

Bilateral Congenital Toxoplasmosis Complicated by Choroidal Neo-Vessels: A Case Report

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Abstract:- Toxoplasmosis is an infection caused by the parasite Toxoplasma Gondii. This infection can affect immunocompromised hosts but also immunocompetent ones. In our context, direct maternal-fetal transmission is the mode of transmission responsible for congenital toxoplasmosis despite screening efforts. We report the case of a little girl with congenital toxoplasmosis complicated by neovessels.

I. INTRODUCTION

Ocular toxoplasmosis is a parasitic infection due to *Toxoplasma Gondii*, an obligate intracellular parasite, which can affect the immunocompetent and immunocompromised.

The seroprevalence of *Toxoplasma Gondii* infection remains high in Africa and South America, probably due to certain socioeconomic conditions and certain customs and dietary habits specific to each region. (1)

The eye is one of the target organs of *Toxoplasma Gondii* infection. It is estimated to be responsible for the majority of infectious posterior uveitis in adults and children. The main reasons for consultation are decreased visual acuity, pain and photophobia. In cases of congenital infections, there is a much severe and serious functional impairment with a predilection for the macular region.

Congenital toxoplasmosis is therefore a blinding infection that must be diagnosed early, hence the importance of insisting on monitoring pregnancies and screening for all maternal-fetal infections.

We report the case of a 12-year-old girl, without any particular history, who was referred to the consultation for a decreased visual acuity observed by her parents.

The examination revealed a visual acuity of 2/10 in the OD and 1/10 in the OS. The anterior segment was without any particularity. The fundus showed a papillitis on the right eye, with a hyalitis adjacent to a macular lesion. In the left eye, the examination revealed a normal optic disc with an active macular lesion, raising suspicion of ocular toxoplasmosis. The diagnosis was confirmed by toxoplasma serology (IgG positive, chronic phase of the infection). An angiography was performed which confirmed the active macular lesion on the left eye, and the hyalitis and papillitis on the right eye. Additional macular OCT revealed neovessels complicating the right and left macular sites respectively. In view of this picture, a treatment was undertaken (Trimetoprim -Sulfametoxazole) with the adjunction of an oral corticotherapy 48h after the beginning of the antibiotic treatment. The patient also received an intravitreal injection of Bevacizumab in both eyes.

The evolution was highlighted by the healing of the macular focus and regression of the neovessels, with a final visual acuity of 8/10 on the right and 4/10 on the left.

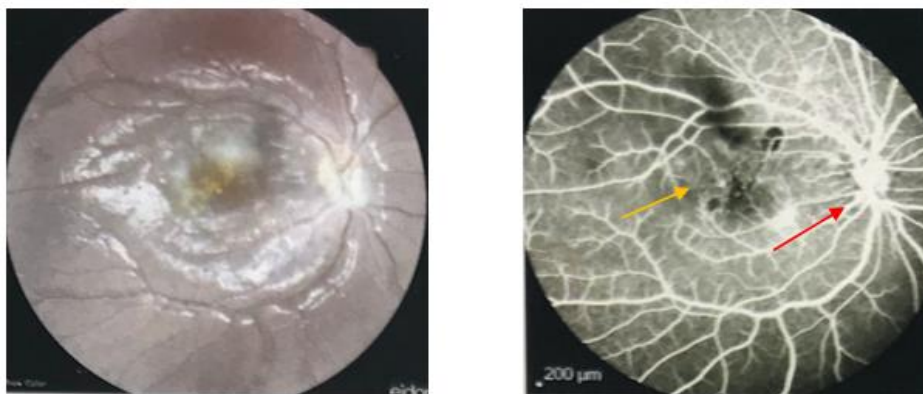


Fig 1 :OD : retinal angiography showing the macular lesion (yellow arrow), papillitis (red arrow)

