



PROFILE OF OCULAR TRAUMA IN TIMOR LESTE

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BACKGROUND

- Ocular trauma is relatively common
- It is the main cause of unilateral blindness
- Men are by far more likely to sustain ocular trauma than women*
- Ocular trauma is most likely to be sustained in the work place, or in childhood accidents **
- Data is limited particularly in low- and middle-income countries including Timor-Leste

*Negrel AD, Thylefors B. The global impact of eye injuries. *Ophthalmic Epidemiol* 1998; 5(3): 143-89

**Cao H, Li L, Zhang M, Li H. Epidemiology of pediatric ocular trauma in the Chaoshan Region, China, 2001-2010. *PLoS One* 2013; 8(4): e60844





BACKGROUND

- Timor-Leste is a young country
- It got its independence in 1999 and was recognized by UN in 2002
- The departure of Indonesia saw the loss of almost the entire health workforce
- The eye health system is part of the public health system, and still dependent on INGOs
- Mainly INGOs are still training local eye care workers, nurses, and ophthalmologists (in-country/abroad)
- Recently MOH has approved NEHSP 2021-2050 in 2020 but no commitment seen yet





AIM OF STUDY

- To elucidate the incidence and outcomes of ocular trauma in Timor-Leste
- To use the data to put forward policy options

METHODS AND MATERIALS

- Retrospective review of ocular trauma cases of one year period at National Eye Center (Sentru Matan Nasional)
- Demographic information, injury details, time to presentation, presenting/final visual acuity, management, were recorded
- The 2010 Timor-Leste Census data was used to determine population rates



METHODS AND MATERIALS

- Vision was assessed as best corrected vision on a Snellen chart
- Vision was classified using the International Statistical Classification of Diseases-10 (mild, moderate, severe and blind)*
- Subgroups were compared using Student's T-Test using a two-tailed p-value
- Proportions were compared using Fisher's Test using a two-tailed p-value
- Ethics approval was received from the Timor-Leste Ministry of Health

*World Health Organization International Statistical Classification of Diseases and Related Health Problems 10th revision Current version Version for 2003 Chapter VII H54 Blindness and low vision. <http://apps.who.int/classifications/icd10/browse/2010/en#/H54.1> Accessed 25 Feb 2015





DEMOGRAPHIC RESULTS

- Identified 167 patients presenting to the National Eye Centre with ocular trauma
- Male Predominance : Male-142 (85%); Female-25 (15%)
- Mean age of patients was 29.3 years, with a range of 1-77 years
- Females presenting were generally younger, with a mean age of 19.2 years (range 2-67 years) But males with a mean age of 31.1 years (range 1-77 years) [p=0.001]



DEMOGRAPHIC RESULTS

- 41 patients (24.6%) were under 18 years of age
- The majority of patients presented from Dili (126 patients, 75.4%)
- Using 2010 Timor-Leste Census data, the lowest national estimate of ocular trauma is 15.7/100,000 population
- The eye injury rate in Dili was estimated at 53.8/100,000



Occupation wise:

1. 10 patients(6%) - employed on farm
2. 39 patients (23.3%) - employed in non-farm manual labour
3. 27 (16.2%) were in non-manual jobs (desk jobs)
4. 10 (6.0%) were primarily in home duties
5. 21 (12.6%) were unemployed or retired
6. 21 (12.6%) were children not attending school
7. 39 (23.4%) were students

INJURY CHARACTERISTICS

- Blunt injury to the globe - 82 (49.1%)
- Penetrating injuries account – 19 (11.4%) of injuries
- Lid lacerations - 12 (7.2%)
- One non-penetrating corneal laceration
- One thermal injury
- The remainder of the injuries were classified as minor



INJURY CHARACTERISTICS

- 53 (32.3%) of injuries took place at work
- 60 (36.6%) at home
- 61 (37.2%) in public spaces
- Three patients (1.8%) did not have data about location of injury recorded
- Farmers were injured at their work
- Manual labour incurred their injury at work (94.9%)



