

## ACUTE ORBITAL MYOSITIS

### CASE REPORT

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**ABSTRACT** - The case of 22-year old, white woman with bilateral orbital myositis following an acute upper respiratory tract infection is reported. The most important clinical findings were ocular pain, proptosis, restricted eye motility and swelling of the eyelids. The enlarged eye muscles were seen on orbital computerized tomography scan. The clinical findings of inflammatory orbital myositis and clinical response to corticotherapy are emphasized.

**KEY WORDS:** acute orbital myositis, inflammation, computerized tomography scan.

#### Miosite aguda orbitária: relato de caso

**RESUMO** - Os autores relatam o caso de uma paciente, com 22 anos de idade, branca, com infecção viral das vias aéreas superiores há 2 semanas e há cinco dias com cefaléia frontal intensa, edema bpalpebral assimétrico, olho avermelhado, fotofobia, diplopia e dor à movimentação lateral dos olhos. Os exames laboratoriais somente revelaram discreta elevação da velocidade de hemossedimentação; a avaliação hormonal e imunológica de disfunção da tireóide nada revelou; o estudo da imagem por tomografia computadorizada craniana mostrou presença de sinusopatia etmoidal, espessamento e imagem densa dos músculos reto interno e oblíquo superior esquerdos e do reto lateral direito. Foi feito o diagnóstico de miosite aguda orbitária. A paciente foi submetida a terapêutica com corticosteroide (prednisona 60 mg/dia), com rápida e eficiente melhora clínica. Os autores salientam os diagnósticos diferenciais chamam a atenção para a raridade da doença e sua possível etiologia viral.

**PALAVRAS-CHAVE:** miosite aguda orbitária, inflamação, tomografia computadorizada.

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Acute orbital myositis is considered a well characterized but relatively rare syndrome. For the first time in 1905 Birch-Hirschfeld called pseudotumor of the orbit some non-neoplastic disturbances that presented like orbital mass lesions. With the new image methods the condition became easily diagnosed<sup>4,5,7</sup> and was reclassified as non-specific inflammatory orbital syndrome, which was subdivided as: orbital myositis, dacryadenitis, perineuritis, scleritis and lymphoid hyperplasia according to the tissue involved<sup>2,9,11</sup>. The orbital myositis generally begins with ocular pain, proptosis, diplopia, eyelids swelling, deficit of ocular motility and conjunctival injection<sup>7,8,14</sup>.

We describe a patient who had a clinical finding compatible with orbital myositis. The patient's had her symptoms preceded by a superior airways infection and had involvement of the adjacent facial sinus.

### CASE REPORT

RMA, a 22 year-old white female patient had a bilateral frontal shooting headache followed by horizontal diplopia, photophobia and lacrimation five days before her exam. Swelling developed at the right eyelid and after two days at the left eyelid too. She had superior airways infection two weeks ago and rubella four weeks

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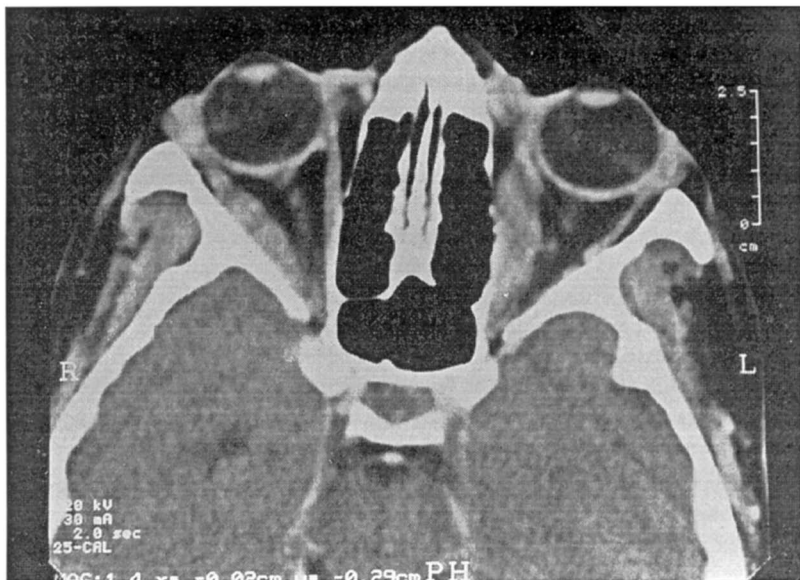


Fig 1. Orbital CT showing enlargement of right lateral rectus and left medial rectus muscle including thickening of the muscles tendons.

