DOI 10.5935/0034-7280.20180034

Cytomegalovirus retinitis in Good Syndrome

Retinite por citomegalovírus em paciente com Síndrome de Good

Leticia Pinto Coelho Jorge[1], Carlos Eduardo Gonçalves Pereira[1], Eduardo Jorge[1]

Abstract

Good syndrome is a paraneoplastic syndrome characterized by the association of thymoma and hypogammaglobulinemia, with immunosuppression. We report a rare case of cytomegalovirus retinitis in a patient with this syndrome.

Keywords: Cytomegalovirus Retinitis; Retinitis; Cytomegalovirus; Thymoma; Agammaglobulinemia; Case reports

Resumo

A Síndrome de Good é uma síndrome paraneoplásica caracterizada pela associação de timoma e hipogamaglobulinemia, cursando com imunossupressão. Relatamos um caso raro de retinite por citomegalovírus em paciente com esta síndrome.

Descritores: Retinite por citomegalovirus; Retinite; Citomegalovirus; Timoma; Agamaglobulinemia; Relatos de casos

[1] Instituto Panamericano da Visão, Goiânia, GO, Brazil.

The authors declare no conflicts of interests.

Received for publication 20/06/2017 - Accepted for publication 21/10/2017.

Introduction

Thymoma is a rare malignant neoplasm accounting for 20 to 30% of mediastinal tumors in adults. Most have slow and sluggish growth.[1] This tumor may present respiratory symptoms due to compression of the upper airways and superior vena cava syndrome. It may also cause paraneoplastic syndromes such as myasthenia gravis, red cell aplasia, or hypogammaglobulinemia.[2-4]

Good syndrome was first described by the American oncologist Dr. Robert Good in 1956.[5] He observed the association between thymoma and hypogammaglobulinemia leading to immunosuppression in these patients. The syndrome typically occurs in middle-aged adults, and has frequent recurrent pneumonia and sinusitis, cytomegalovirus infections (especially retinitis), and fungal infections.[6]

The occurrence of cytomegalovirus retinitis in patients with Good syndrome is rare, with only nine cases described in the literature to date.[6] We report here the case of a patient with cytomegalovirus retinitis and Good syndrome.

Case Report

C.E.P, 49 years old, female, with complaint of low visual acuity in the left eye with two weeks of evolution. Thymoma diagnosed 6 months before, having already undergone thymectomy and 6 cycles of chemotherapy (Pemetrexede). He presented two previous episodes of pneumonia and one of sinusitis in this period. The exam showed right eye with visual acuity 20/20 and no changes. Left eye with vision 20/30, intraocular pressure 32mmHg, anterior chamber reaction 3+ and vitreitis 2+. Eye fundoscopy presented extensive area of peripheral retinitis with vasculitis and superior justadiscal necrotic lesion (Figure 1).

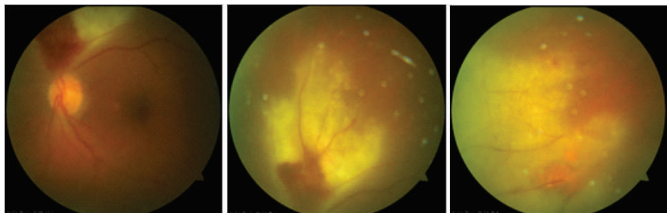

Figure 1: Retinography of the left eye at the initial presentation.

The exams showed: normal hemogram with absence of leucopenia; VDRL and FTA-ABS negative; toxoplasmosis IgM positive (0.93 Index) and IgG positive; Herpes simplex and zoster IgM negative and IgG positive; Cytomegalovirus IgM negative and IgG positive; HIV negative.

The diagnostic hypothesis was acute herpetic retinal necrosis, and the patient was treated with intravenous acyclovir (10mg/kg every 8 hours) for 14 days associated with systemic corticosteroid (1mg/kg), topical corticosteroids and topical medications to control the intraocular pressure (timolol maleate 0.5% and brimonidine tartrate 0.2%). After discharge, she presented a discrete improvement of the retinal lesions (Figure 2), and was orally medicated with valaciclovir (3g/day) and prednisone (0.5mg/kg/day).

In the ambulatory follow-up two weeks after the beginning of the oral medication, the clinical condition of the left eye progressed, with the onset of a new lesion (Figure 3).

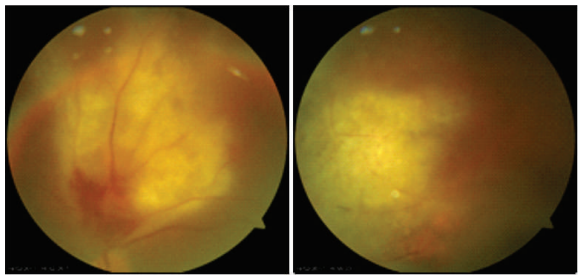

Figure 2: Retinography of the left eye 14 days after intravenous treatment with acyclovir.