INJURY CHARACTERISTICS

- 35 patients (21%) presented within the first day of injury
- 112 patients (67%) presented within the first three days
- 17 patients (10.2%) presented at one month or more after the injury
- 3 patients (1.8%) presented more than a year post injury



INJURY CHARACTERISTICS

- The mean time to presentation for Dili patients was 7.4 days (SD 32.9)
- The mean time to presentation for district patients 24.0 days (SD 78.7)

This trend did not reach significance ($p=0.057$)



VISUAL ASSESSMENT

- Vision was assessed and recorded in 150 patients
- 14 were children not yet at school, didn't co-operate for taking vision
- 3 were small children treated by eye care workers in districts were in pain while categorizing according to ICD-10
- 99 patients (66%) of patients had mild or no visual impairment ($>6/18$) in the affected eye
- 12 (8%) had moderate or severe visual impairment ($6/18-3/60$)
- 39 (26%) were blind ($<3/60$)



OUTCOME

- Surgery was performed for 36 patients (21.6%)
- Foreign bodies were removed in the clinic setting for 63 patients (37.7%)
- Conservative management including prescription of medications for patients 68 (40.7%)
- Amongst those who had surgery, 22 had surgery to the globe
- Two had primary eviscerations



OUTCOME

- Follow-up vision in the injured eye was recorded in 120 patients
- Of these, 87 (72.5%) had mild or no visual impairment
- 11 (9.2%) had moderate or severe visual impairment; and
- 22 (18.3%) were blind
- Follow-up vision was available for 68.3% of patients from Dili, compared with 82.9% of patients from the districts ($p=0.02$)





DISCUSSION

- This study estimates a lowest national estimate of treated ocular trauma of 15·7 / 100 000 population, rising to 53·8 / 100 000 for Dili alone
- The data is compatible with low- or middle income countries
- Data is presumed as underestimated
- Male > Female
- Workplace more common (agriculture and manual labour)
- 21% present at D1 and 67% present at D3 (District present later)



DISCUSSION

- 21.6 % need surgery due to severity of the injury
- No. of blind pts. in the affected eye reduced from 39 to 22, a statistically significant reduction was not demonstrated due to loss to follow up
- Children take quarter of the number
- Need to develop workplace safety legal framework and safety education



