CASE REPORT

Challenges in diagnosis and treatment of a case of SAPHO syndrome in childhood *

Desafios no diagnóstico e tratamento de um caso de síndrome SAPHO na infância

Patricia Craveiro Gomes da Silva [1]
Elisa Fontenelle de Oliveira [2]
Andréa Valentim Goldenzon [3]
Pâmela Craveiro Gomes da Silva [4]
Marta Cristine Felix Rodrigues [5]

Abstract: The authors report a case of SAPHO Syndrome, in pediatric age, with a dermatological focus. This entity should be considered in patients who have pain in the anterior chest wall or other musculoskeletal symptoms, accompanied by palmoplantar pustulosis and acne fulminans. The specific cutaneous manifestations, diagnosis and the treatment will be presented.
Keywords: Acne Vulgaris, Osteitis, Psoriasis, Synovitis

Resumo: Os autores relatam um caso clínico sobre Síndrome SAPHO, na faixa etária pediátrica, com enfoque dermatológico. Essa entidade deve ser considerada, nos pacientes que tenham dor na parede torácica anterior ou outros sintomas musculoesqueléticos, acompanhados por lesões dermatológicas, como pustulose palmoplantar e acne fulminans. As manifestações cutâneas específicas, diagnóstico e o tratamento utilizado serão apresentados.
Palavras-chave: Acne Vulgar, Osteíte, Psoríase, Sinovite

INTRODUCTION

SAPHO Syndrome is a chronic disease, occasionally self-limited, composed of synovitis, acne, pustulosis hyperostosis and osteitis.[1] In general, the development of the disease is prolonged, with episodes of remission and exacerbation without response to antibiotics.

The association of palmoplantar pustulosis with arthro osteits of the anterior chest wall was first described in Japan, in 1967. In 1968, Kato and cols. described the first case of bilateral clavicular osteomyelitis with palmoplantar pustulosis.[2] In 1974, Sonozaki and cols. reported a sero-negative rheumatoid syndrome with sternoclavicular hyperostosis associated with palmoplantar pustulosis. Kahn and cols. noticed that arthro-osteitis sterile was the common denominator of a great number of patients with pain in the anterior chest wall or other musculoskeletal symptoms, carriers of palmoplantar pustulosis and acne fulminans.[2] So, in 1984, they characterized the SAPHO Syndrome with three criteria . It was enough, for the diagnosis of the syndrome ,the presence of only one of these characterisitcs: multifocal osteitis with or without cutaneous manifestations; sterile junt inflammation, acute or chronic, associated with pustule or palmoplantar psoriasis, acne or hidradenitis; sterile osteitis in presence of one of the skin manifestations mentioned above.

CASE REPORT

The ambulatory care and hospitalizations of a male mullato pediatric patient, with pregnancy and child birth without complications, normal growth and development and no family history will be described.

The infant, when he was three months old, had pnemonia and recurrent pyoderma. When he was 11 months old he was hospitalized for the first time due

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[1] Pediatrician, ex- resident from Jesus Municipal Hospital, Rio de janeiro (RJ), Brazil.
[2] Dermatologist, Pediatric Dermatology Clinic at Jesus Municipal Hospital, - Rio de Janeiro (RJ), Brazil.
[3] Master's degree in Public Health from Fundação Oswaldo Cruz (Fiocruz) – Pediatric Rheumathologist – Pediatric Rheumatology Clinic at Jesus Municipal Hospital - Rio de Janeiro (RJ), Brazil.
[4] Post-graduate student of the Dermatology service from the University Hospital "Gaffré e Guinle" – The Federal University of Rio de Janeiro (HUGG – UNIRIO) – Rio de Janeiro (RJ), Brazil.
[5] Master's decree in Pediatrics from the Federal University of Rio de Janeiro (UFRJ) - Pediatric Rheumathologist - Pediatric Rheumatology Clinic at Jesus Municipal Hospital - Rio de Janeiro (RJ), Brazil.

to an increase of volume on the right hand and "impetigo". Radiologically there was evidence of image lytic metaepiphyseal of radium with well defined borders suggesting subacute osteomyelitis. It was carried out treatment with oxacillin. Three months later bone configuration was radiologically normal.

When he was 1year and four months old he complained of pain in the thoracic lumbar region, which prevented ambulation besides bulging in the right-supra-clavicular region and erythematous papules on the neck and chest. There was no fever or history of trauma. Radiography of the spine revealed space reduction between T12 and L1 (spondylodiscitis) and bilateral proximal tibial metaphyseal radiological changes.

