

AN INTERNATIONAL CONGENITAL CATARACT SYMPOSIUM

Yale Club of New York City

Emory University School of Medicine

March 7, 2014

# A model for delivering congenital cataract surgery in Recife, Brazil

Marcelo Ventura, MD, PhD



# Altino Ventura Foundation



- Non-profit organization
- Founded in 1986
- Mission: to provide ophthalmology care for the low-income population and ophthalmology training

## BOARD OF DIRECTORS

Dr. Marcelo Ventura



Dra. Liana Ventura



Dr. Ronald Cavalcanti




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# Altino Ventura Foundation



- Tertiary ophthalmology reference center for the Brazilian Health System in Pernambuco State 

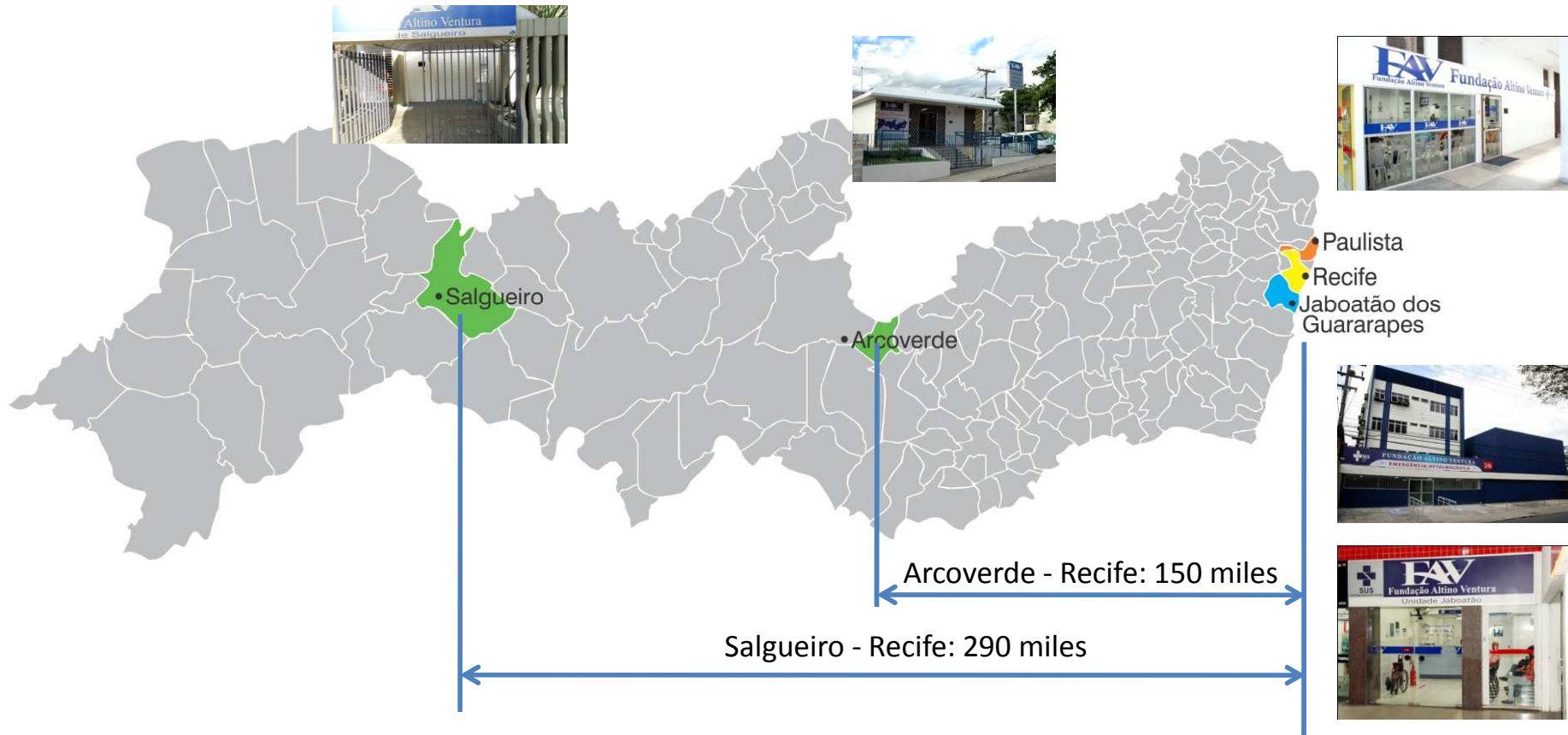
35 million people from the NE of Brazil 



# Altino Ventura Foundation



- Headquarter + 4 satellite clinics in the Pernambuco state (Population: 9 million people)



