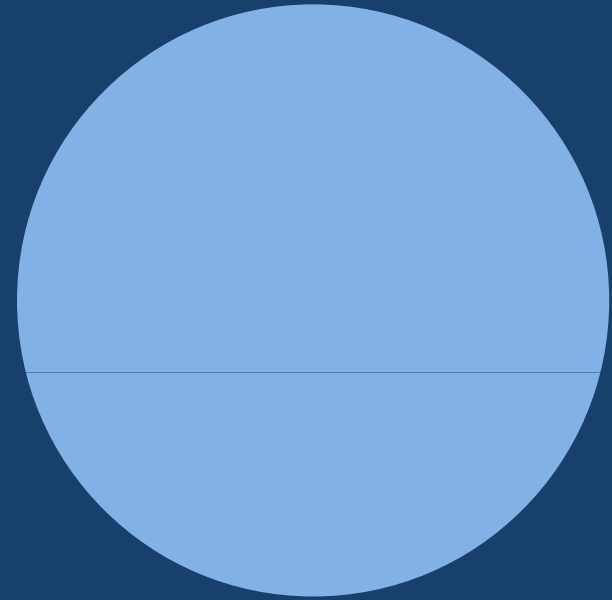


UVEITIS INFECCIOSAS EN NIÑOS

Cristóbal Couto
UNIVERSIDAD DE BUENOS
AIRES



UVEITIS INFECCIOSAS EN NIÑOS

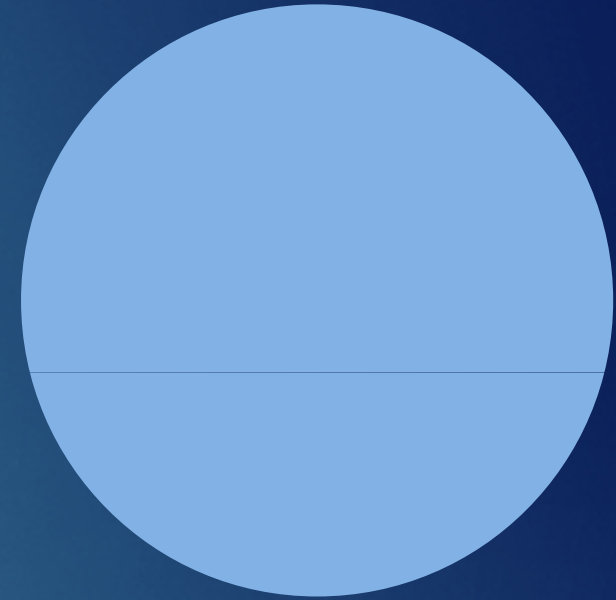
- Uveitis menores de 16 a. : 6 – 30 %
- Severa / Complicaciones (alto riesgo)----- Pérdida visual severa
- Asintomática /preverbal/ incapaz de manifestar síntomas
- Dificultad en examen : retardo en el diagnóstico AMBLIOPÍA
- Causas de uveitis # adulto .
- Uveitis y Artritis juvenil idiopática: ppal causa no infecciosa
- Toxoplasmosis : ppal causa infecciosa
- Tratamiento : desafío
 - ↗ corticoides y retardo en el crecimiento
 - ↘ drogas específicas: dosis y efectos adversos

INFECCIONES INFECCIOSAS EN NIÑOS

- Retinocoroiditis por toxoplasma
- Retinitis necrotizante herpética
- Toxocariasis
- Neurorretinitis por Bartonella henselae/nematode
- Candidiasis ocular

Infección congénita - TORCH -

- Toxoplasmosis Rubeóla
- Citomegalovirus
- Herpes simplex virus



Characteristics of childhood uveitis leading to visual impairment and blindness in the Netherlands

Wendje M. Hettinga,^{1,2,*} Fleurieke H. Verhagen,^{1,*} Maria van Genderen² and Joke H. de Boer¹

Acta Ophthalmol. 2014; 92: 798–804

ABSTRACT.

Purpose: To investigate the clinical characteristics of childhood uveitis leading to visual impairment or blindness.

Methods: In this descriptive study, we reviewed data from the medical records of 58 children with visual impairment or blindness due to childhood uveitis, which were seen at an institute for visually impaired patients (Bartiméus) between January 1981 and December 2012, in a retrospective, cross-sectional manner.

Table 1. General patient characteristics.

	<i>N</i> (<i>n</i> = 58)	Median (IQR*)
Gender		
Male	32 (55%)	
Female	26 (45%)	
Age at diagnosis [†]		0.9 years (0.2–4.8)
Age at first consult		5.9 years (2.4–9.7)
Time between diagnosis and intake [†]		2.5 years (0.8–5.5)
Anatomical diagnosis		
Anterior	3 (5%)	
Intermediate	3 (5%)	
Posterior	44 (76%)	
PAN-uveitis	8 (14%)	
Aetiological diagnosis		
Infectious		
Congenital	37 (64%)	
Acquired	6 (10%)	
Non-infectious		
Systemic disease	5 (9%)	
Idiopathic	10 (17%)	
Visual handicap		
Visually impaired	32 (55%)	
Legally blind	26 (45%)	
Medication before intake[‡]		
No medication	20 (35%)	
Topical only	6 (10%)	
Systemic	7 (12%)	
≥2 systemic medications	18 (31%)	

Table 2. Diagnoses of children with blindness or visual impairment due to uveitis.

Aetiological group	Aetiological diagnosis	<i>N</i>	Percentage of aetiological group (%)	Percentage of total (%)
Infectious	Congenital			
	Toxoplasmosis	20	47	35
	CMV	8	19	14
	Rubella	8	19	14
	HSV	1	3	2
	Acquired			
	CMV	2	5	4
	HSV	1	2	2
	Measles	1	2	2
	Endogenous endophthalmitis	1	2	2
Candida	1	2	2	

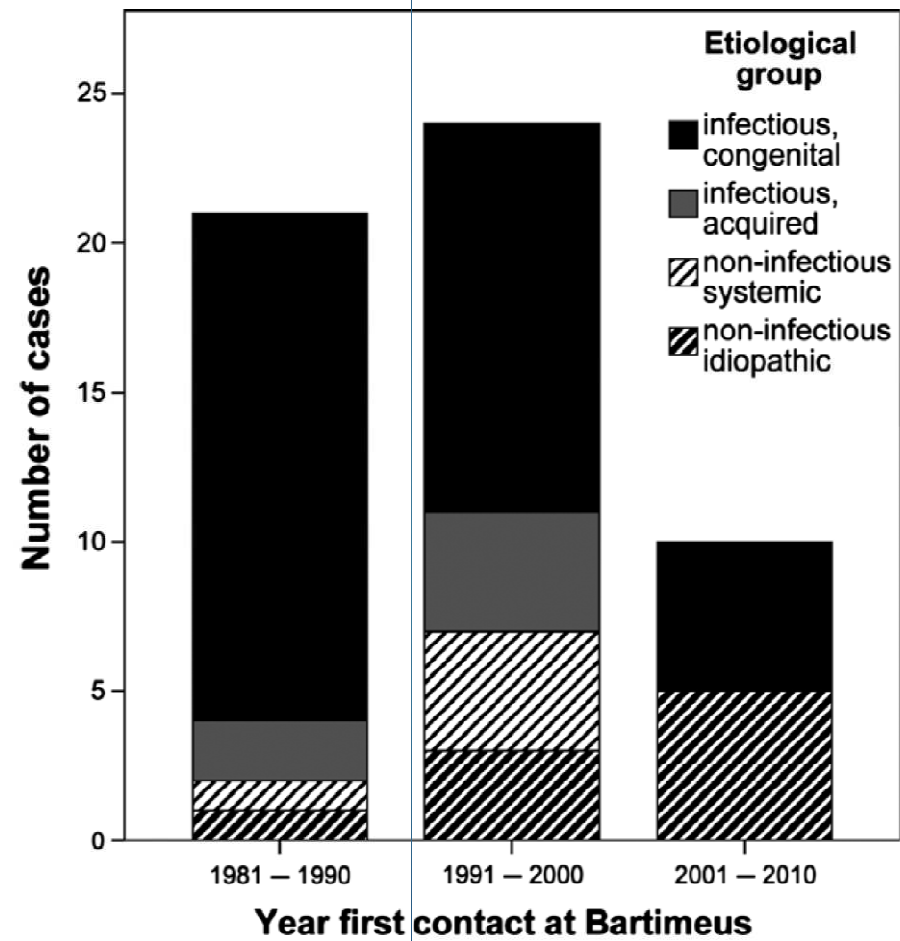
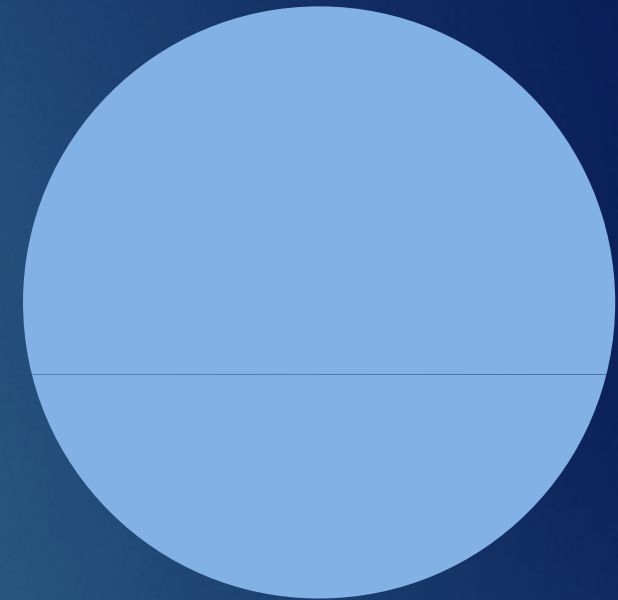


