine and nonspecific desensitization treatment was administered. Topical treatment consisted in the removal of predisposing factors and irritants (diaper, urine) by rigorous hygiene, application of topical non-fluorinated corticosteroid and use of emollients, with favorable course of the lesions. The peculiarity of the case is that the diagnosis of psoriasis was based on history, physical examination and laboratory tests, in the absence of a pathology examination to confirm the diagnosis. Pathology examination could not be performed due to patient’s age as biopsy required general anesthesia. Keywords: PSORIASIS IN CHILDREN, NAPKIN PSORIASIS, DIAPER RASH

Psoriasis is a chronic inflammatory disease affecting the growth and differentiation of the epidermis, with polygenic predisposition and various triggering factors (infections, medicines, physical or mental trauma, stress) (1). It evolves through successive bouts with a high individual variability in frequency. Although less common in children than in adults, the frequency of psoriasis at early ages remains quite high.
In approximately one third of patients the onset is during the first 20 years of life (2). In 25-45% of patients the disease starts before age 16 years, 10% before age 10 and 2% before age 2 (2). Studies conducted in Denmark and India reported onset between age 6 and 10 in most patients, whereas according to studies conducted in Australia and the Middle East the onset was before age 4. Congenital psoriasis with onset at birth or during the first days of life is very rare. Plaque psoriasis is the most common form both in adults and in children (68.6% of cases). However, initial lesions in children may be fewer and less scaly and thus difficult to diagnose in some cases. In a study conducted in China guttate psoriasis was found in 28.9% of patients, erythrodermal psoriasis in 1.4%, and palmoplantar pustular psoriasis in 1.1% of children (3). There are differences regarding sex distribution between various reports. Some authors believe that it is more common in women (4, 5), as in adults (6), others believe that gender distribution is relatively equal in children (7, 8, 9). Psoriasis may occur in newborns and infants and is difficult to diagnose due to the particular clinical features. Newborns and infants mainly develop the so-called napkin psoriasis or diaper psoriasis characterized by anogenital lesions, the diaper area, as an intensely erythematous placard, slightly scaly, dry, and well-defined. According to data reported by Morris et al. (8) this form of psoriasis is most common in children under two years of age.

CASE PRESENTATION

We present the case of a 4-month-old male infant residing in a rural area admitted to the Dermatology Clinic of the Iasi “Sf. Spiridon” Emergency Hospital for the emergence of a placard erythematous-squamous in the anogenital area, buttocks and upper third of the thighs. From patient’s personal history we found that he was born at term, naturally, birth weight 3000 g, height 50 cm, APGAR score 9, with favorable postnatal development, breast-fed for one month then formula-fed, vaccinated according to the immunization schedule, but the prophylaxis of rickets with vitamin D3 incorrectly administered. From the previous medical history we mention acute nitrite poisoning at age 2 months.

The skin disease started approximately 2 weeks before admission as a symmetrical erythematous-squamous placard with well-defined margins in the anogenital area, buttocks and upper third of the thighs (fig.1) with local discomfort at diaper changing and washing the genitals expressed by crying and restless. The rash appeared a few days after the onset of respiratory symptoms (rhinorrhea, initially watery then mucopurulent, cough, low-grade fever, and change in bowel habits). Shortly after, plaques and placards with the same features appeared at distance (armpits, elbow crease bilaterally, anterior and posterior neck, scalp, anterior and posterior thorax, periorcular and retroauricular regions). Home treatment was initiated by the family physician, consisting in antibiotics, calcium gluconate and topical dermocorticosteroids and antibiotic ointment for 5 days with unfavorable outcome. Because skin lesions persisted the mother decided to seek specialist advice at the Dermatology Clinic.

On admission the infant was afebrile, euhydrical, weighed 7,500 g, was 62 cm tall, and his general health status was slightly impaired. General physical examination at admission revealed a superficial physiological generalized microadenopathy, pale tint to the skin and mucous membranes, tempo-
ro-occipital craniotabes, anterior fontanelle 3/4 cm in diameter, with sagittal dehiscence, normotensive, closed posterior fontanelle, seromucous rhinorrhea, rare nonproductive cough, symmetric rib cage excursions, RR = 40/min, systolic murmur grade II-III / 6 to the base of the heart and apex, HR = 130 min. On local examination the following were seen: erythematous-squamous plaques and placards, well-delimited, covered by pearly-white thick, multi-layered scales, Auspitz signs present at Brocq methodic scaling, located in the anogenital area, buttocks, inner thighs, axillary region, elbow crest bilaterally, peri-ocular region bilaterally, lower third of the abdomen, and posterior thorax (fig. 2, 3).