# Altino Ventura Foundation



## Revenue

- Patients do not pay for care
- Brazilian Health System pays small fee per consultation and surgery
- Donations and grants – always needed
- Volunteer work

# Altino Ventura Foundation



## In 27 years...

- Over 7 million patients cared for
- 220 thousand eye surgeries



# Altino Ventura Foundation



## We trained:

- 229 residents  
(certified by the Brazilian Council of Ophthalmology)
- 128 Brazilian fellows
- 28 International fellows



# Altino Ventura Foundation



## Nowadays - Training

- 51 residents (17/year ; 3 years residency course)
- 14 fellows/year (12 Brazilian; 2 International)
- 63 ophthalmologists as faculty
- 480 employees
- 120 volunteers



# Altino Ventura Foundation



## Some programs

- **Mobile clinical units**  
Complete eye exams in the countryside and in neighborhoods of low-income population
- **Mobile surgical unit**  
More than 20 thousand cataract surgeries in the countryside



# Altino Ventura Foundation



## Some programs

- Rehabilitation Center for visual and/or multiple disabilities  
Including visual rehabilitation for congenital cataract patients



- Emergency room  
24 hours, 7 days/week  
14 thousand consultations/month  
140 emergency surgeries/month



# Altino Ventura Foundation



## Future

- Own headquarter

Until now all facilities are rented

1<sup>st</sup> part built:

- Rehabilitation Center: 43.000 sq ft
- Sponsored by German institutions Lions International Foudation MD 111, CBM, BMZ, RTL

- Goal when finished (161.400 sq ft)

70 thousand consultations/month

4 thousand eye surgeries/month

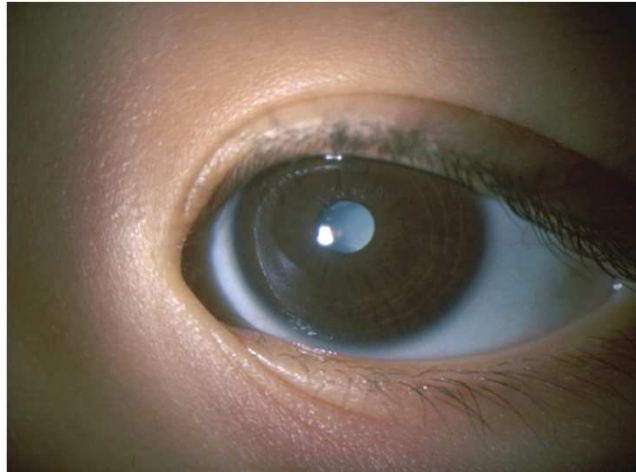


# Altino Ventura Foundation



## Congenital Cataract Department

SINCE 1994



# Congenital cataract

## Why is it so difficult in Brazil?

- In Brazil, more common in the low-income population, usually associated with multiple disabilities
- Multidisciplinary team, more expensive
- Surgery more difficult, more complications, long-term follow-up and visual rehabilitation needed
- Pediatric ophthalmology: less profitable
- Training surgeons, waiting list
- Early diagnosis

# Congenital cataract

## How are the patients identified?

- Altino Ventura Foundation: reference center for congenital cataract care
- Screening of newborn babies following high risk gestations in public maternities
- Red reflex examination of all babies in maternity (required by law)