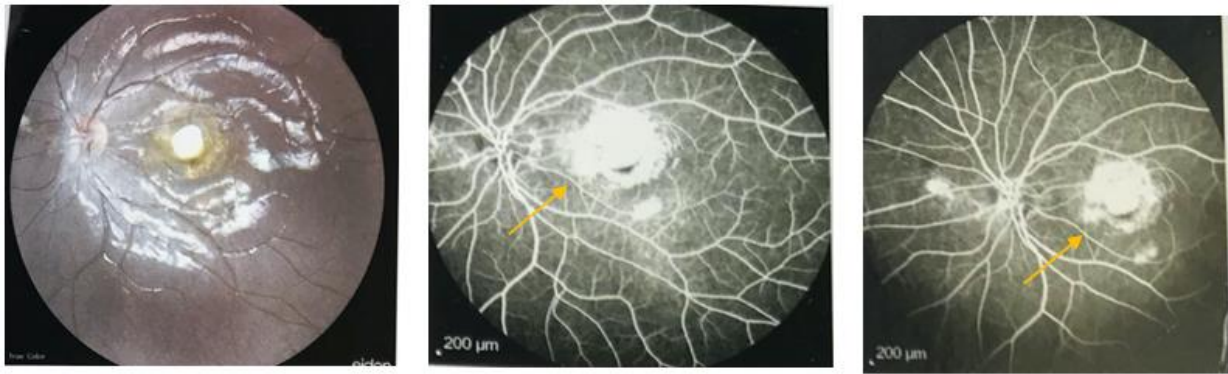


Fig 2 :OS: retinal angiography showing the active macular chorioretinal lesion (yellow arrow)



Fig 3 :OD : Macular OCT showing a fusiform elevation related to a neovessel (yellow arrow) with a discrete thickening facing it (white arrow)