Laboratory findings:
• Iron-deficiency anemia (serum iron = 23mg/dL).
• Leukocytosis (26,190 / mm³).
• Marked hepatic cytolysis (ALAT = 266U/L, ASAT = 133U/L), drug-induced.
• Hyperphosphatemia (P = 6.28 mg/dL), and high ALP (760UI/l), in the context of
Napkin psoriasis - case report

deficiency rickets.

- thrombocytosis (T = 723,000 mm$^3$).
- VSH acceleration (17 mm/h, 43 mm/2h).
- nasal exudate: Staphylococcus aureus carriage.

Although the diagnosis of psoriasis is confirmed by pathological examination, this could not be performed due to patient’s age as biopsy required general anesthesia. Typical clinical appearance of the lesions, history and laboratory tests were enough to make the diagnosis of napkin psoriasis.

Systemic treatment with antihistamines and nonspecific desensitization treatment, removal of local predisposing factors and irritants (diaper, urine) by rigorous hygiene, application of topical nonfluorinated dermocorticosteroids gradually tapered to avoid rebound phenomenon and use of emollient wash gels, bath emulsion and face and body creams were initiated. The course was obviously favorable since treatment day 2 with significant improvement of skin lesions (fig. 4), the baby being much quieter. At discharge the patient was referred to a pediatrician for the assessment and treatment of respiratory disease, anemia, deficiency rickets and the other changes detected by laboratory tests.

**DISCUSSION**

The clinical forms of pediatric psoriasis are the same as in adults: plaque, guttate, pustular, erythrodermic, reverse, arthropathic. Usually children have a family history of this condition, according to Morris et al. (8) 71% of patients having a family history. Genetic and environmental factors are incriminated in the development of psoriasis in children. The lesions are clinically similar to those in adults: well-delimited erythematousquamous plaques and placards, positive Auspitz sign, but initial lesions may be less scaly and less infiltrated than in adults. Another difference is that in children the lesions are usually symptomatic, itchy, and the prevalent locations are the scalp, extensor surface of the limbs, trunk, face and ears. A particular form is located in the diaper area, being reported in 45% of children aged less than two years.

The ocular involvement is noticed in one third of the patients with psoriasis. Dry eye, conjunctivitis, episcleritis and anterior uveitis are the most frequent findings. No ocular signs have been noticed in our patient.

In newborns and infants diaper area is a unique topographic region in terms of skin lesions, as multiple diseases prevalently occur at this level, all called diaper rash. According to some authors diaper rash can be classified into three categories (10): diseases caused directly or indirectly by the wearing of diapers (candidal intertrigo, irritant contact dermatitis), lesions located elsewhere, but can be exaggerated in the groin area due to the irritating effects of wearing a diaper (atopic dermatitis, seborrheic dermatitis, psoriasis), and lesions that appear in the diaper area irrespective of diaper use (bullous impetigo, Langerhans cell histiocytosis, acro-dermatitis entero-
Pathica, congenital syphilis, scabies). Often the positive diagnosis is based only on history and physical examination, the clinician being faced with difficulty in making a correct diagnosis. In the case of recalcitrant diaper dermatitis on the groin, unresponsive to treatment, a possible diagnosis of psoriasis should be suspected.

CONCLUSIONS

The occurrence of psoriasis in children is possible, but few cases have been reported in infants. Although it is recognized that the onset of psoriasis in children is more common in families with psoriasis, in the here presented case the genetic component could not be demonstrated. Although initially difficult to make a certain diagnosis, through careful and thorough history (with the help of the mother), clinical and laboratory assessment we concluded that our patient had a form of psoriasis-napkin psoriasis. Key factors in triggering psoriasis are bacterial, viral or fungal infections. In our patient the incorrectly treated respiratory infection led to impaired liver function and favored the appearance of psoriasis. Treatment of psoriasis in children requires special attention and close cooperation between the dermatologist, pediatrician and parent, this triad being the key to successful treatment. The diagnosis of psoriasis is based on clinical criteria, no specific laboratory tests being available except for pathology examination, which in newborns and infants is difficult to perform as it requires general anesthesia. These young patients should be followed-up closely, parents should be informed about the disease and its possible progression; in some cases it progresses to pustular psoriasis, and in 15% of cases the children will develop other forms of psoriasis in later life.

REFERENCES