Fig. 1. Distribution of aetiological diagnosis of children with visual impairment and blindness due to uveitis presenting at Bartiméus grouped per 10 years.

Table 3. Main cause of visual loss in children with uveitis.

	No. of eyes <i>n</i> = 112
Macular scar	45 (40%)
Cataract	23 (21%)
Retinopathy/retinal atrophy	12 (11%)
Optic disc atrophy	7 (6%)
Phthisis	6 (5%)
Vitreous opacities	5 (5%)
Glaucoma	3 (3%)
Cystoid macular oedema	3 (3%)
Intracerebral pathology	3 (3%)
Retinal detachment	2 (2%)
Other*	2 (2%)
Miscellaneous	1 (2%)

* Amblyopia not related to uveitis *n* = 2.



Epidemiology and Outcomes of Pediatrics Uveitis in Argentina

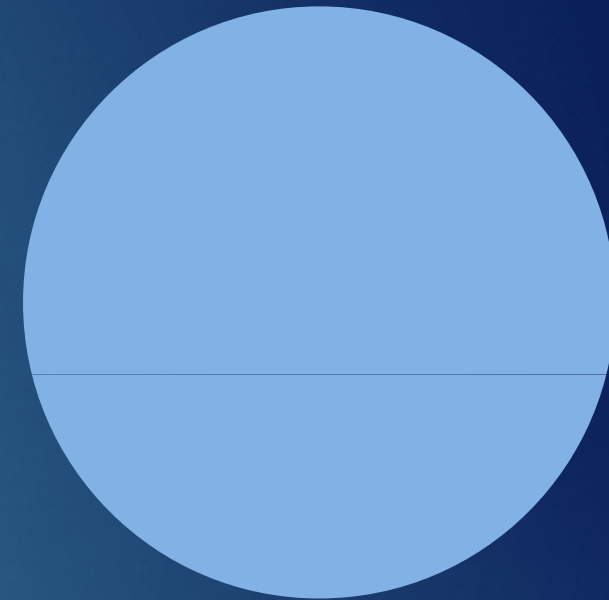
METHODS

Databases from the uveitis clinic at the Hospital de Clínicas José de San Martín and the Hospital de Niños Ricardo Gutiérrez both from the city of Buenos Aires, were reviewed between January 1, 2006 and October 1, 2014. All patients with a diagnosis of uveitis and aged 0-16 years were included. *Data was retrieved retrospectively from the initial and final visit.*

Epidemiology and Outcomes of Pediatrics Uveitis in Argentina

Ages	N	(%)
<1 year	42	16,40
1-5 years	48	18,75
6-10 years	80	31,25
11-16 years	86	33,60
Total	256	100

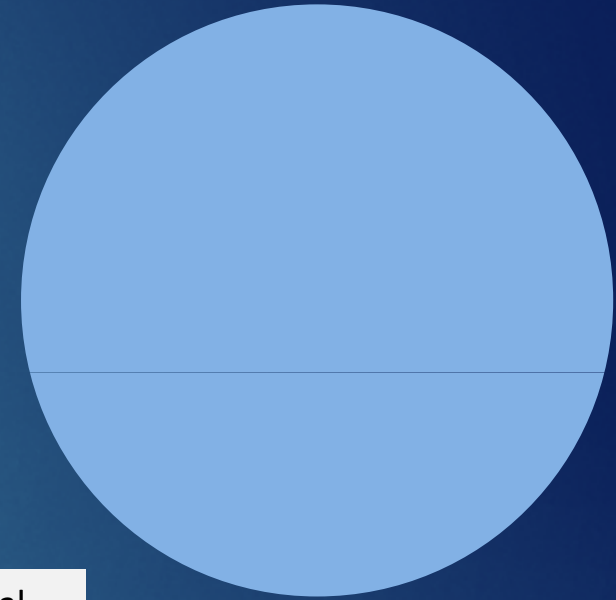
Ages	Hospital Gutierrez	Hospital de Clinicas	Total
<1 year	41	1	42
1-5 years	44	4	48
6-10 years	65	15	80
11-16 years	47	39	86
Total	197	59	256



Epidemiology and Outcomes of Pediatrics Uveitis in Argentina

UNILATERAL (133, 51.9%),
GRANULOMATOUS (144, 56.3%)

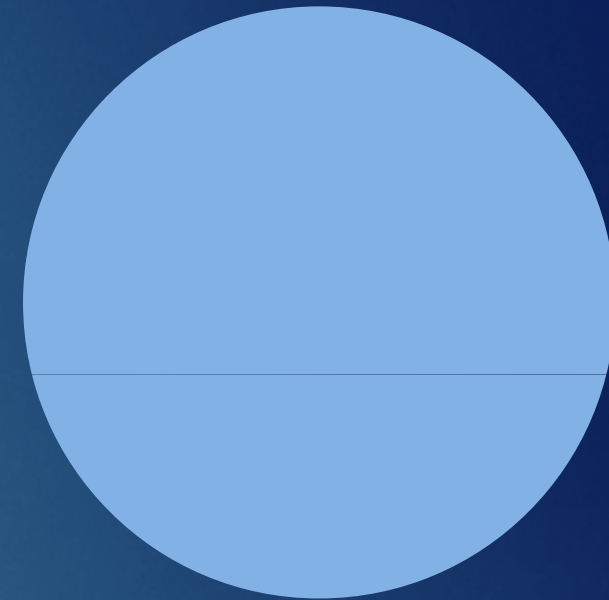
Anatomic location	N	(%)
Anterior	80	31,25
Intermediate	26	10,15
Posterior	119	46,50
Panuveitis	31	12,10
Total	256	100,00



Anatomic location	Hospital Gutierrez	Hospital de Clinicas	Total
Anterior	55	25	80
Intermediate	21	5	26
Posterior	106	13	119
Panuveitis	15	16	31
Total	197	59	256

Epidemiology and Outcomes of Pediatrics Uveitis in Argentina

Etiology	Number of Patients (%)
Toxoplasmosis	97 (37.9)
Juvenile idiopathic arthritis	41 (16.0)
Toxocariasis	30 (11.7)
Idiopathic	28 (10.9)
Pars planitis	21 (8.2)
Unknown	13 (5.1)
Vogt-Koynagi-Harada	12 (4.7)
Herpes simplex virus	3 (1.2)
Cytomegalovirus	3 (1.2)
Bacterial endophthalmitis	2 (0.8)
Sarcoidosis	2 (0.8)
HLA-B27	1 (0.4)
Ocular cicatricial pemphigoid	1 (0.4)
Interstitial keratitis	1 (0.4)
Schwartz syndrome	1 (0.4)
Sympathetic ophthalmia	1 (0.4)