# Congenital cataract

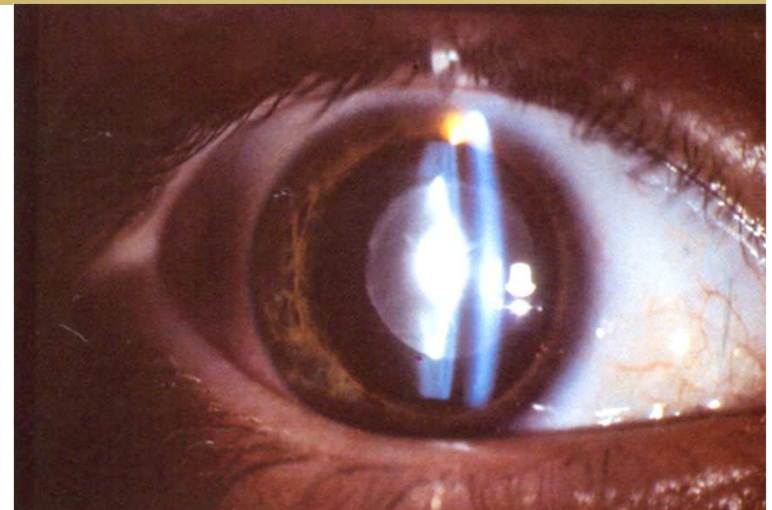
## How we assure the follow-up?

- Providing transportation, food and lodging for families that need financial help in the follow-up
- Donating glasses and postoperative medication
- Providing visual and multiple disability rehabilitation
- Reintegrate the patient in the school and the community

# Congenital cataract

## My routine:

- Lens opacity > 3 mm
- Surgery: 6-8 weeks of age
- Bilateral cases: 2<sup>nd</sup> eye operated 7 – 10 days
- Primary IOL implantation

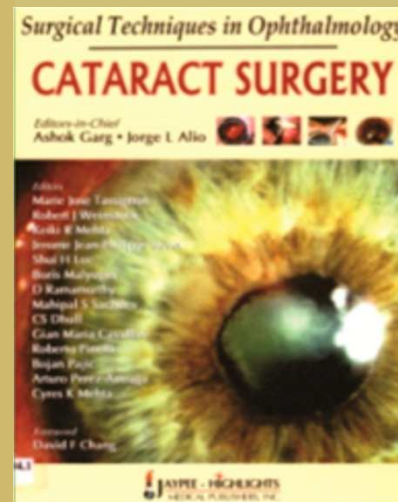
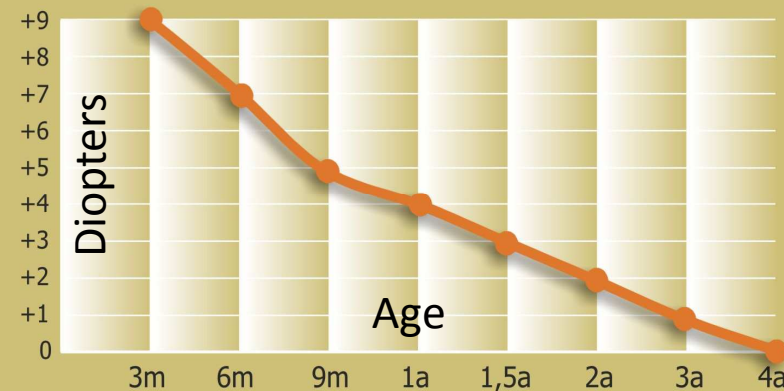