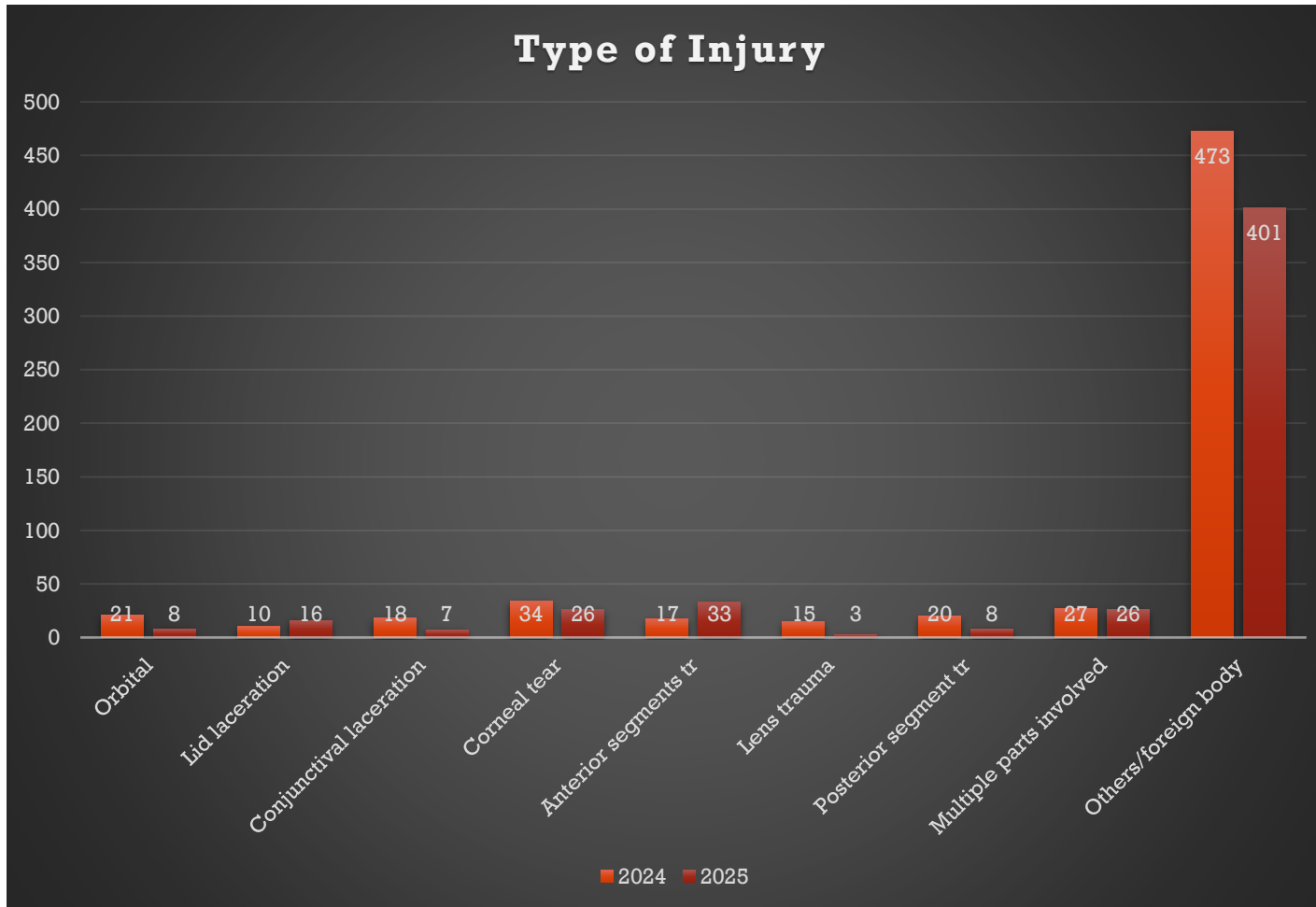
- Ocular trauma is an important source of morbidity in Timor Leste
- The pattern and incidence of ocular trauma is similar to that in other developing countries
- Workplace and childhood injury are of particular concern
- This work points to the need for development of a robust workplace safety legal framework and safety education
- This study has significant implications for the education of the health work force to minimize ocular trauma, and improve outcomes through timely help seeking behaviour/support and referral

CURRENT SITUATION

- A 4 regional hospitals are upgraded by ETEP for ophthalmic surgical services and in-county PGDO graduate products are deployed and eye clinics upgraded, they are capable of managing not complicated ocular trauma in the 4 peripheral district hospitals
- Non-treated (visually impaired/blind/with SO) or Dili's follow-up lost cases present in the districts during the surgical outreach throughout the year
- EMR in NEC and other peripheral districts hospital



