COAT'S DISEASE TREATED WITH BEVACIZUMAB (AVASTIN®)

ENFERMEDAD DE COATS TRATADA CON BEVACIZUMAB (AVASTIN®)

ÁLVAREZ-RIVERA LG1, ABRAHAM-MARÍN ML1, FLORES-ORTA HJ1, MAYORQUÍN-RUIZ M1, CORTÉS-LUNA CF1

ABSTRACT

Case Report: We report a case of Coats’ disease in a 10-year-old-girl who presented with a profound visual deficit, exudative retinal detachment, vascular telangiectasias and subretinal lipid, who underwent treatment with an intravitreal injection of bevacizumab (AVASTIN™). Serial examinations documented an involutional response with a reduction of the subretinal fluid, exudates and macular thickness.

Discussion: The aetiology of Coats’ disease remains uncertain, as does its optimal management. Although resolution of a case depends partially on age, and can even occur spontaneously on rare occasions, intravitreal injections of bevacizumab should be considered when planning treatment (Arch Soc Esp Oftalmol 2008; 83: 329-332).

Key words: Vascular endothelial growth factor, Coats’ disease, monoclonal antibodies, angiogenesis inhibitors, telangiectatic retinal vessels.

RESUMEN

Caso clínico: Se presenta el caso de una niña de 10 años de edad con enfermedad de Coats que acude por mala agudeza visual y desprendimiento exudativo de retina, telangiectasias y lípido subretiniano, a quien se le aplicó una inyección intravitrea de Bevacizumab (AVASTIN™). Revisiones subsecuentes del fondo de ojo mostraron una reducción del líquido subretiniano, exudados y disminución del grosor macular.

Discusión: La etiología de la enfermedad de Coats no es clara. Es difícil predecir la evolución de un caso y depende en parte de la edad, el tratamiento es incierto. La inyección intravitrea de Bevacizumab es una opción que puede considerarse.

Palabras clave: Factor de crecimiento vascular endotelial, enfermedad de Coats, anticuerpos monoclonales, inhibidores de angiogénesis, telangiectasias retinianas.
INTRODUCTION

Coats disease is characterized by abnormalities of the retinal vessels, which include telangiectasia, the formation of aneurysms and subretinal and intraretinal spots.

It commonly occurs in childhood with leukochoxia, bad visual acuity and/or strabismus. It mainly affects males in the first decade of life. The treatment is focused on reducing and eliminating the telangiectasic vessels by means of photocoagulation with laser or cryotherapy. If the treatment is successful it produces reabsorption of the exudate that can last for months. However, the visual prognosis depends on the macular affection involvement. In some cases the progression produces retina detachment, glaucoma and painful eye that may require enucleation.

CASE REPORT

A 10-year old female patient with loss of visual acuity in left eye (LE) over 1 year. The patient’s best corrected visual acuity was finger counting at 50cm. The anterior segment was normal, but upon funduscopy a detachment of the serous retina associated to subretinal spots in the posterior pole was observed, as well as microaneurisms and telangiectasia at half periphery (fig. 1). The examination of the right eye was normal. A Fluorescein Angiography (FA) was performed in which multiple microaneurisms were detected that produced leaking and an accumulation of coloring in the subretinal space. An Optical Coherence Tomography (OCT) was carried out in which a separation between the neurosensorial retina and the pigmented epithelium of the retina (PER) was seen. The patient had no important clinical history and she was diagnosed with Coats disease. It was decided to apply intravitreous bevacizumab (AVASTIN™) at a dosage of 2.5mg/ 0.1 ml. A photographic control was performed by means of an FA and OCT at one month and at three months. A reduction in the subretinal liquid was found, as well as a reduction in the microaneurisms and telangiectasia and a redistribution of the exudates (fig. 2). The greater best corrected visual acuity 1 month after the injection was finger counting at 1 metre, and this was maintained during the follow up.

Fig. 1: A) Initial aspect of eye fundus showing the subretinal and intraretinal lipidic exudates, B) one month later the intravitreous injection of bevacizumab that shows a diminishing of the exudates and, C) three months after the injection of bevacizumab. The reduction of subretinal liquid is appreciable although there are still hard exudates remaining.
**DISCUSSION**

Bevacizumab is a humanized IgG monoclonal antibody that joins and inhibits the biological activity of the vascular endothelial growth factor (VEGF) in all its human isoforms (1).

In clinical practice many authors have found that the intravitreous application of bevacizumab has a biological effect on the treatment of macular edema, subretinal liquid and peelings of EPR associated to the age-related macular degeneration, as well as macular edema associated to venous occlusions and diabetic retinopathy. All these share an increase of angiogenic factors (2, 3).

The etiology of Coats disease remains unclear. Different vascular findings have been described involving the venous and arterial system. The initial findings and the triggering factors are unknown. The best treatments for cases of Coats disease that have retina detachment are still uncertain. Some authors have suggested that cryotherapy is most effective in the most serious cases (4). Laser photo-coagulation is only effective if the retina is not detached. One of the most common complications with Coats disease is neovascular glaucoma or angular closure for which different surgical treatments have been proposed (5). One publication on Coats disease has shown high levels of VEGF that diminish after intravitreous injection of sodium pegaptanib, an antiangiogenic directed to VEGF. The retinal ischemic component in the telangiectatic areas and the neovascularization processes show the importance of the angiogenic factors in the disease.

It has been suggested that bevacizumab lacks long term sustained effect. Until now our patient has shown no deterioration of the condition, and thus we must lengthen the observation time.

The treatment of patients affected by Coats disease by means of intravitreous application of bevacizumab should be the object of analysis by means of a prospective study of standardized variables that would be able to show a greater evolution of the disease before the treatments proposed to date.

**REFERENCES**