After that, hospitalization due to pain and swelling in his left elbow. Laboratory tests were requested: sickling test, FTA-abs IgG and IgM, anti-HIV, all negative; VDRL (positive 1:1); PPD (non-reactive); dosage of IgE, IgA, IgG, IgM, bone marrow aspirate and fundus, which were normal; radiography (lytic lesion in the lot drawn in the condyle of the humerus with periostitis and edema of adjacent soft tissues, lytic lesions on the anterior faces of the 6th,7th right costal arches and on the left of the 6th, 7th and 8th, and small pleural reaction at the base of the left hemithorax); bone scan (uptake of the marker characterizing osteogenic activity in the projections of the anterior portion of the 6th and 7th right costal arches and on the left of 6th ,7th, 8th, 9th, on the distal humerus, and on the proximal third of the left femur); bone marrow biopsy (erythrocyte hyperplasia); CT scan of the lumbar spine; (normal); biopsy ot the right tibia (microscopy with normal cellularity for the age, megakaryocitic and granulocytic series with normal maturation , erythrocyte hyperplasia, absence of neoplasm or infectious process).

Emerged, as an outpatient, claudication, arthritis in the left knee, increased VHS, being prescribed aspirin and prednisone and later methotrexate with initial improvement.

The patient presented geographic tongue and nail injury with edema and periungual erythema on the 1st and 2nd fingers suggesting continuous Hallopeu acrodermatitis (Figures 1 and 2). Direct mycological examination and culture of ungual and subungual scrapings were negative. Biopsy of the nail lay revealed acanthosis, with extension of the interpapillary cones, hyperkeratosis, polymorphonuclear cells in the stratum corneum, supra papillary thinning, mononuclear inflammatory infiltrate in the dermis, vascular dilation and collections of neutrophils in the epidermis confirming the clinical suspicion. It was prescribed topical tretinoin and clobetasol propinate for treatmento of the ungual lesions, with slight improvement. (Figure 3).

Arthritis on the left knee recquired hospitalization. Ultrasound showed infiltration of the subcutaneous tissue and of the muscle plans, without in between collections, discrete talus-navicular joint effusion and absence of ankle joint effusion. Radiography showed lytic lesion in the left navicular. (Figure 4). At this time, the patient presented pustules on the right axilla besides right external clavicular athritis. It was added to the treatment sulfasalazine, ranitidine and diclofenaco (Figure 5).

Bone scan was performed revealing hyperfixation of the radiopharmaceutical, characterizing increased osteogenic activity at the medial end of the right clavicle, in the proximal end of the left humerus, in the anterior portions of the 5th and 6th left costal arches. Radiopraphy showed lytic lesions bilaterally in the naviculars. The periungual lesions alternated between exacerbation and remission with edema and erythema worsening; it was initiated calcipotriol associated with topical betamethasone, besides oral azithromycin. Tiny pustules on the neck, axillae and