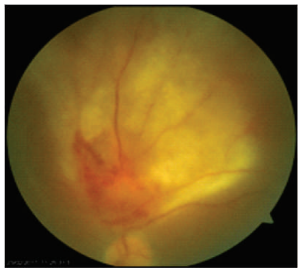

Figure 3: Retinography of the left eye after hospital discharge and 2 weeks of oral Valaciclovir.

Valaciclovir was then suspended, and intravenous ganciclovir started (5mg/kg every 12 hours). This dose was maintained for 21 days, and the patient presented significant improvement of the condition, with retinal lesions practically cured (Figure 4).

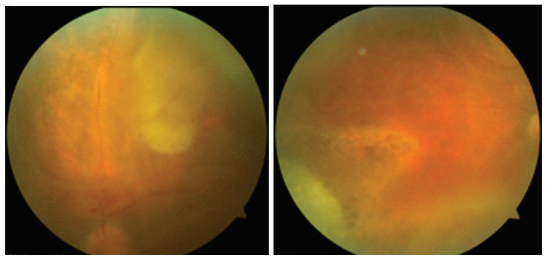

Figure 4: Retinography of the left eye 21 days after intravenous treatment with acyclovir.

Ganciclovir was used in maintenance dose (5mg/kg/day) for 18 weeks. When the medication was discontinued, the patient presented visual acuity 20/70, residual vitreitis 2+, and healed lesions. (Figure 5)

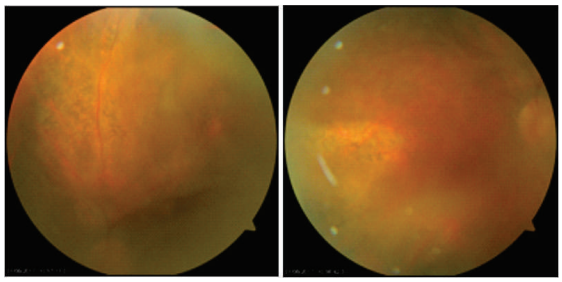

Figure 5: Retinography of the left eye 18 weeks after intravenous treatment with Ganciclovir.

Before the diagnosis of cytomegalovirus retinitis, the patient was investigated for Good Syndrome: immunoglobulin G (IgG) decreased 676mg/dL (reference values 800-1600mg/dL) and immunoglobulins A and M (IgA and IgM) at the lower limits. The CD4 count was also low, 348/µL (reference values 430-1010 / µL), consistent with the syndrome.

Discussion

We report a case of cytomegalovirus retinitis in a patient with Good Syndrome. This is a rare case with only nine descriptions in the literature.[6-13] Downes et al.[6] recently reviewed these published cases and found the following characteristics: average age of presentation of 56 years (48-68 years); higher prevalence in women (55.5%); unilateral condition (88.9%); anterior chamber inflammation (62.5%); vitreitis present in 88.8% of cases and described as moderate to severe in 55.5% of the cases; diagnosis of cytomegalovirus retinitis after diagnosis of thymoma (88.8%); opportunistic respiratory infections (77.8%).

All these characteristics were also present in our case.

Some particularities, however, were observed. Retinal involvement is more frequent in zones I and II, with only 2 cases with involvement of the periphery of the retina (zone III) described in the literature[6,7], which occurred in our case. Another difference observed was related to the visual acuity of presentation of the retinitis condition. The initial visual acuity of our patient was 20/30, the best found among the cases described.[6-13] Two patients had a vision of 20/40 at baseline[7, 8], but the other seven patients had a vision of less than or equal to 20/100 at diagnosis.[6, 9-13] The best visual acuity at presentation, however, did not provide our patient with a better final vision when compared to the other cases. Of these, 55,5%[6] had vision between 20/40 and 20/200 at the final condition, where our patient also fits with final vision of 20/70.

In the vast majority of reports, diagnostic confirmation was made through aqueous humor PCR[6-8,10-13], which was not performed in our case. At the onset of our patient's condition, extensive retinal necrosis and major inflammatory reaction, both anterior and posterior, led to the diagnosis of herpetic retinitis, which may also occur in Good syndrome.[14] Insufficient response to intravenous acyclovir and progression of the disease with the use of oral valaciclovir led us to the diagnosis of cytomegalovirus. Aqueous humoral PCR could have helped in this differential diagnosis. However, after the evolution of the case, we believe that there is no doubt about the diagnosis of our patient facing the expressive response of the retinal lesion to ganciclovir and all the other commemorations of the syndrome present in the case reported.

