

Sclerosing orbital pseudotumor

Pseudotumor esclerosante de órbita

Cristianne de Macêdo Corrêa¹, Ademar Dantas da Cunha Junior², Roberto Machado³, José Ricardo Paintner Torres⁴

ABSTRACT

Sclerosing orbital pseudotumor is a rare subtype of idiopathic orbital inflammatory pseudotumor. It's more common in adults and presents diagnosis of exclusion. Steroids represent the first option of treatment. The sclerosing orbital pseudotumor subtype shows moderate response to steroids due to the predominance of fibrosis and collagen in its histology. We report on a case of a patient with histologic diagnosis of sclerosing orbital pseudotumor successfully treated with corticosteroid associated with azathioprine.

Keywords: *Orbital pseudotumor/drug therapy; Adrenal cortex hormone/therapeutic use; Azathioprine/therapeutic use; Inflammation/pathology; Orbital diseases/pathology; Case reports*

RESUMO

O pseudotumor esclerosante de órbita é um subtipo raro de pseudotumor inflamatório idiopático de órbita. É mais comum em adultos e apresenta diagnóstico de exclusão. A primeira linha de tratamento são os esteroides. O subtipo esclerosante apresenta resposta moderada aos esteroides devido à predominância de fibrose e colágeno na histologia. Relatamos o caso de um paciente com diagnóstico histológico de pseudotumor esclerosante de órbita que teve boa resposta ao tratamento com corticoide associado à azatioprina.

Descritores: Pseudotumor orbitário/quimioterapia; Corticosteroides/uso terapêutico; Azatioprina/uso terapêutico Inflamação/patologia; Doenças orbitárias/patologia; Relatos de casos

¹ Graduation Course in Medicine, Faculdade Assis Gurgacz, Cascavel, PR, Brazil.

² Hospital do Câncer de Cascavel, Cascavel, PR, Brazil.

³ Instituto da Visão, Cascavel, PR, Brazil.

⁴ Department of Scientific Method, Graduation Course in Medicine, Faculdade Assis Gurgacz, Cascavel, PR, Brazil.

The authors declare no conflicts of interests.

Received for publication 09/03/2015 - Accepted for publication 26/05/2015

INTRODUCTION

The idiopathic orbital pseudotumor is a nonmalignant orbital inflammation without local or systemic known cause⁽¹⁾. Its etiology is uncertain, with likely evidenced autoimmune process due to the response to immunosuppressive and its relation to disorders such as Crohn's disease, systemic lupus erythematosus, rheumatoid arthritis, among others⁽²⁾. It is more prevalent in adults, accounting for about 6% of all orbital lesions⁽³⁾.

It usually presents as unilateral, and bilateral is more common in children⁽⁴⁾. It can manifest with pain, proptosis, erythema and local edema, fibrosis, mass effect, ptosis, chemosis, motility dysfunction of the extraocular muscles, diplopia and optic neuropathy⁽²⁾.

It has a differential diagnosis with orbital idiopathic inflammation, thyroid exophthalmos, Wegener's granulomatosis, sinusitis, tuberculosis, metastatic carcinoma, meningioma, lymphoma and Ormond Syndrome (multifocal fibrosis involving orbit, retroperitoneum and thyroid)⁽⁵⁾.

The diagnosis is obtained by computed tomography of the orbit or magnetic resonance imaging of the orbit. The biopsy is indicated for persistent and recurring cases⁽⁶⁾. Its pathology is characterized by infiltration of not malignant lymphocytes, without inflammatory response to any infection or the presence of fibroadipose benign tissue⁽⁷⁾.

The sclerosing form is a rare subtype of inflammatory orbital pseudotumor, and is characterized by insidious inflammation resulting in the synthesis of fibers and collagen, with injury of orbital structures⁽⁶⁾. It presents a condition similar to inflammatory pseudotumor, but more aggressive and with a worse response to steroids⁽⁸⁾. The diagnosis is obtained by exclusion. For that, the medical history, clinical examination, laboratory tests for differential diagnosis with other diseases (T3, T4, TSH, VHS, glucose, urea, creatinine, blood cultures), CT scan, biopsy and treatment response are evaluated⁽⁹⁾.

Systemic corticosteroids are the first line of treatment for orbital pseudotumors, usually starting with a dose of 1 to 2 mg/kg/day of oral prednisone⁽²⁾. In sclerosing cases, efficacy is moderate, being greater when administered early⁽⁸⁾. Other treatment lines include immunosuppressive, cytotoxic agents, IV immune globulin, alpha TNF inhibitor, monoclonal antibody, and mycophenolate mofetil⁽¹⁰⁾. Radiation therapy is indicated for patients with refractory disease, with inadequate response to corticosteroid, or with contraindication to its use. It is usually divided into 10 sessions for two to three weeks at a dose of 20 Gy⁽⁷⁾.