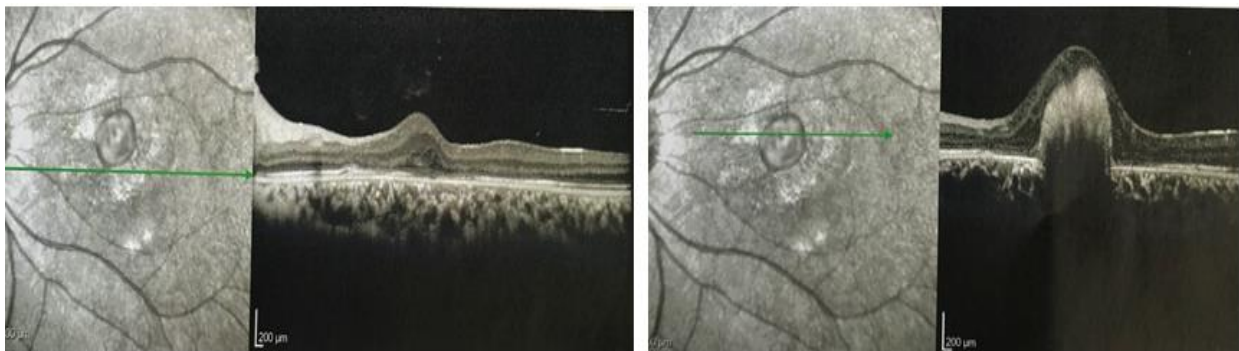


Fig 4 :OS: Macular OCT showing the chorioretinal lesion with a neovessel

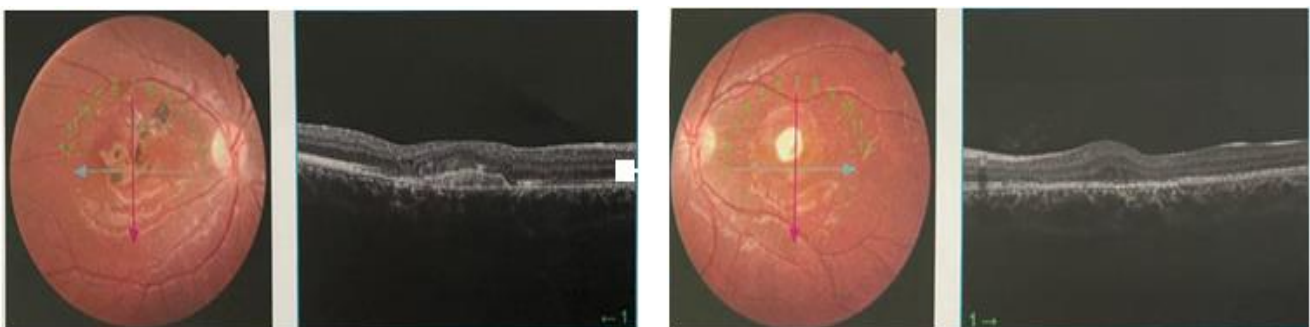


Fig 5a: Final scar aspect OD: pigmented scarring
Fig 5b: Final scar aspect OS: central white macular focus

II. DISCUSSION

In Africa, the seroprevalence of toxoplasmosis remains high, with an African average of 35% (2). Khairallah in Tunisia found that it was responsible for 38.3% of posterior uveitis, and in the Congolese series by Lusambo, toxoplasmosis was responsible for 22.8% of uveitis(1,3). Unfortunately, these studies report the seroprevalence of ocular toxoplasmosis in adults, without including children. The lack of pediatric series is an obstacle to the evaluation of the prevalence and effectiveness of the screening protocols in place.

Congenital toxoplasmosis is associated with more severe lesions than the adult form with a predilection for the macular region, as in our patient. During the 1st trimester, the materno-fetal transmission is lower than 10% but with more severe lesions, contrary to the 3rd trimester where the risk of transmission is higher than 60% with less severe lesions (4). In a review of the literature conducted in the United States, no risk factor or exposure was found in 50% of infected pregnant women (4). In view of the macular retinal lesions favored, ocular toxoplasmosis is a functional disease with a significant risk of blindness. The most frequent complications of ocular toxoplasmosis are macular scarring, cataracts and retinal detachment, which are more important in children than in adults(4). Strabismus is frequently found in children with macular scars(5) Furthermore, there have been no convincing results concerning the treatment of amblyopia on toxoplasmic macular lesions (5).

Khairallah, Ben Yahia and Shah reported cases similar to the one reported in this article, a neovessel complicating a chorio-retinal scar of toxoplasmosis for which the patients benefited from an intravitreal injection of anti-VEGF, respectively Bevacizumab for Khairallah and Ben Yahia and Ranibizumab for Shah with complete resorption of the neovessel (6-8) They report that it is an important cause of decreased visual acuity in young subjects with maculopathy, and its development is due to inflammation during the active phase of the infection associated with rupture of Bruch's membrane. They also report that IVT of anti-VEGF is recommended in the management of neovessels associated or not with an antiparasitic antibiotic treatment, depending on the activity of the toxoplasmic focus (6-8). In our case the patient received an intravitreal injection of Bevacizumab associated with a systemic antiparasitic treatment in regard to the activity of the chorioretinal focus in the left eye.

The ocular manifestations of toxoplasmosis can be very variable, with chorioretinal involvement being the most common. However, other manifestations have been reported in the literature (optic nerve atrophy, vitreo-macular traction, choroidal neovascularization...). All these manifestations have been observed after chorioretinal damage(4). This requires the identification of patients at risk and the establishment of regular follow-up in order to detect these disorders as early as possible.

The functional prognosis is a major issue and requires early and neonatal screening in countries where seroprevalence remains high. As is the case in France and Morocco, screening for toxoplasmosis is included in the follow-up of each pregnancy, but unfortunately in our context, some cases still escape diagnosis, which can be explained by the difficulty of access to care in certain regions. Primary prevention remains an easy, achievable and effective means that must be constantly recalled in order to obtain optimal maternal-fetal health care in our context.

III. CONCLUSION

Ocular toxoplasmosis remains a frequent pathology in our context. Macular lesions constitute a formidable complication because of the blindness they cause. Most patients consult at the stage of complications, notably chorioretinal neovascularization. Intravitreal anti-VEGF injections have shown significant efficacy in the management of these complications. However, further studies should be conducted to certify these data.

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