

# Rapid resolution of toxoplasma chorioretinitis treatment using quadruple therapy

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**Purpose:** To compare the effectiveness of quadruple-drug therapy consisting of cotrimoxazole (trimethopim and sulfamethoxazole), clindamycin antibiotics, and oral corticosteroid versus triple therapy consisting of pyrimetamine, sulphadiazine, and oral corticosteroid in the resolution of toxoplasmic chorioretinitis.

**Methods:** This was a double-blind randomized controlled trial with repeated measures using parallel design to compare the effectiveness of quadruple-drug therapy and triple-drug therapy in patients with toxoplasmic chorioretinitis. The measurement of lesion was done using automated computer software, calculating the average of lesion size from three fundus photographs taken from the baseline and at each follow-up visit. The analytical statistics were obtained using Mann–Whitney test, comparing percentage of lesion remission test in each examination.

**Results:** The percentage of lesion remission in quadruple-drug therapy was higher than in triple-drug therapy from the first visit until the first follow-up visit, with a  $p$ -value of 0.001. In addition, the mean percentage of lesion remission from first visit to last visit was 57.5% and the median was 70.9% in the quadruple therapy group, while in the triple-drug therapy group the mean was 52.5% and the median was 54.0% ( $p=0.720$ ).

**Conclusion:** We conclude that the quadruple-drug therapy has a more rapid resolution effect on chorioretinitis lesion compared to triple therapy.

**Keywords:** toxoplasma chorioretinitis, quadruple-drug therapy, triple-drug therapy

## Introduction

Ocular toxoplasmosis is a form of chorioretinitis caused by *Toxoplasma gondii* that is a potential cause of posterior uveitis that could lead to blindness. It is a progressive, recurring, and necrotizing condition, is associated with inflammation of the vascular structures of the retina and vitreous, and has a predilection to occur in the posterior pole in more than 50% of cases.<sup>1</sup>

Symptoms of ocular toxoplasmosis usually include a unilateral decrease in vision with floaters, accompanied by signs of anterior uveitis, and around 20% of patients have increased intraocular pressure. In the posterior segment, the condition classically appears as focal, grayish-white retinitis with overlying moderate vitreous inflammation, often adjacent to a pigmented chorioretinal scar. Although in most instances the diagnosis of toxoplasma chorioretinitis is predominantly clinical, the presence of anti-*T. gondii* IgG antibodies supports the diagnosis to a certain extent, whereas a negative antibody titer essentially rules out the diagnosis.

Visual loss caused by ocular toxoplasmosis arises from complications due to structural changes per se and the effects of associated intraocular inflammation.<sup>2</sup> As the focal lesion of necrosis of the retina and choroid heals, a permanent punched-out retinochoroidal scar will develop; due to the high prevalence of the lesion occurring at the posterior pole, sight

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