Case Report
Open Access
CrossMark

Primary sjogren's syndrome in a child

Abstract

Sjogren´s syndrome is an autoimmune exocrinopathy of unknown aetiology characterized by xerostomy and y xerophtalmia or kerato conjunctivitis sicca. It might be a primary condition, which is rare during infancy. It is usually secondary, in most cases due to autoimmunity (systemic lupuserythematous, rheumatoid arthritis and others). There is a polyclonal reaction with positive antinuclear antibodies, anti-Ro/SS-A and anti-La/SS-B due to B cell hyperstimulation. This case is of a 16year-old female with autoimmune thrombocytopenia as initial manifestation, and a serology that suggests recent Epstein-Barr virus infection as a possible trigger. She has had recurrent parotiditis, multiple dental cavities and keratoconjuntivitis with positive antinuclear antibody, positive anti-Ro/SS-A and hypocomplementemia. She was diagnosed as a primary Sjogren´s syndrome and received a short course of steroids and hydroxychloroquine with a good clinical response.

Keywords: sjogren syndrome, autoimmunity, exocrinopathy, immunoglobulin, auto antibodies

Special Issue - 2018

Gabriela Ivankovich Escoto
Rheumatology Department, University of Costa Rica, Costa Rica

Correspondence: Gabriela Ivankovich Escoto, Paediatric Immunologist, Immunology and Paediatric Rheumatology Department, National Children's Hospital and Paediatrics Department, University of Costa Rica, Paseo Colón, San José, Costa Rica, Tel 50625233600, Email givankovich@gmail.com

Received: February 28, 2017 | **Published:** November 26, 2018

Abbreviations: SS, sjogren syndrome; IgM, immunoglobulin M; IgG, immunoglobulin G; ITP, immunologic thrombocytopenic purpura; ANA, antinuclear antibodies; Anti-DNA, antibodies anti-DNA, Anti-RNP, antibodies anti ribonucleoprotein, Mg, milligrams; ESR, errythro sedimentation rate; VDRL, venereal disease research laboratory

Introduction

Sjogren's syndrome (SS) is infrequent in childhood. It is a slowly progressive, chronic autoimmune (organ specific) exocrinopathy of unknown aetiology characterized by a decrease in the secretion of saliva and tears, with xerostomia and xerophthalmia or keratoconjunctivitis sicca.[1,2] There is a secondary polyclonal expansion exhibiting auto antibodies in most of the cases: antinuclear antibodies (95%), anti-Ro/SS-A (95%) and anti-La/SS-B (85%).[2]

Case presentation

A 16year-old female presented to our department with a history of tonsillectomy and adenoidectomy at 4years of age. There was no relevant family history. She started at age 10 with thrombocytopenia (107,000/mm^3), and ecchymosis. Her serology suggested recent Epstein-Barr virus infection. Her follow-up continued in the haematology department with a diagnosis of immune thrombocytopenic purpura (ITP). She had positive anti-nuclear antibody (ANA: 1/80) and positive anti SS-A. She had a history of recurrent parotiditis. During our follow-up, parotid ultrasound shows gland enlargement, conduct ectasia and increased flow uptake, without masses or calcifications. One year later, she associated recurrent conjunctivitis with an ANA persistently positive(variable dilutions up to 1/1280), negative anti-DNA, positive anti-SSA, negative anti-SSB, negative anti-Smith, negative RNP and non-reactive VDRL (venereal disease reactive laboratory). She had complement C3levels in 93.6mg/dl and C4 levels in 10.8mg/dl. Her erythro sedimentation rates (ESR) were always high (up to 55mm/hr). Blood count showed no anaemia nor leucopoenia and the platelets were normal after spontaneous remission of her ITP. In addition, she had a normal echocardiogram and multiple consultations in Dentistry for deep cavities that were treated with amalgams.

When she consulted to our department, her history of recurrent parotiditis, chronic conjunctivitis due to xerophthalmia and some positive auto antibodies, after other causes were ruled out; these findings were compatible with a diagnosis of primary Sjogren's syndrome (SS). To alleviate her ocular discomfort and active right parotiditis, she received prednisone (50 mg per day for 5days) and hydroxychloroquine (300mg per day). Three months later she was asymptomatic: with ocular improvement, free of parotiditis, ESR 9mm/hranda considerable improvement in her quality of life.

Discussion

SS is usually secondary and part of other autoimmune disease such a systemic lupus erythematosus, rheumatoid arthritis or mixed connective tissue disease. It can also be secondary to chronic graft versus host disease or human immunodeficiency virus infection.[2,3] When isolated, it is called primary SS. It is a rare condition in children,[3,4] finding less than 200 reported cases in the literature. It is 9times more frequent in women than in men.[3] Its onset in children is reported between 9.3 and 12.4years of age (mean 10.7years of age).[2] This patient started with kerato conjuntivitis sicca at around 12years of age and her recurrent parotiditis presented some months after that.

The pathogenesis is unknown without a clear trigger. There are possible triggers reported in the literature such as: environmental, constitutional, and infectious (especially viral) and autoimmune factors.[1] An aetiological hypothesis is that after an infection of the exocrine gland, in genetically susceptible individuals, there is activation of the T lymphocytes that further activate the B lymphocyte, with loss of tolerance and local synthesis of antibodies such as rheumatoid factor, anti-Ro (SS-A) and anti-La (SS-B).[1] In this case, the Epstein Barr virus could act as a trigger and as there are no family members with rheumatic diseases.