LATEST DATA

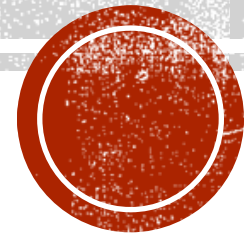


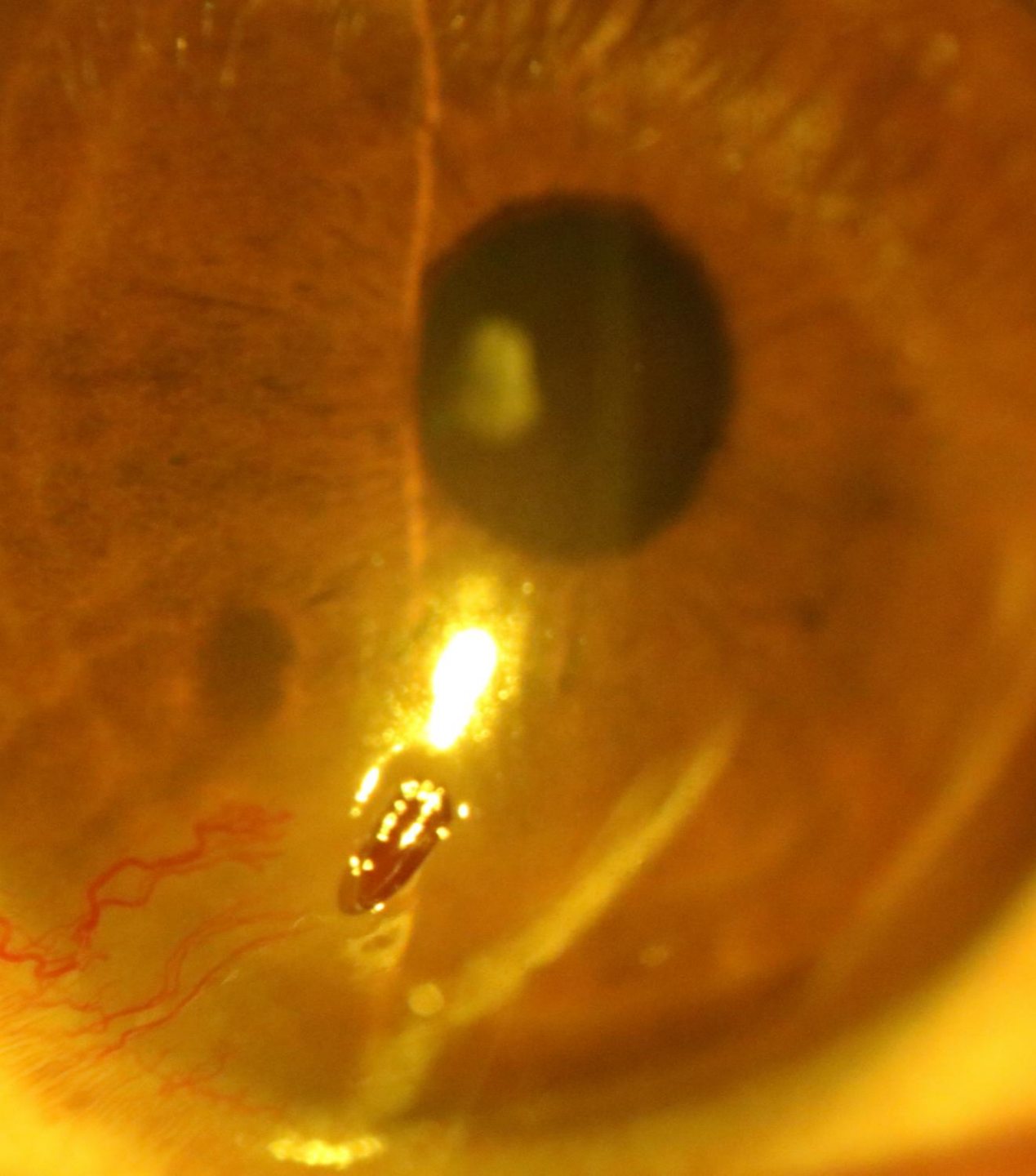
Month/Year	2024	2025
January	37	28
February	35	54
March	5	35
April	62	34
May	63	30
June	47	45
July	64	35
August	65	67
September	81	61
October	71	53
November	39	65
December	77	32
TOTAL	646	539