CASE REPORT

Patient NGV, 42 years old, male, born in Lages – SC, started treatment in 2012 at Instituto da Visão, Cascavel-PR, due to complaint of pain and palpebral edema in right eye. He denied reduction of visual acuity. He reported having systemic arterial hypertension, type 2 diabetes, bronchitis and asthma, and having been subjected to metabolic surgery in 2009.

The exam showed edema, hyperemia and tumor of about one centimeter in right eye, reduced eye opening and visual acuity 20/20. Biomicroscopy of the right eye showed increased lacrimal gland and subconjunctival infiltrate, generating the diagnostic hypothesis of sarcoidosis, lymphoma, sclerosing

pseudotumor of the orbit, and adenocarcinoma of the lacrimal gland. Further exams were requested: complete blood count, glucemia, VHS, PCR, P-ANCA, C-ANCA, TSH, T3, T4, retinography and CT of the orbit. The test results were within the normal range, except for increased VHS and increased lacrimal gland to TC of the orbit.

The biopsy of conjunctiva and tenon was requested, showing unspecific inflammatory activity, discarding sarcoidosis and lymphoma. Due to the nonspecific finding, another biopsy was requested, with the diagnosis of right sclerosing orbital pseudotumor without atypical glandular proliferation associated.

For the treatment, prednisone 40 mg/day for 15 days followed by gradual withdrawal was prescribed, and the patient was referred to Hospital do Câncer de Cascavel-UOPECCAN. In the first appointment at UOPECCAN, he showed persistence of pain, edema, hyperemia and tumor in the right upper eyelid. To reduce the symptoms, the dose of prednisone was increased to 80 mg/day, and azathioprine 75 mg was added. An abdomen MRI was also requested, discarding retroperitoneal fibrosis.

The withdrawal of corticosteroids was associated to increase of the dose of azathioprine to 100 mg. Initially, there was recurrence of symptoms of pain and edema when the prednisone was reduced to 40 mg/day. The dose of prednisone was increased again to 60 mg/day for four months, followed by a new attempt of withdrawal. The corticoid withdrawal was successfully completed, and the patient kept treatment with azathioprine 100 mg and quarterly follow-up.

In follow-up appointment, he showed change of liver enzymes, suggesting a condition of poisoning by azathioprine. The dose reduction was suggested, as well as a new orbit CT scan, which showed no change. The patient presented remission of the condition, making use of 50 mg/day of azathioprine and follow-up for gradual reduction of this dose.

DISCUSSION

Sclerosing orbital pseudotumor is a rare subtype of inflammatory orbital pseudotumor⁽⁵⁾. Its exact incidence is not described in the literature. It shows no significant difference of presentation in relation to gender, and the average age of patients is 44 years old⁽¹¹⁾.

It is characterized by insidious inflammation resulting in the synthesis of fibers and collagen with lesion of orbital structures. It has a differential diagnosis with orbital idiopathic inflammation, thyroid exophthalmos, Wegener's granulomatosis, sinusitis, orbital tuberculosis, metastatic carcinoma, meningioma, lymphoma and Ormond Syndrome (multifocal fibrosis involving orbit, retroperitoneum and thyroid)⁽⁵⁾.

The differential diagnosis with orbital tuberculosis should be considered mainly in developing countries due to the higher prevalence of tuberculosis, and due to its considerable morbidity and mortality. In this case, the immunohistochemistry with immunoperoxidase is the most sensitive method for detecting mycobacteria in the tissues, including the cases of caseous necrosis. The method helps especially in cases of orbital inflammation not associated to a systemic condition resistant to corticoid therapy⁽¹²⁾.

The orbital lymphoma without systemic manifestation must also be suspected in case of expansive orbital lesion. It features

clinical conditions similar to those of pseudotumor, and also responds to therapy with corticosteroids. The age group most affected in such cases is between the sixth and seventh decade of life. An adequate biopsy allows early diagnosis, interfering with successful treatment⁽¹³⁾. Radiation therapy, which is an effective treatment to control acute and chronic symptoms in orbital pseudotumors, also shows good response in the treatment of lymphomas confined to the orbit^(7,13).

In the case reported, the patient underwent laboratory exams and CT scan of the abdomen, which excluded other diagnostic hypotheses. The computed tomography of the orbit showed increased lacrimal gland, and the biopsy gave the diagnosis of sclerosing orbital pseudotumor.