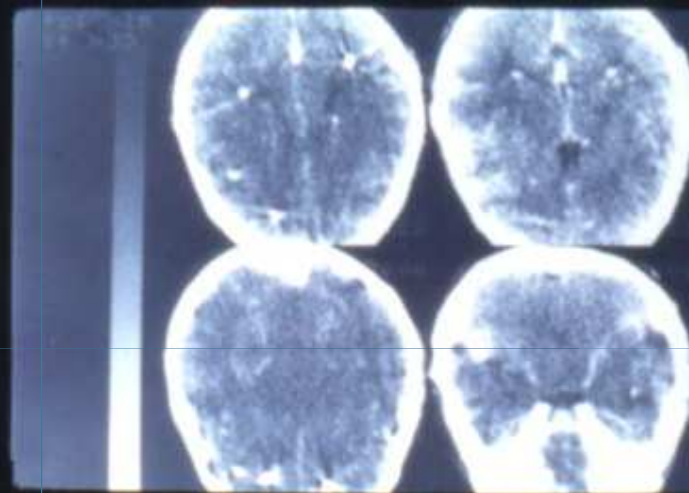
Epidemiology and Outcomes of Pediatrics Uveitis in Argentina

Etiology	Hospital Gutierrez	Hospital de Clinicas	Total
Toxoplasmosis	91	6	97
Juvenile idiopathic arthritis	26	15	41
Toxocariasis	20	10	30
Idiopathic	23	5	28
Pars planitis	16	5	21
Unknown	8	5	13
Vogt-Koynagi-Harada	6	6	12
Herpes simplex virus	1	2	3
Cytomegalovirus	3	0	3
Bacterial endophthalmitis	2	0	2
Sarcoidosis	1	1	2
HLA-B27	0	1	1
Ocular cicatricial pemphigoid	0	1	1
Interstitial keratitis	0	1	1
Schwartz syndrome	0	1	1
Sympathetic ophthalmia	1	0	1
Total	198*	59	257*

Toxoplasmosis



Toxoplasmosis



Congenital Toxoplasmosis in Southeastern Brazil: Results of Early Ophthalmologic Examination of a Large Cohort of Neonates

Corresponding author: *Luciana de Aguiar Vasconcelos-Santos, MD, PhD,^{1,2} Danuza O. Machado Azevedo, MD, PhD,¹ Campos, MD, PhD,¹ Fernando Oréfice, MD, PhD,¹ Gláucia M. Queiroz-Andrade, MD, PhD,^{2,3} Machado Carellos, MD, MSc,^{2,3} Roberta M. Castro Romanelli, MD, PhD,^{2,3} Januário, MD, MSc,^{2,4} Luciana Macedo Resende, MSc,⁵ Olindo Assis Martins-Filho, MSc, PhD,⁶ Luciana de Aguiar Vasconcelos Carneiro, MSc,⁷ Ricardo W. Almeida Vitor, MSc, PhD,⁷ and Alexandre Teixeira Caiaffa, MPH, PhD,⁸ for the UFMG Congenital Toxoplasmosis Brazilian Group*

Objective: To report results of early ophthalmologic examinations in a large cohort of newborns with congenital toxoplasmosis (CT) after neonatal screening.

Design: Cross-sectional analysis of a cohort.

Patients: A total of 178 newborns with confirmed CT from 146,307 screened babies (95% of live births) in Minas Gerais state, southeastern Brazil.

Methods: From November 2006 to May 2007, newborns underwent neonatal screening by immunoglobulin G (IgG) in dried blood samples. On all positive or suspected cases, confirmative serology was performed on the newborns and their mothers. Congenital toxoplasmosis was confirmed in newborns who had IgM and/or IgA and IgG associated with suggestive ocular lesions (with IgM and IgG in the mother). Ophthalmologic examination consisted of indirect ophthalmoscopy with a lid speculum. Pediatric examination and radiologic examination of the central nervous system were also performed. In selected cases, biomicroscopy of the anterior chamber and fundus photographs, or ultrasonography (B-scan) was performed.

Outcome Measures: Prevalence of retinochoroidal lesions, either cicatricial or active, and their associated findings, such as vascular sheathing, hemorrhage, vitreous opacities, and retinal detachment, were evaluated. The occurrence of cataract, microphthalmia, microcephaly, intracranial calcification, and hydrocephalus was also recorded.

Results: Of 146,307 neonates screened, 190 had CT, yielding a prevalence of 1 in 770 live births, of whom 142 (74.2%) underwent standardized ophthalmologic examination at an average age of 55.6 ± 16.6 days. Of these 142, 142 (79.8%) had retinochoroidal lesions consistent with CT in at least 1 eye. Bilateral involvement was observed in 113 patients (63.5%). Macular involvement was seen in 165 eyes (46.3%) of 111 patients (62.4%). Lesions were observed in 142 eyes (39.9%) of 85 patients (47.8%). These lesions were located in the macula in 75 eyes (21.1%) and were associated with retinal vascular sheathing in 44 eyes (12.4%).

Conclusions: A high prevalence of CT was encountered (1/770) with high rates of early retinochoroidal lesions (~80%) and many active lesions (in ~50%), indicating a possibly more severe ocular involvement in Brazil than in other parts of the world. The hypotheses of higher parasite virulence and increased host susceptibility are being currently investigated.

146.307: Recién nacidos (6 meses)

190 : Toxoplasmosis congénita (1/770)

178 : Examen oftalmológico (93,7%)

142: Retinocoroiditis (79,8%)

113: Bilateral (63,5%)

Longitudinal Study of New Eye Lesions in Children with Congenital Toxoplasmosis Who Were Not Treated During the First Year of Life

Phan, Kristen Kasza, Jessica Jalbrzikowski, A. Gwendolyn Noble, Paul Latkany, William Mieler, Sanford Meyers, Peter Rabiah, Kenneth Boyer, Charles Swisher, Marilyn Mets, Nancy Roizen, Simone Cezar, Mari Sautter, Jack Remington, Paul Meier, and Rima McLeod, on behalf of the Toxoplasmosis Study Group

To determine the incidence of new chorioretinal lesions in children with toxoplasmosis diagnosed before or not treated during their first year of life, a prospective longitudinal cohort study.

Thirty-eight children were evaluated in between 1981 and 2005 for new chorioretinal lesions. Thirty-eight children and mothers had serum tested for *Toxoplasma gondii*.

Twenty-eight of 38 children had one of the following diagnoses with serum antibody to *T. gondii*: chronic infection at age 24 months, central nervous system calcifications, hydrocephalus, illness with congenital toxoplasmosis perinatally but undetected at that time. Twenty-five returned for follow-up between 1981 to 2005. Their mean (range) age was 10.9 ± 5.7 (range, 3.5 to 27.2) years. Follow-up was 5.7 ± 2.9 years. Eighteen children developed at least one new lesion. Thirteen had new central lesions, 11 (44%) had new peripheral lesions, and six (24%) had both. Thirteen new lesions diagnosed at age ≥10 years. New lesions found at more than one visit in four (22%), 11 new lesions developed in seven (39%) of 18 children who developed new lesions. Of 10 additional eye findings and serologic tests indicative of toxoplasmosis, six returned for follow-up, four (67%) had new lesions at ≥10 years of age.

CONCLUSIONS: More than 70% developed new chorioretinal lesions. New lesions were commonly diagnosed after the first year of life. (Am J Ophthalmol 2008;146:115-120. © 2008 by Elsevier Inc. All rights reserved.)