It is also important to observe the peculiarities of a cytomegalovirus retinitis in an HIV negative patient. Several authors[15-18] report more exuberant vitreitis in this situation, with conditions that even remember an acute retinal necrosis, just like ours. Good syndrome is a cause of cytomegalovirus retinitis in HIV-negative patients, and should always be investigated in this situation. Retinitis usually appears after the diagnosis of the syndrome, but there are reports in which the systemic condition was opened with retinitis.[6, 19]

References

1. Vincent T. DeVita Jr., Lawrence TS, Rosenberg SA, editors. DeVita, Hellman & Rosenberg's Cancer: principles and practice of oncology. 8 th ed. Philadelphia: LWW; 2008. Pt 3, cap. 28.
2. Kelleher P, Misbah SA. Review: What is Good's syndrome? Immunological abnormalities in patients with thymoma. J Clin Pathol. 2003;56(1):12-6.
3. Kitamura A, Takiguchi Y, Tochigi N, Watanabe S, Sakao S, Kurosu K, et al Durable Hypogammaglobulinemia Associated with Thymoma (Good syndrome). Inter Med. 2009;48(19):1749-52
4. Robinson MR, Reed G, Csaky KG, Polis MA, Whitcup SM. Immune-recovery uveitis in patients with cytomegalovirus retinitis taking highly active antiretroviral therapy. Am J Ophthalmol. 2000; 130(1):49-56.
5. Good RA, Maclean LD, Varco RL, Zak SJ. Thymic tumor and acquired agammaglobulinemia: a clinical and experimental study of the immune response. Surgery. 1956; 40(6):1010–7.
6. Downes KM, Tarasewicz D, Weisberg LJ, Cunningham ET. Good syndrome and other causes of cytomegalovirus retinitis in HIV-negative patients—case report and comprehensive review of the literature. J Ophthalmic Inflamm Infect. 2016;6:3. doi:10.1186/s12348-016-0070-7.
7. Assi A, et al. Cytomeagalovirus retinitis in patients with Good Syndrome. Arch Ophthalmol. 2002;120(4):510-2.
8. Wan C, Teoh SC. Autoimmune retinopathy in benign thymoma after good syndrome-associated cytomegalovirus retinitis. Ocul Immunol Inflamm. 2013;21(1):64-6.
9. Ho JK, Wong MM, Tai TK, Tse DM. A rare combination of recurrent pneumonia, diarrhoea, and visual loss in a patient after thymectomy: Good Syndrome. Hong Kong Med J. 2010;16(6):493-6.
10. Mateo-Montoya A, Stanescu D, Wolff B, Sahel JA, Bonnel S. Cytomegalovirus retinitis associated with Good's Syndrome. Eur J Ophthalmol. 2010;20(2):479-80.
11. Park D, Kim SY, Shin JP. bilateral cytomegalovirus retinitis with unilateral optic neuritis in Good Syndrome. Jpn J Ophthalmol. 2010;54(3):246-8.
12. Sen H, Robinson MR, Fischer SH. CMV retinitis in a patient with Good Syndrome. Ocul Immunol Inflamm. 2005;13(6):475-8.
13. Yong D, Tsang MK, Chan EY, Tse DM. Good's syndrome in a patient with cytomegalovirus retinitis. Hong Kong Med J. 2008;14(2):142-4.
14. Inomata T, Honda M, Murakami A. Atypical VZV retinitis in a patient with good syndrome. Ocul Immunol Inflamm. 2018;26(2):194-8. Disponível em http://www. tandfonline.com/doi/full/10.1080/09273948.2016.1201518
15. Silverstein BE, Conrad D, Margolis TP, Wong IG. Cytomegalovirus-associated acute retinal necrosis syndrome. Am J Ophthalmol. 1997;123(2):257-8.
16. Voros GM, Pandit R, Snow M, Griffiths PG. Unilateral recurrent acute retinal necrosis syndrome caused by cytomegalovirus in an immune-competent adult. Eur J Ophthalmol. 2006;16(3):484-6.
17. Tajunisah I, Reddy SC, Tan LH. Acute retinal necrosis by cytomegalovirus in an immunocompetent adult: case report and review of the literature. Int Ophthalmol. 2009;29(2):85-90.
18. Pathanapitoon K, Tesavibul N, Choopong P, Boonsopon S, Kongyai N, Ausayakhun S, et al. Clinical manifestations of cytomegalovirus-associated posterior uveitis and panuveitis in patients without human immunodeficiency virus infection. JAMA Ophthalmol. 2013;131(5):638-45.
19. Lee SW, Lee YW, Bae JH. Cytomegalovirus Retinitis as the First Manifestation of Good Syndrome. Ocul immunol Inflamm. [Periódico na internet] 2016 00(00) 1-3 online. Disponível em http://www.tandfonline.com/toc/ioii20/current.

Corresponding author:
Carlos Eduardo Gonçalves Pereira
Instituto Panamericano da Visão
Rua T 8 nº 171 Setor Marista, Goiânia, GO. ZIP Code 74150060.
E-mail: pereirace@gmail.com
Phone/fax: (62) 30968121