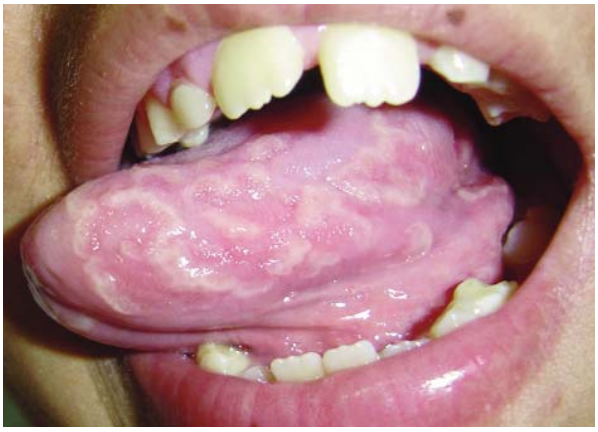

Figure 1: Geographic tongue

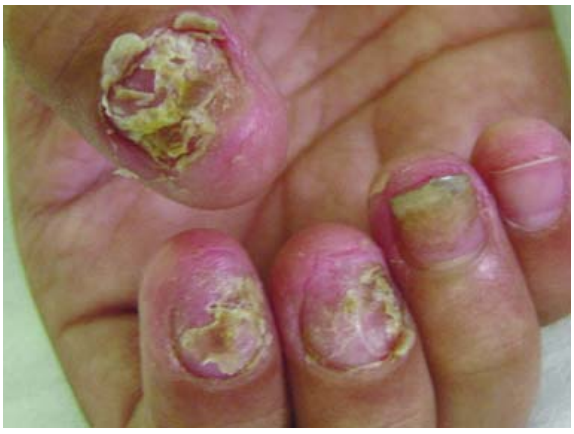

Figure 2: Nail lesion

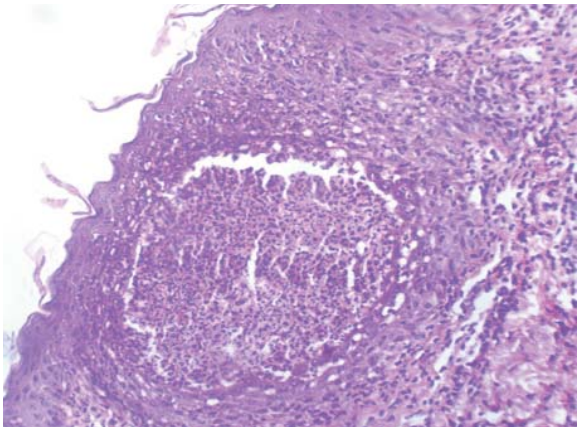

Figure 3: Intradermal pustule

unguinal regions were seen during dermatological examination, of which were requested bacteriological exams. (*Streptococcus haemolyticus, Enterococos faecalis, Streptococcus epidermidis – contamination),* mycological *(Candida albicans)* and histopathological (intra-epidermal blister with polymorphonuclear cells, parakeratosis, mild acanthosis, ectatic vessels and monuclear infiltrate in the papillary dermis). Figure 6. There was no response to the treatment with antimycotics, and partly to the use of topical steroids. Therefore it was diagnosed as amicrobiana pustulosis of the folders.

After being examined for deficiency of glucose 6 phosphate dehydrogenase negative it was initiated dapsone (0,5 mg/kg/day). In order to obtain the complete disappearance of the lesions the dose was increased for 1mg/day causing gastrointestinal intolerance, forcing its suspension. It was then prescribed colchicine, in increasing dose, with good tolerance, although without satisfactory clinical response. As an attempt to control the cutaneous condition thalidomide was chosen, with partial answer as it was difficult to obtain the medication to continue the treatment. It was then used etanercept, with good cutaneous and osteo-articular response although with partial improvement of the ungual lesions which might justify the beginning of acitretin.

DISCUSSION

In the case described there were cutaneous manifestations that were rare mainly considering the age of the patient. Besides that, they are not classical findings related to SAPHO syndrome. There was no difficulty for definitive diagnosis of continuous Hallopeu acrodermatitis, owing to the clinical-histopathological correlation associated with the negative mycological exam of the nails.

Continuous acrodermatitis is a rare manifestation of psoriasis, clinically with pustules that occur in the distal portions of the fingers mainly on the hands, with acute episodes and in general, with no apparent reason; it usually follows with the formation of scales and crusts, lesions can be formed on the nail lay being frequently painful and causing the loss of the nail plate.[3] The first lesion begins usually in a finger and occasionally it can affect the others. This continuous process may lead to tissue loss and subjacent bone alterations such as osteitis, thinning and osteoporosis with distal reabsortion. It can be followed by geographic tongue. [1,4]

It is known that the treatment of this form is more difficult than the treatment to other pustular chronic diseases and it can be used topical calcipotriol, topical steroids, topical fluorouracil, acitretin, cyclosporine, sulfone, methotrexate and PUVA therapy.[2,5]

As for the pustular lesions in the cervical, axillary and inguinal regions, despite the mycological, bacteriological and histopathological examinations,