CONGENITAL TOXOPLASMOSES THAT WAS UNTREATED or treated only for one month has been described in a small series of patients as a relapsing, recrudescing disease causing significant visual impairment.^{1,2} However, the prospective follow-up into adolescence of chorioretinal lesions in children with congenital toxoplasmosis, other than a small group of those with congenital toxoplasmosis diagnosed at birth and treated during the first year of life, has not been rigorously defined. Herein we describe a cohort of 38 children with toxoplasmosis presenting after one year of age, who were followed prospectively in a single center according to a standardized protocol.

METHODS

• **DESIGN OF STUDY:** The children in this study and their mothers were referred by their physicians and evaluated at the University of Chicago by a group of specialists at the onset of enrollment into the study and later at prespecified times: 1, 3.5, 5, 7.5, 10, 15, 20, 25, 30, 35, 40, and 45 years of age.^{3,4} Written informed consent was obtained from all parents or legal guardians of participating minor-age children and/or directly from the patient (if of legal adult age).

• **PATIENT COHORT:** This cohort consists of 38 persons who were children at the time of diagnosis of their ocular toxoplasmosis, who, with their mothers, had nonacute serologic tests for *Toxoplasma gondii* infection at the time their contact with the Chicago Toxoplasmosis Center was initiated. They were not diagnosed until after their first

Longitudinal Study of New Eye Lesions in Treated Congenital Toxoplasmosis

Laura Phan, MPH,¹ Kristen Kasza, MS,² Jessica Jalbrzikowski, BA,¹ A. Gwendolyn Noble, MD, PhD,³ Paul Latkany, MD,^{1,4} Annie Kuo, BS,¹ William Mieler, MD,¹ Sanford Meyers, MD,¹ Peter Rabiah, MD,⁵ Ken Boyer, MD,⁵ Charles Swisher, MD,³ Marilyn Mets, MD,³ Nancy Roizen, MD,^{1,6} Simone Cezar, MD,⁷ Jack Remington, MD,⁷ Paul Meier, PhD,^{1,8} Rima McLeod, MD,¹ Toxoplasmosis Study Group*

Objective: To determine the incidence of new chorioretinal lesions in patients with congenital toxoplasmosis who were treated throughout their first year of life.

Design: Prospective longitudinal observation of a cohort.

Participants: One hundred thirty-two children were studied as part of the longitudinal observation.

Methods: One hundred thirty-two children were treated during their first year of life with pyrimethamine, sulfadiazine, and leucovorin. They had eye examinations at prespecified intervals.

Main Outcome Measures: New chorioretinal lesions on fundus examination and fundus photography.

Results: The mean age (± standard deviation) is 10.8±5.1 years (range, 0.2–23). One hundred eighty-two children have been evaluated for new chorioretinal lesions. Thirty-four (31%; 95% confidence interval, 23%–41%) children developed at least one chorioretinal lesion that was previously undetected. These occurred at a mean age of 10.8 years. Fifteen children (14%) developed new central lesions, and 27 (25%) developed new lesions peripherally. Ten (9%) had more than one occurrence of new lesions developing in both eyes. Of those who developed new lesions, 14 children (41%) did so at or later than 10 years of age.

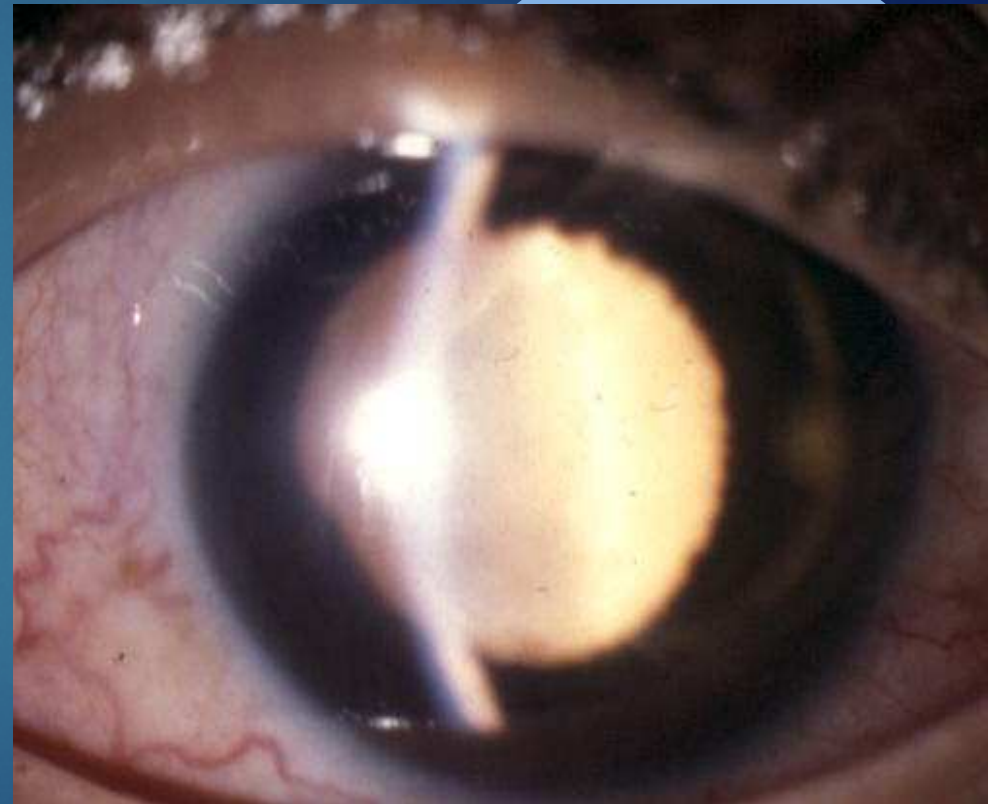
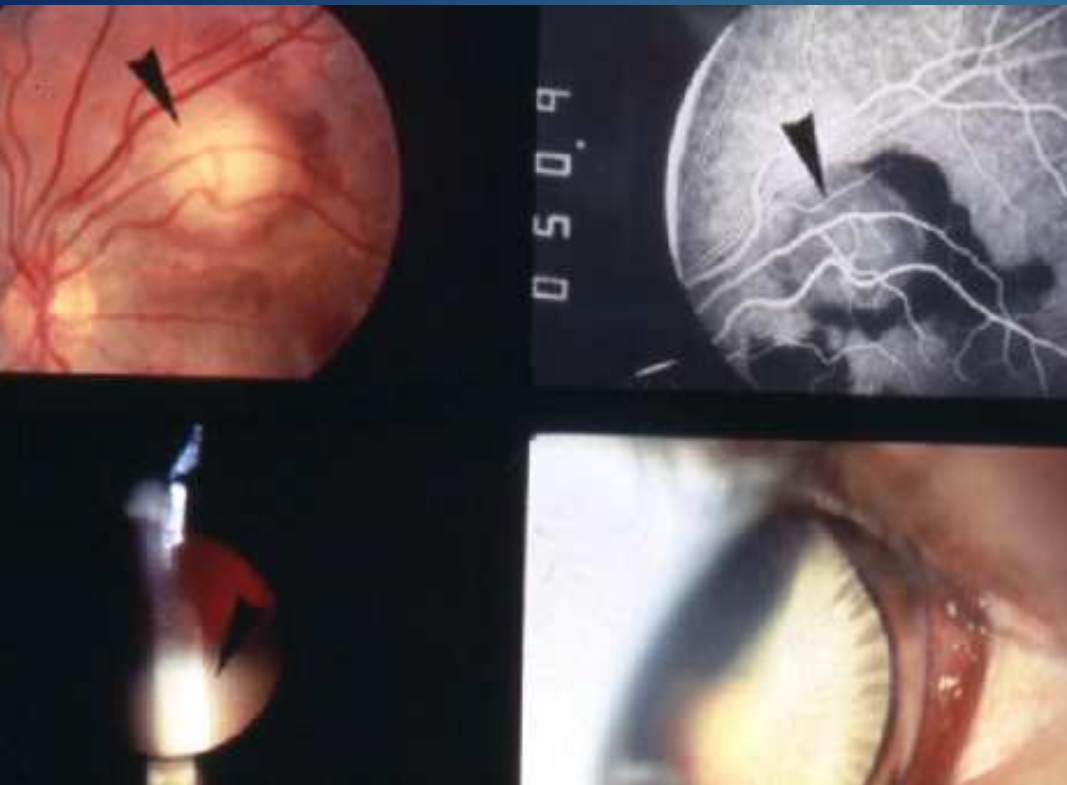
Conclusion: New central chorioretinal lesions are uncommon in children with congenital toxoplasmosis who are treated during their first year of life. This finding contrasts markedly with earlier reports in the literature for untreated children or those treated for only 1 month near birth, in whom new lesions were much more common (≥82%). Our observation that 14 (41%) of the 34 children with new chorioretinal lesions had occurred at or later than 10 years of age indicates that long-term follow-up into the second decade of life is important in assessing the efficacy of treating toxoplasmosis during infancy. *Ophthalmology* 2008;115:553–559 © 2008 by the American Academy of Ophthalmology.