ago. Clinical findings were normal. There was eyelid swelling bigger on the left side and hyperemia of nasal portion of the conjunctiva bilaterally. There was restriction, pain and horizontal diplopia at ocular motility bigger when looking at left. Serum routine laboratory examinations were normal. Urine and blood cultures had negative results. Thyroid hormones levels were normal. Cytochemistry of cerebrospinal fluid was normal. C reactive protein reactive, antibody of antinuclear factor, rheumatoid factor, thyrotropic receptor antibody, antiperoxidase antibody were also negative. The blood sedimentation rate was 20, serum creatine phosphokinase was 133 UI/l (reference value till 97) and antistreptolysin test was 333 (reference value till 250). Facial sinus radiography was normal. Cranial computerized tomography (CT) showed haziness of the left ethmoidal sinus and thickening of extrinsic ocular muscles. The orbital CT scan revealed proptosis and enlargement of right lateral rectus, left medial rectus and of left upper oblique muscles with involvement of the tendons (Figs 1 and 2). The patient was treated with prednisone 60 mg/day. We noticed sharp improvement of the pain in 12 hours and after 36 hours there was not any abnormality of the ocular motility.

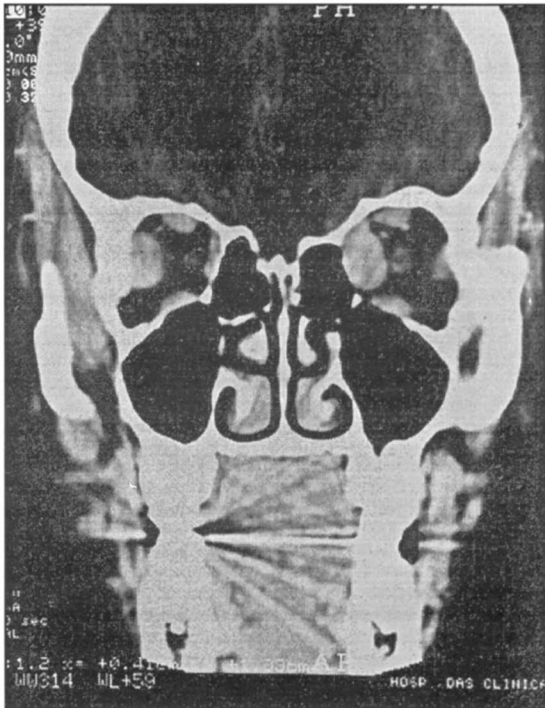


Fig 2. Coronal section of the orbital CT showing higher volume of the involved muscles and of the left oblique muscle.

## DISCUSSION

The diagnosis of acute orbital myositis was done based on clinical picture, and it was confirmed through orbital CT<sup>4,14,19</sup> and rapid improvement with systemic corticosteroid therapy.

The differential diagnosis was made mainly with orbital cellulitis<sup>1</sup>, in which the patients usually have fever, leukocytosis and often trauma history or sinusitis. It is recommended to stop the antibiotics for a 24-48 hour period and then treat the patient with corticosteroid if the flogistic signs do not improve.

The thyroid ophthalmopathy is seldom painful and is followed by the "lid-lag" sign and eyelid retraction.

Thyroid hormone determinations can be normal in 10% of the patients with Grave's ophthalmopathy, but most of these patients have serum laboratorial evidence of autoimmune disease like thyroid antiperoxidase antibody. On CT scan the tendon of the muscles usually is spared in the Grave's ophthalmopathy and is included in the orbital myositis<sup>4,7</sup> although this is not absolute.

At malformations and fistulas of the cavernous sinus a bruit audible over the eye occur and the CT scan shows a distended superior ophthalmic vein and cavernous sinus.

Some tumors can favorably respond to corticosteroid during a brief period of time but rarely as rapid and completely as in myositis.

The systemic laboratory investigation in this case was aimed at rulling out that vasculitides ocasionaly associated to orbital myositis like erythematosus systemic lupus, Wegener granulomatosis and polyarteritis nodosa.

This patient, who was extremely uncomfortable, had a dramatic recovery in 24 hours after the use of prednisone 60 mg/day<sup>7,12,15,16,18</sup>. The early treatment avoids the risk of fibrosis of the muscles and subsequent restriction to ocular motility. The biopsy was not necessary. It is recommended only in cases which have atypical clinical presentation or do not have the expected response to the corticosteroid with the purpose of excluding the possibility of tumors. The origin of this syndrome remains unknown, besides we know that, like in this case, the beginning can follow a viral syndrome<sup>2,3,6,9,10,13,14,17</sup>.

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