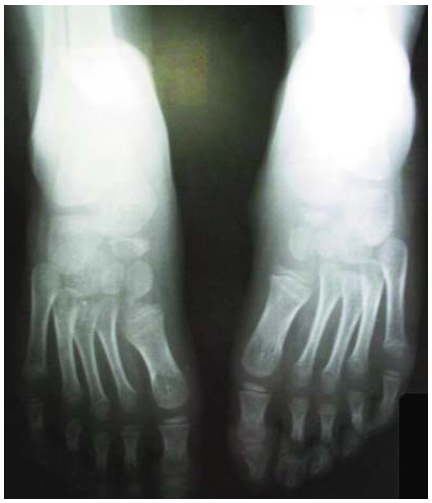

Figure 4: Lytic lesion

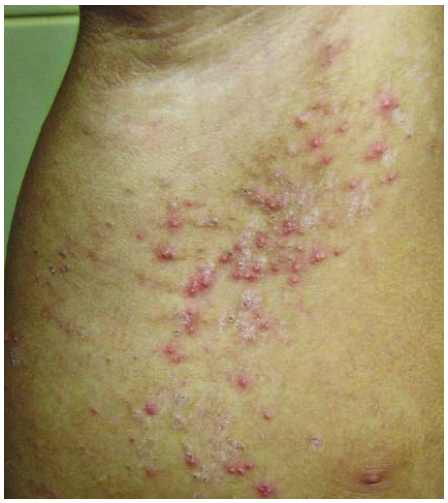

Figure 5: Amicrobic pustulosis of the folds

there was difficulty to classify them up to the moment that it came to know the entity called amicrobiana pustulosis of the folders in which it seems to fit.

Amicrobiana pustulosis of the folders is among the neutrophilic dermatoses which include a broad spectrum of diseases histologically characterized by the presence of aseptic neutrophilic infiltrate on the dermis and/or epidermis. This syndrome tipically happens in association with an autoimmune disease. The cutaneous eruption consists of small sterile foilicular and non-follicular pustules that coalesce into erosive plaques, predominantly in the flexures, scalp, genitalia and external auditory canal. Histology of the lesions reveals intra-epidermal pustule and eosinophilic spongiosis. The course is chronic and recalcitrant, generally with no relation with the activity of the associated autoimmune disease (neoplastic disorder or intestinal inflammatory).[6]

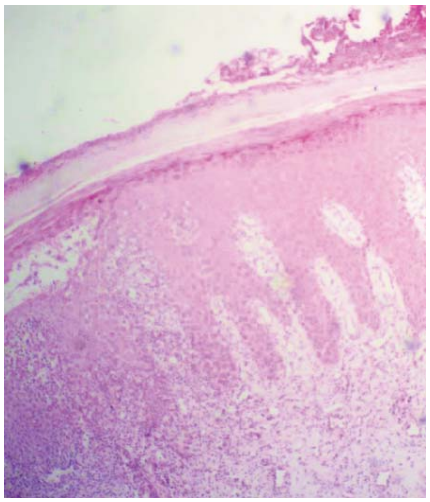

Figure 6: Psoriasiform Dermatitis

Their differential diagnoses include pustular psoriasis and pemphigus foliaceus which, frequently, do not choose these locations; subcorneal pustulosis (non-spongiform pustule and marked circinate lesions); acute generalized exanthematous pustulosis (widespread rash commonly triggered by medication or viral infection). There is no standard treatment yet but it can be included systemic and/or topical steroids, dapsone, colchicine and zinc supplementation.

SAPHO syndrome should be considered in the coexistence of recurrent inflammatory bone conditions, skin diseases and arthritis and mainly in the absence of antibodies and infectious agents besides the persistence of laboratory markers of inflammation. Its rheumatologic classification includes: chronic recurrent multifocal osteomyelitis (CRMO), responsible for half of the cases of the disease; pustule psoriatic hyperostotic spondyloarthritis (PPHS), responsible for 1/6 of the cases of the syndrome and incomplete forms of the previous types. The reported case fits into CRMO, as it constitutes a benign inflammatory bone disease which affects mainly children and adolescents. The differential diagnoses include: septic osteomylitis, Langerhans cells histiocytosis, malignant and benign bone tumors, juvenile idiopathic arthritis, ankylosing spondilitis and psoriatic spondyloarthritis.

The diagnosis of the SAPHO syndrome is accomplished by the combination of cutaneous manifestations, radiological and histopathological findings that should be recognised by doctors to make the diagnosis, avoiding invasive procedures and unnecessary therapies providing a better quality of life for the patient.[7] As there is no specific knowledge about the pathogenesis of SAPHO syndrome it is important a multidisciplinary treatment optimizing the cost-benefit ratio of the pathology. ❑

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Mailing Address / Endereço para correspondência:
Patricia Craveiro Gomes da Silva
Rua Doutor Nunes 109/1003
21021 370, Rio de janeiro RJ, Brazil
E-mail: patycrav@hotmail.com

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