	Non-treated		Treated	
One new lesion	18/38	72(%)	34/108	31(%)
New central lesion	13/38	52(%)	15/108	14(%)
New peripheral lesion	11/38	44(%)	27/108	25(%)

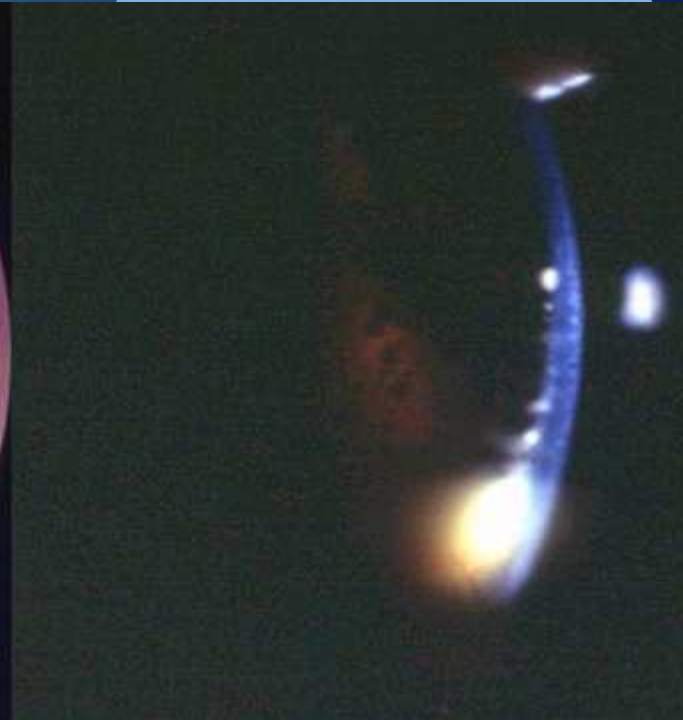
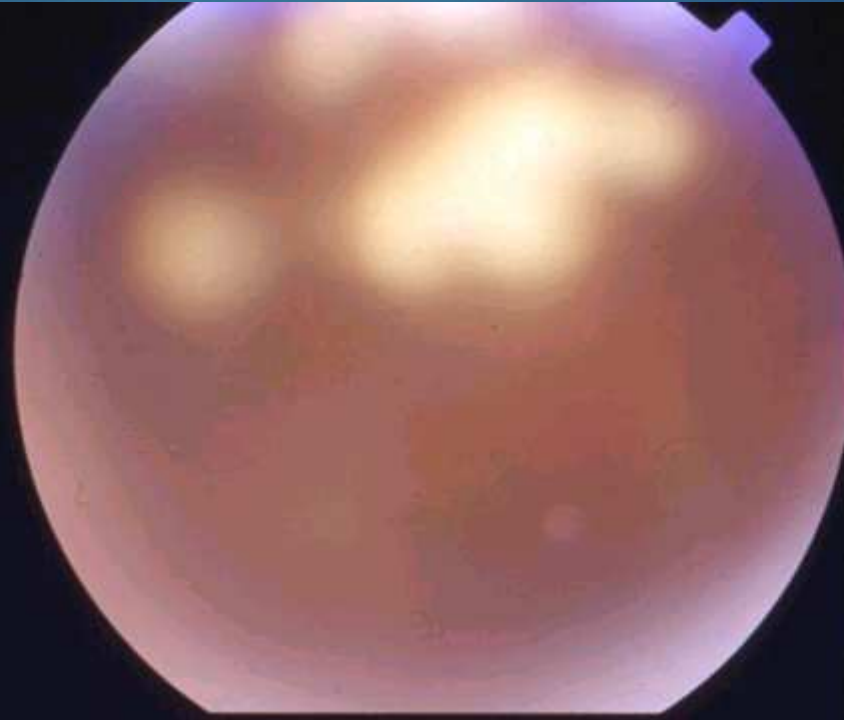
Bartonella henselae : Enfermedad del arañazo del gato