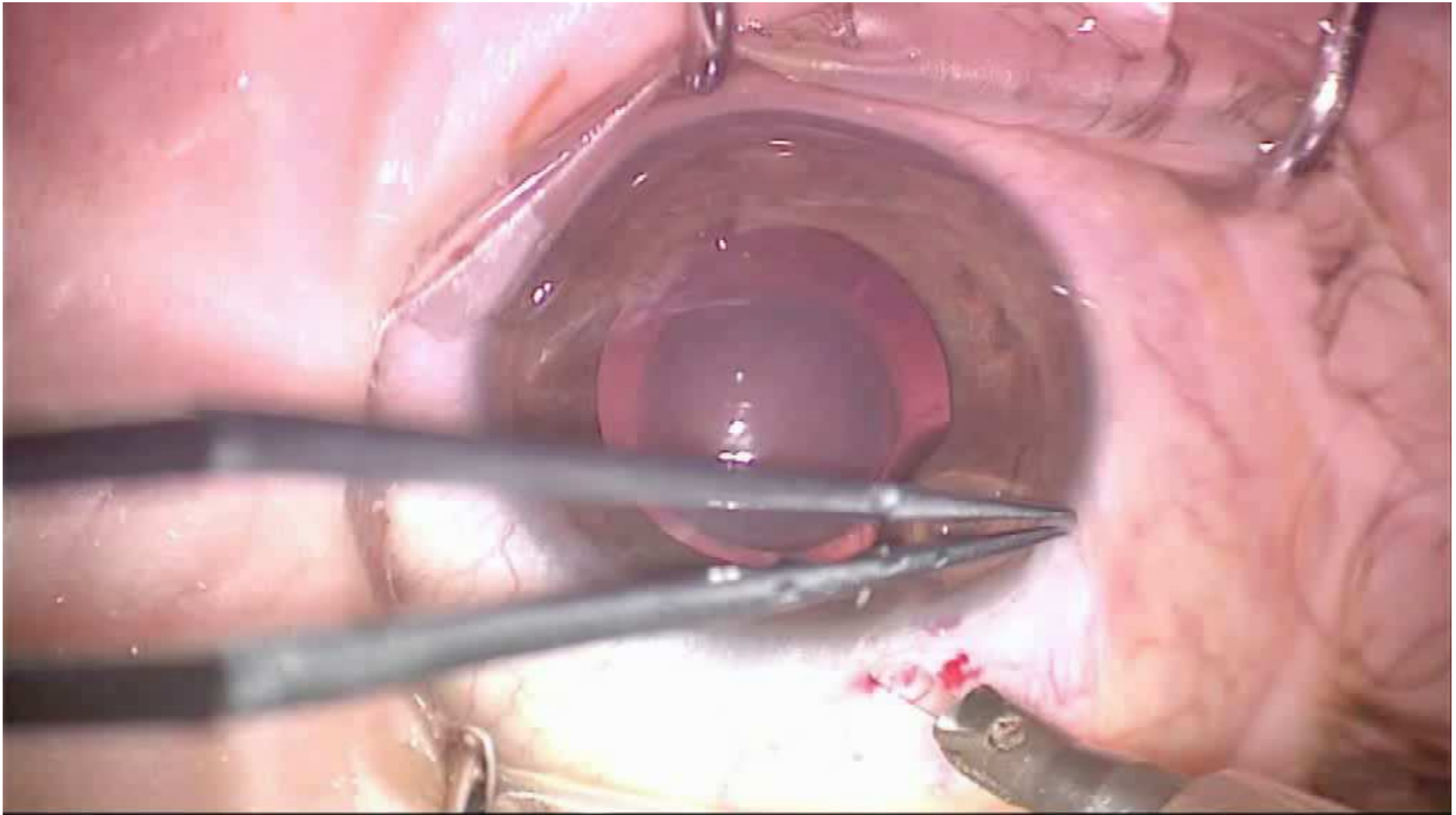
# Congenital cataract

## IOL power adjusted for age (since 1999)

AGE	IOL power undercorrection
≤ 3 months	Undercorrection 9 D
6 months	Undercorrection 7 D
9 months	Undercorrection 5 D
1 months	Undercorrection 4 D
1,5 months	Undercorrection 3 D
2 months	Undercorrection 2 D
3 months	Undercorrection 1 D
≥ 4 months	Emetropia



# Congenital cataract



# Congenital cataract

24h postoperative



Intracameral triamcinolone acetonide (1.2mg/0.03ml)

# Congenital cataract papers

## Surgical outcomes

### **Congenital cataract surgery with intracameral triamcinolone: Pre- and postoperative central corneal thickness and intraocular pressure**

Marcelo Carvalho Ventura, MD,<sup>a,b</sup> Bruna Vieira Ventura, MD,<sup>a</sup> Camila Vieira Ventura, MD,<sup>a</sup> Liana Oliveira Ventura, MD, PhD,<sup>c,d</sup> and Walton Nosé, MD, PhD<sup>e</sup>

(J AAPOS 2012;16:441-444)