There are no diagnostic criteria in the paediatric population, but those used in adults are usually extrapolated. Table 1 summarizes the diagnostic criteria, with clinical findings and their possible pathogenic explanations.[2,3,5]

Symptoms that have frequently been described are: fever, arthralgia, arthritis and recurrent submandibular oedema.[3,4] Sicca

syndrome is described in 37.5% of cases (dry mucous surfaces: nose, pharynx and vagina). Others are Raynaud's phenomenon and lymphadenopathy. Laboratory findings are anaemia, leucopoenia, lymphopenia, cryoglobulinaemia and vasculitis.[3,4] In this case, she started with ITP and other clinical findings, occurred later. Ramos Casals[6] and Rama Krishna[7] have previously reported cases of severe thrombocytopenia in patients with SS (<50,000/mm^3).

Table 1 Diagnostic criteria, clinical and laboratory findings and pathophysiology.[1,2,5,10]

Criteria	Clinical and laboratory findings	Pathophysiology
Keratoconjuntivitis	Positive Schimertest* Superficial corneal erosions Presents with photophobia	-
Xerosthomy	Difficulty to chew and swallow Taste abnormalities Severe dental caries	Abnormal local production of cytokines: BAFF/ BLyS, IL-17 y TNF in the inflamed salivary tissue
Salivary gland biopsy with lymphocyte infiltrate at least in 2 sites of 4mm^2	Germinal follicle formation with secondary atrophy and acinus obliteration. Ductal cell proliferation	Activated T lymphocytes secrete IL-2 and IFN-α
Rheumatoid Factor^3 ≥1:160, ANA^3 1: 160	-	Secondary polyclonal hypergammaglobulinaemia

*Deficiency in tear production (wet paper<5mm in 15minutes)

Early diagnosis is important to prevent complications, 25% of adults with primary SS develop systemic complications, such as: renal tubular acidosis, vasculitis, cryoglobulinaemia, autoimmune hepatitis, interstitial pneumonia, interstitial nephritis, myositis, achalasia with achlorhydria, Hashimoto's thyroiditis, central nervous system involvement and neuropathy associated with antiphospholipid antibodies.[2,3] It can present from a benign autoimmune disorder up to a malignant lymph proliferative process. In the later cases, it presents with a risk of developing lymphoma 20 to 40times greater than the general population.[1,2] Our patient has not presented any further complications and she is still in biannual follow-ups.

Treatment is usually symptomatic non-specific and non-curative.[8] Sicca requires environmental humidification, artificial tears, saline nasal wash and acidic lemon drops to stimulate salivation.[2] glucocorticoids and hydroxychloroquine have been successfully reported just like with our patient. In refractory cases, cyclosporine A and cyclophosphamide have been used.[2,9] There are very few studies with biological drugs that have proven to be effective such as: interferon, Rituximab and Epratizumab; being rituximab the one with the best results according to literature.[10]

Acknowledgments

To my colleague, Dr. Gustavo Lazo Paez for his comments.

Conflicts of interest

Author declares that there is no conflicts of interest.

References

1. Roser Solans, Labrador Mois ES, Joseph ÀB. Etiopathology of Sjögren's Syndrome. *Med Clin (Barc)*. 2001;116:750–755.
2. Cassidy J, Petty R. Overlap Syndromes In: Cassidy J, Petty R Laxer, editors. *Textbook of Pediatric Rheumatology.* 5th ed. Philadelphia, USA; 2005. p. 486–489.
3. Bartunková J, Sedivá A, Vencovsky, et al. Primary Sjögren's syndrome in children and adolescents: proposal For Diagnostic criteria. *Clin Exp Rheumatol.* 1999;17:381–386.
4. Cimaz R, Casadei A, Rose C, et al. Primary Sjogren syndrome in the paediatric age: a multicentre survey. *Eur J Pediatr.* 2003;162(10):661–665.
5. Manthorpe R. Sjögren's syndrome criteria. *Ann Rheum Dis*. 2002;61(6):482–484.
6. Ramos Casals M, Tzioufas AG, C, Font J. Primary Sjögren's syndrome: new clinical and therapeutic concepts. *Rev Esp Reumatol*. 2005;32(3):134–146.
7. Ramakrishna R, Chaudhuri K, Sturgess A, et al. Haematological manifestations of primary Sjögren s syndrome: a clinicopathological study. *Q J Med.* 1992;84(303):547–554.
8. Bell M, Askari A, Bookman. Sjögren's syndrome: a critical review of clinical management. *Rheumatol*. 1999;26:2051–2061.
9. Cees GM Kallenberg, Arjan Vissink, Frans GM Kroese, et al. What Have We Learned desde Clinical trials in primary Sjögren's Syndrome About pathogenesis? *Arthritis Res Ther*. 2011;13:205.
10. Youinou P, Pers JO. Disturbance of cytokine networks in Sjögren's syndrome. *Arthritis Res Ther*. 2011;13(4):227.