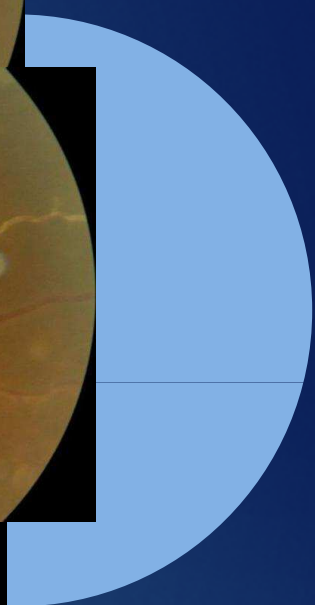
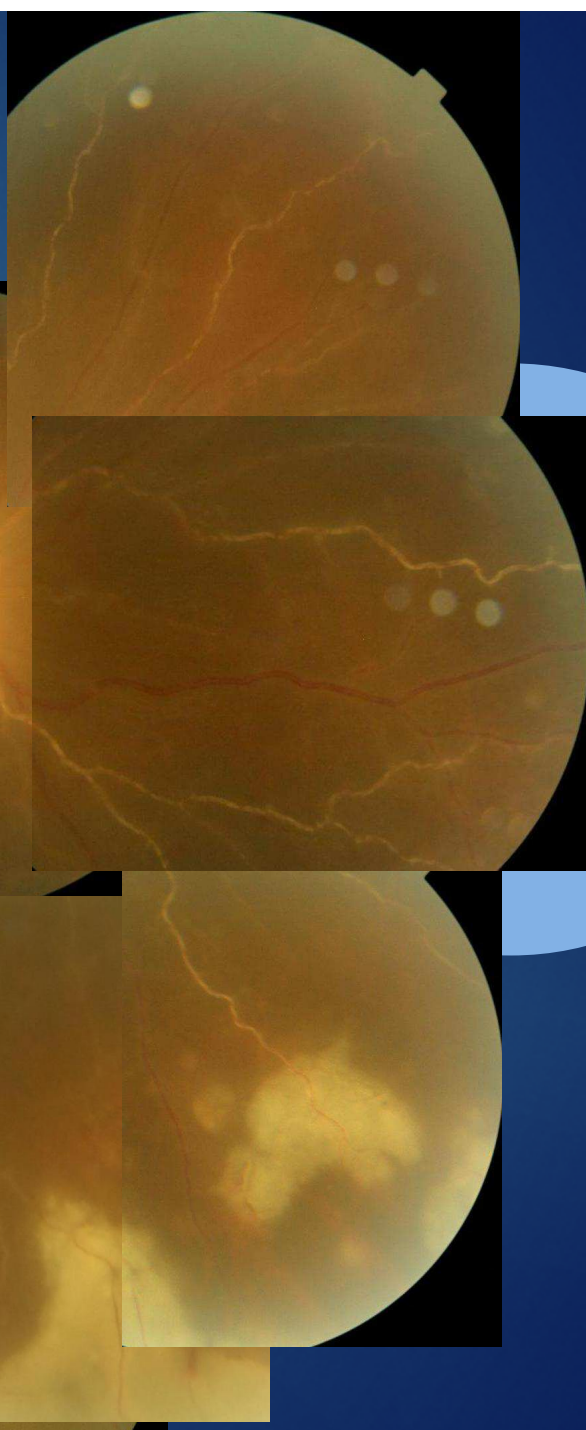
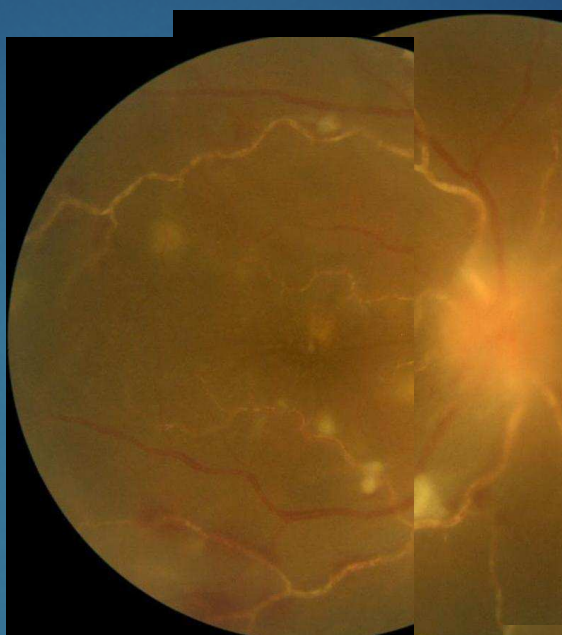
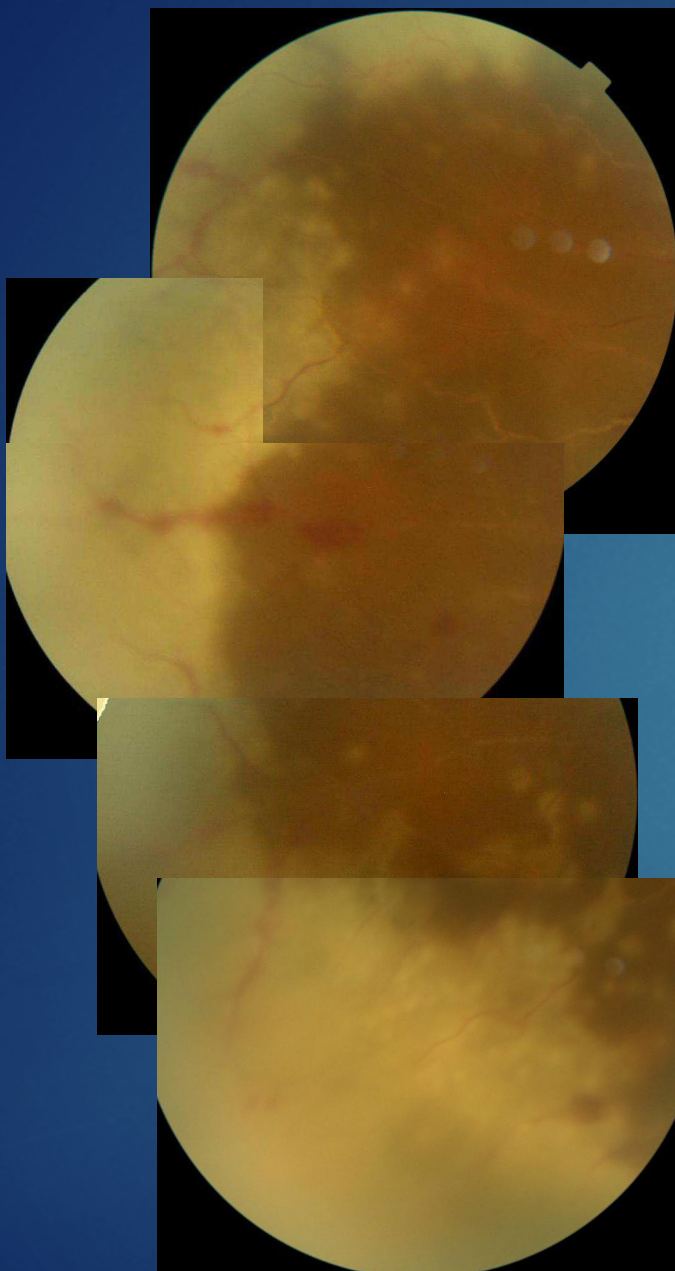
Toxocariasis



Candidiasis



HSV - HZV



Infección	Virus	Forma de contagio	P. incubación	Manifestación sistémica	Manifestación ocular
Dengue	Flavivirus	Mosquito	3 – 14 d	Fiebre,cefaleas,mialgias, trombocitopenia, sangrado,hipotensión	Hemorragia subconjuntival Maculopatía Edema de papila,vasculitis , Hemorragias retinales
Chikungunya	Togaviridae	Mosquito	2 – 5 d	Fiebre,cefaleas,mialgias, Sangrado,poliartritis, meningoencefalitis Oftalmoplegía externa	Uveítis anterior hipertensiva Queratouveítis bilateral Retinitis (mas en polo post) Neuritis óptica Neurorretinitis
JEV	Flavivirus	Pajaro-mosquito	3 – 14 d	Encefalitis	Coriorretinitis, uveítis anterior, Vasculitis retinal,neuritis óptica
BV	Bunyaviridae	Ganado mosquito	3 – 7 d	Gripe, encefalitis, fiebre hemorrágica	Retinitis macular o paramacular Hemorragia retinal,edema de papila, vasculitis, uveítis anterior
Rocky Mountain spotted fever	Gram – Intracelular Obligada	Pulgas	8 – 15 d	Fiebre alta, cefaleas, Malasia , rash cutáneo	Retinitis,alt.vascular retinal, edema Macular, alt del nervio óptico, Desprendim seroso de retina