It showed similar condition to the inflammatory pseudotumor, but more aggressive and with worse response to steroids⁽⁸⁾. The most common signs and symptoms observed are: proptosis (49%), orbital pain (12.2%), palpebral edema or mass (22.4%), diplopia (6.1%), visual loss (6.1%) and ptosis (4.1%)⁽¹¹⁾. Another study also found pain, proptosis, palpebral edema, restriction of eye movements, ptosis and visual loss as the most common clinical condition⁽⁵⁾. The patient presented pain, edema and tumors of approximately one centimeter in the right eyelid, but he denied reduced visual acuity.

Corticosteroids presented moderate effectiveness in sclerosing cases, and the greater success is obtained when administered early⁽⁸⁾. This is due to the predominance of fibrosis and collagen in histology, with little inflammatory infiltrate. Some patients respond poorly to corticotherapy and have poor visual prognosis⁽⁵⁾. Others require the addition of immunosuppressants such as methotrexate, azathioprine, mycophenolate and cyclosporine⁽⁶⁾. Azathioprine associated to other agents can be used to control the disease and to reduce the use of corticosteroids⁽⁸⁾. Although presenting stroma with extensive hyalinization and fibrosis in biopsy, the patient reported had satisfactory response to the treatment. He presented remission of corticotherapy associated to azathioprine, withdrawal of corticosteroid, and he is currently in quarterly follow-up for the gradual withdrawal of azathioprine.

REFERENCES

- Zerilli TC, Burke CL. Orbital pseudotumor after an upper respiratory infection: A comprehensive review. *Optometry*. 2010;81(12):638-46.
- Scalcon MR, Cunha VR, Rossi AG, Paiva ES. Pseudotumor orbitário em paciente com doença de Still do adulto: associação incomum. *Rev Bras Reumatol*. 2008; 48(5):309-12.
- Fraga J, Sá A, Candido C, Pinto JP, Dias F. Miosite orbitária numa criança. *Nascer e Crescer*. 2012;21(1): 28-32.
- Toprak H, Aralçmak A, Yılmaz TF, Ozdemir H. Unusual sclerosing orbital pseudotumor infiltrating orbits and maxillofacial regions. *J Clin Imaging Sci*. 2014;4:30.
- Moitinho LM, Marback EF, Junior OO, Marback RL. Inflamação esclerosante idiopática da órbita: estudo clínico-patológico. *Rev Bras Oftalmol*. 2012; 71(5):292-5.
- Mendenhall WM, Lessner AM. Orbital pseudotumor. *Am J Clin Oncol*. 2010, 33(3):304-6.
- Matthiesen C, Bogardus C, Thompson JS, Farris B, Hildebrand L, Wilkes B, et al. The efficacy of radiotherapy in the treatment of orbital pseudotumor. *Int J Rad Oncol Biol Phys*. 2011;79(5):1496-502.
- Barham HP, Dishop MK, Prager JD. Idiopathic sclerosing inflammation presenting as sinusitis. *Allergy Rhinol (Providence)*. 2012;3(2): e101-4.
- Nunes TP, Roizemblatt R, Miki G, Garcia R, Santo RM, Olivalves E, et al. Inflamação idiopática da órbita com extensão extra-orbital: relato de caso. *Arq Bras Oftalmol*. 2007;70(3):540-3.
- Chaudhry IA, Shamsi FA, Arat YO, Riley FC. Orbital pseudotumor: distinct diagnostic features and management. *Middle East Afr J Ophthalmol*. 2008;15(1):17-27.
- Chirapapaisan N, Chuenkongkaew W, Pornpanich K, Vangveeravong S. Orbital pseudotumor: clinical features and outcomes. *Asian Pac J Allergy Immunol*. 2007;25(4):215-8.
- Oliveira BFT, Takay FC, Shida TM, Santo RM, Souza AC, Matayoshi S. Orbital tuberculosis diagnosed by immunohistochemistry: case reports. *Rev Inst Med Trop S Paulo*. 2004;46(5):291-4.
- Couto Jr AS, Barbosa RS, Portes AL, Portes AJ, Benchimol ML. Linfoma orbitário: relato de casos e apresentação atípica. *Rev Bras Oftalmol*. 2000; 59(10):759-63.

Corresponding author:

Cristianne de Macêdo Corrêa
Avenida Rio Branco, 4332, ZIP Code 87501-130, Umuarama, PR, Brazil.
Phone: (44) 36226393 (Fax)/ (44) 98258584
E-mail: cristianne.correa93@gmail.com