PHOTOS OF OCULAR TRAUMA

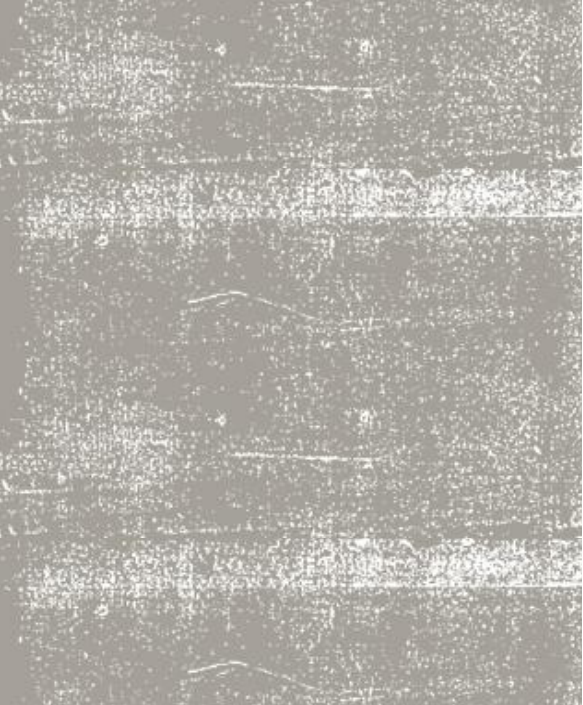
National Eye Center





- Corneal Laceration with long-standing FB





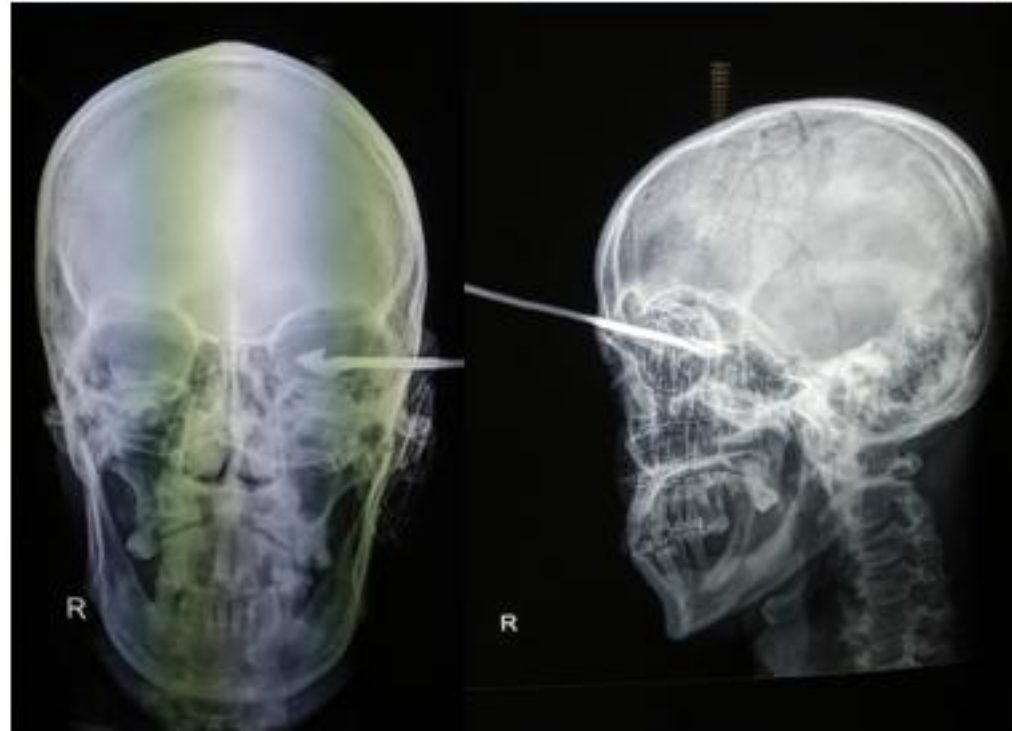
- Lid lacerations





- Penetrating Eye Injur with RAMA Ambon (handmade arrow)!







- Physical assault (fighting with swords between two violent groups) in Manatuto





Obrigado
Barak