Dengue

Ophthalmic complications of dengue
Emerg Infect Dis 2006 Feb;12(2):285-9

13 pacientes examinados
9 bilateral / 4 Unilateral : 22 ojos estudiados

Edema macular / hemorragias :10

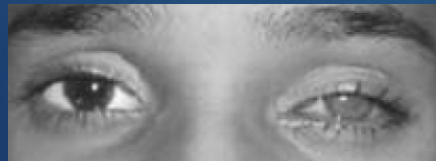
Vasculitis retinal : 4

Desprendimiento exudativo de retina: 2

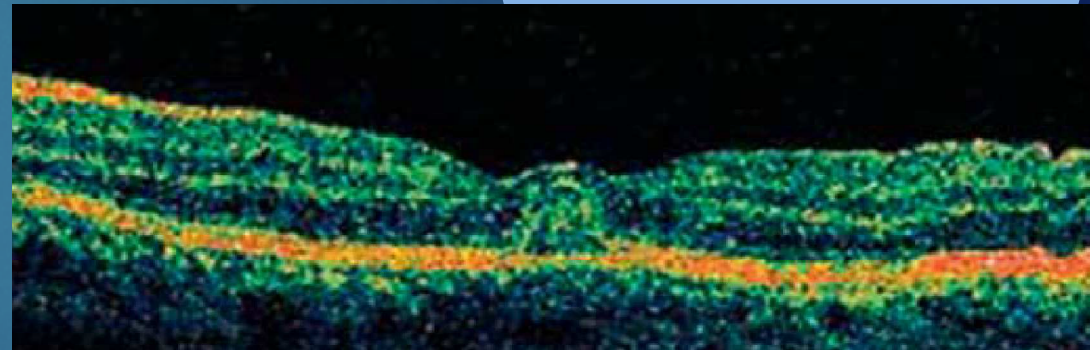
Exudados algodonosos: 1

Uveitis anterior :1

Panophthalmitis in Dengue Fever
Indian Pediatrics.2012 Vol 16:760

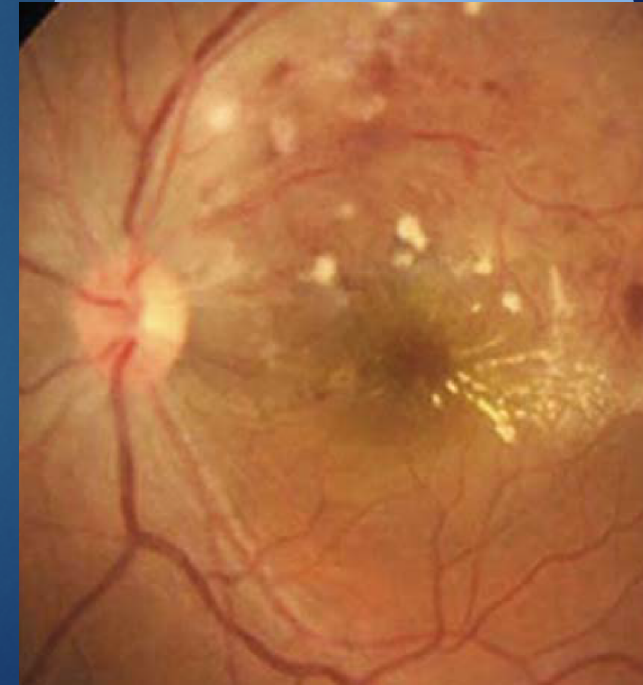
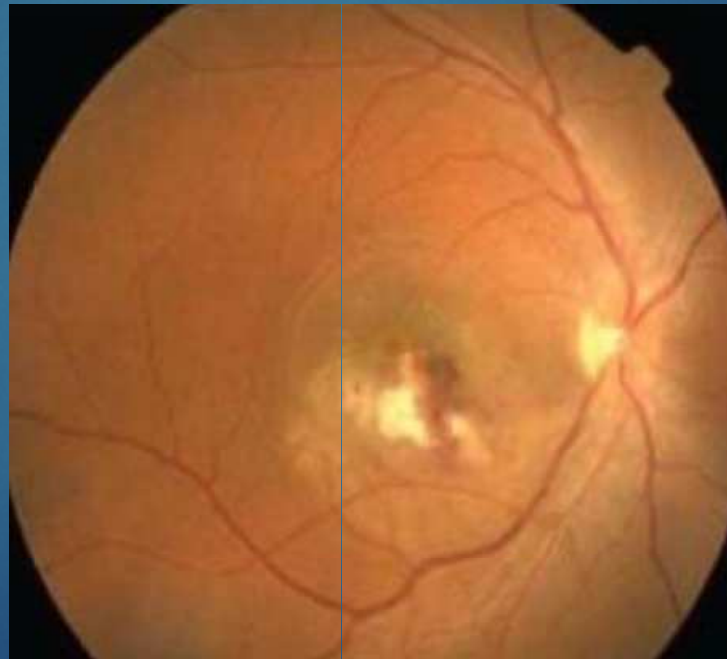
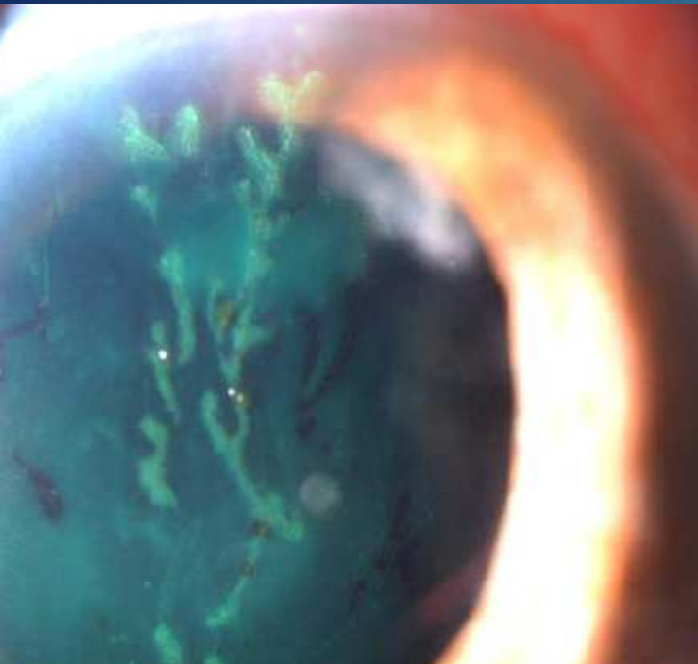


Dengue



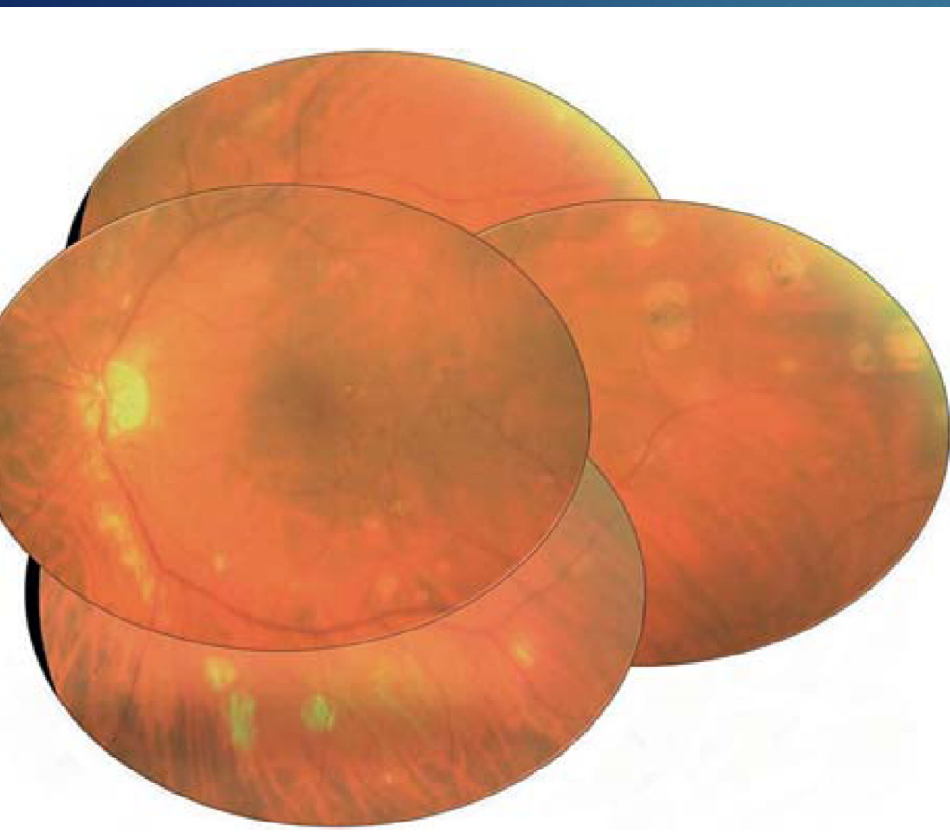
Infección	Virus	Forma de contagio	P. incubación	Manifestación sistémica	Manifestación ocular
Dengue	Flavivirus	Mosquito	3 – 14 d	Fiebre, cefaleas, mialgias, trombocitopenia, sangrado, hipotensión	Hemorragia subconjuntival Maculopatía Edema de papila, vasculitis , Hemorragias retinales
Chikungunya	Togaviridae	Mosquito	2 – 5 d	Fiebre, cefaleas, mialgias, Sangrado, poliartritis, meningoencefalitis Oftalmoplegía externa	Uveítis anterior hipertensiva Queratouveítis bilateral Retinitis (mas en polo post) Neuritis óptica Neurorretinitis
JEV	Flavivirus	Pajaro-mosquito	3 – 14 d	Encefalitis	Coriorretinitis, uveítis anterior, Vasculitis retinal, neuritis óptica
BV	Bunyaviridae	Ganado mosquito	3 – 7 d	Gripe, encefalitis, fiebre hemorrágica	Retinitis macular o paramacular Hemorragia retinal, edema de papila, vasculitis, uveítis anterior
Rocky Mountain spotted fever	Gram – Intracelular Obligada	Pulgas	8 – 15 d	Fiebre alta, cefaleas, Malasia , rash cutáneo	Retinitis, alt. vascular retinal, edema Macular, alt del nervio óptico, Desprendim seroso de retina