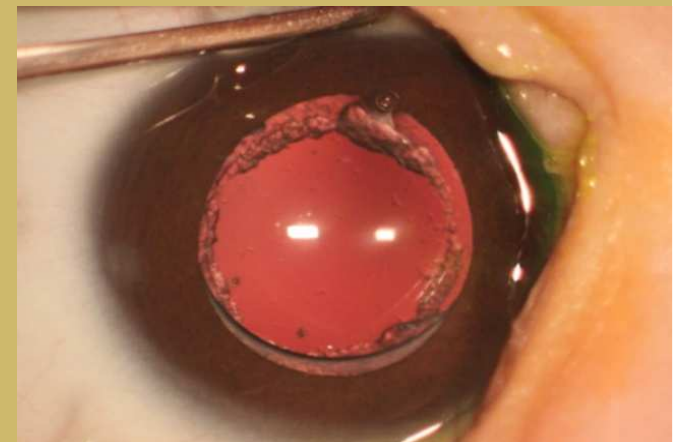
Intracameral triamcinolone did not affect IOP or CCT 2 months and 1 year after the surgery in children younger than 2 years

### **Outcomes of congenital cataract surgery: Intraoperative intracameral triamcinolone injection versus postoperative oral prednisolone**

Marcelo C. Ventura, MD, PhD, Bruna V. Ventura, MD, Camila V. Ventura, MD, Liana O. Ventura, MD, PhD, Tiago E. Arantes, MD, PhD, Walton Nosé, MD, PhD

*J Cataract Refract Surg* 2014;

Intracameral triamcinolone was equally effective as conventional oral prednisolone in modulating inflammation



# Congenital cataract papers

## Congenital cataract surgery with intraocular lens implantation in microphthalmic eyes: visual outcomes and complications

*Cirurgia de catarata congênita com implante de lente intraocular em olhos microftálmicos: resultados visuais e complicações*

MARCELO CARVALHO VENTURA<sup>1,2</sup>, VIRGINIA VILAR SAMPAIO<sup>2</sup>, BRUNA VIEIRA VENTURA<sup>1</sup>, LIANA OLIVEIRA VENTURA<sup>1,2</sup>, WALTON NOGÉ<sup>3</sup>



Arq Bras Oftalmol. 2013;76(4):240-8

### Best-corrected visual acuity (mean)

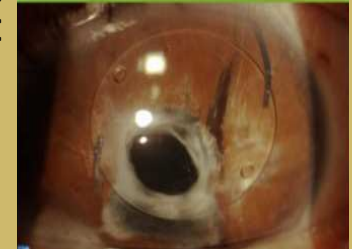
Bilateral cases (11 eyes)		Unilateral cases (3 eyes)	
Preoperative	Postoperative	Preoperative	Postoperative
2.09 ± 0.97 LogMAR	0.38 ± 0.08 LogMAR	1.83 ± 1.04 LogMAR	0.42 ± 0.13 LogMAR
20/2000	20/50	20/300	20/50

# Congenital cataract

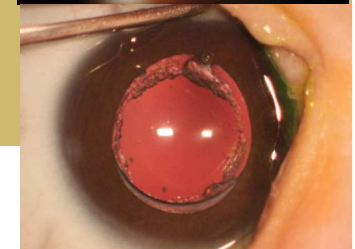
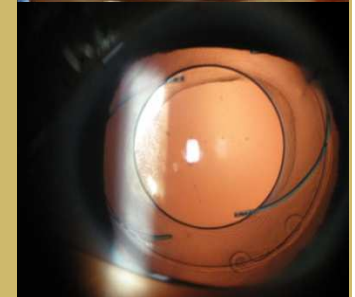
## What we have improved over the years:

- CTR implant
- Bigger primary posterior capsulotomy (4 mm)
- Thorough primary anterior vitrectomy
- IOL in-the-bag
- Injection of triamcinolone acetonide in the angle of anterior chamber

PAST



PRESENT





XXI Congress of Blindness Prevention and Visual Rehabilitation  
September 3 to 6, 2014  
Recife • Pernambuco • Brazil



**THANK YOU.**

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