Chikungunya



Infección	Virus	Forma de contagio	P. incubación	Manifestación sistémica	Manifestación ocular
Dengue	Flavivirus	Mosquito	3 – 14 d	Fiebre,cefaleas,mialgias, trombocitopenia, sangrado,hipotensión	Hemorragia subconjuntival Maculopatía Edema de papila,vasculitis , Hemorragias retinales
Chikungunya	Togaviridae	Mosquito	2 – 5 d	Fiebre,cefaleas,mialgias, Sangrado,poliartritis, meningoencefalitis Oftalmoplegía externa	Uveítis anterior hipertensiva Queratouveítis bilateral Retinitis (mas en polo post) Neuritis óptica Neurorretinitis
ZNF	Flavivirus	Pajaro-mosquito	3 – 14 d	Encefalitis	Coriorretinitis, uveítis anterior, Vasculitis retinal,neuritis óptica
ZVF	Bunyaviridae	Ganado mosquito	3 – 7 d	Gripe, encefalitis, fiebre hemorrágica	Retinitis macular o paramacular Hemorragia retinal,edema de papila, vasculitis, uveítis anterior
Rocky Mountain spotted fever	Gram – Intracelular Obligada	Pulgas	8 – 15 d	Fiebre alta, cefaleas, Malasia , rash cutáneo	Retinitis,alt.vascular retinal, edema Macular, alt del nervio óptico, Desprendim seroso de retina

West Nile Fever

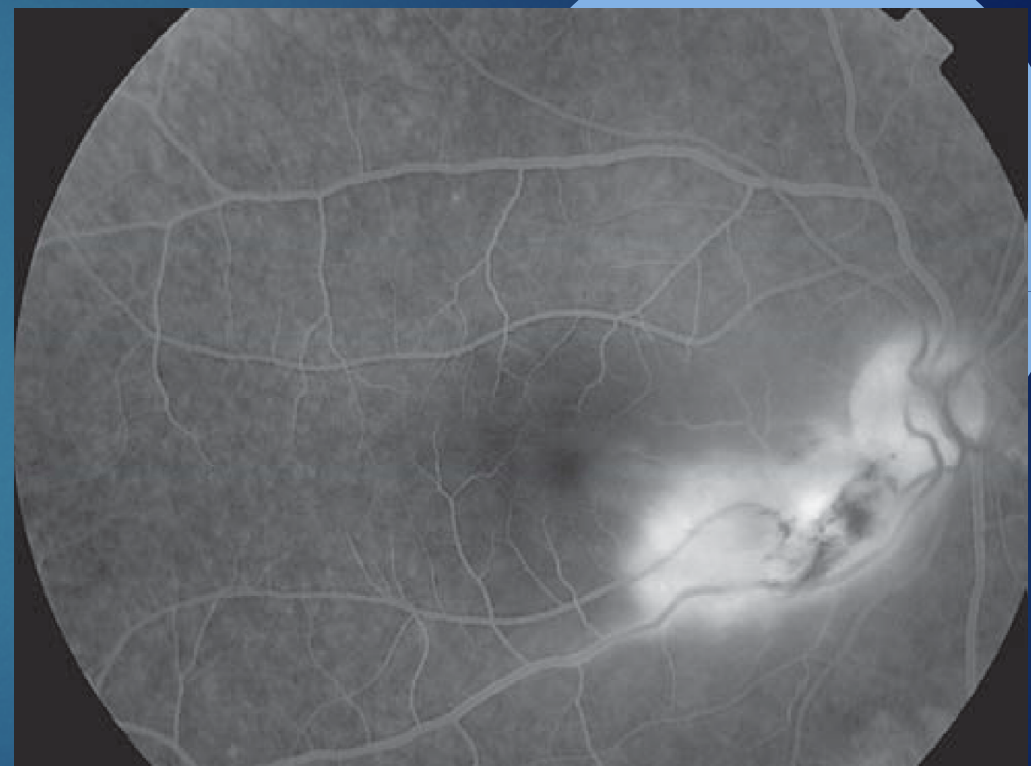


Rift Valley Fever



Infección	Virus	Forma de contagio	P. incubación	Manifestación sistémica	Manifestación ocular
Dengue	Flavivirus	Mosquito	3 – 14 d	Fiebre,cefaleas,mialgias, trombocitopenia, sangrado,hipotensión	Hemorragia subconjuntival Maculopatía Edema de papila,vasculitis , Hemorragias retinales
Chikungunya	Togaviridae	Mosquito	2 – 5 d	Fiebre,cefaleas,mialgias, Sangrado,poliartritis, meningoencefalitis Oftalmoplegía externa	Uveítis anterior hipertensiva Queratouveítis bilateral Retinitis (mas en polo post) Neuritis óptica Neurorretinitis
ZNF	Flavivirus	Pajaro-mosquito	3 – 14 d	Encefalitis	Coriorretinitis, uveítis anterior, Vasculitis retinal,neuritis óptica
ZVF	Bunyaviridae	Ganado mosquito	3 – 7 d	Gripe, encefalitis, fiebre hemorrágica	Retinitis macular o paramacular Hemorragia retinal,edema de papila, vasculitis, uveítis anterior
Rocky Mountain spotted fever	Gram – Intracelular Obligada	Pulgas	8 – 15 d	Fiebre alta, cefaleas, Malasia , rash cutáneo	Retinitis,alt.vascular retinal, edema Macular, alt del nervio óptico, Desprendim seroso de retina

Rickettsiosis



ZIKA



Zika Virus

- Transmitted by **mosquito bite**
- ABOUT **1 in 5 people** infected will become ill
- SYMPTOMS** normally last **2-7 days**
- Mosquitoes known to transmit the virus are **not present in Canada**
- No treatment or vaccine is available**
- SYMPTOMS:** fever, rash, joint pain, conjunctivitis (red eyes)
- ILLNESS** is usually mild and **death is rare**

Health Canada / Centers for Disease Control and Prevention



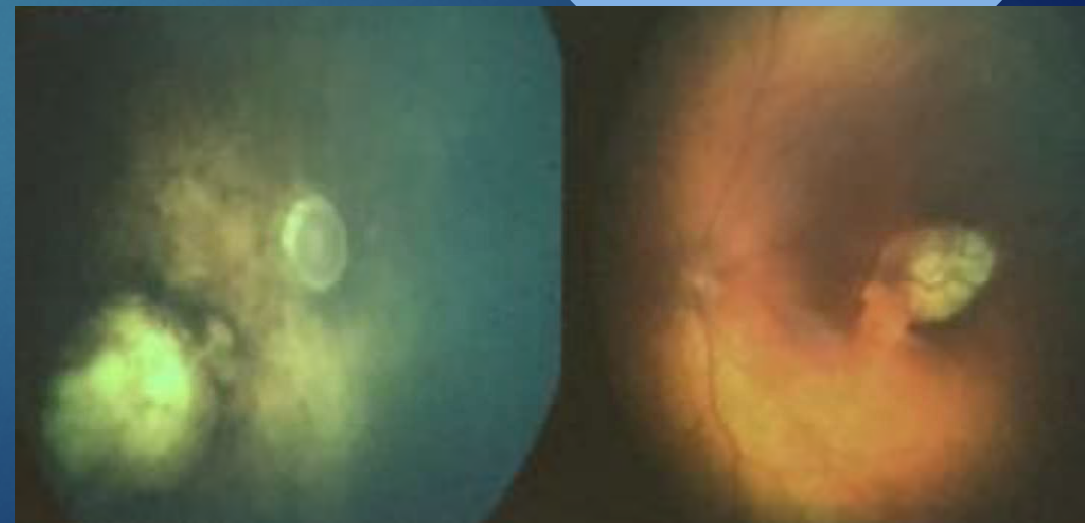
ZIKA

Alteraciones retinales

- Pérdida del reflejo macular
- Pigmentación macular
- Atrofia coriorretinal

Alteraciones del nervio óptico

- Palidez
- Aumento de la excavación
- Hipoplasia



Uveitis menos frecuente que adultos

Si no hay apropiado diagnóstico y tratamiento ... complicaciones graves

Severa pérdida visual.

Comienzo insidioso y curso crónico

Diagnóstico específico : > 50%

