

Case Report

Eye Injuries in Children: About 199 Cases Collected to the Aristide Le Dantec Hospital in Dakar

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Abstract

Purpose: Determine the demographic, clinical, and therapeutic eye injuries in Children.

Patients and Methods: A retrospective study was conducted over a period of 4 years from 1 January 2009 to 31 December 2012. It help éd collect 119 patients Under 15 years of files received for eye trauma and / or eyelid. Excluded were patients consulting for se queles.

Results: The frequency of Child injury was 24.20%. The mean age was 7.88 years and the age group of 6 to 10 years were the most affected. Male dominance was clear, with a sex ratio of 2.9. The ave rage time of consultation was 3.6 days. Lei sure accidents were the first circum stance occurred, and 46.7% of injuries occurred in the Streets. Métal object were the main causal agents (56.8%). Visual acuity was Superior at 6/10 in 49.2% of cases. Eyelid wounds were the most frequent eye damage (35.2%) followed by corneal wounds (32.2%). The treatment was surgical in 75.4% of cases. Complications and sequelae were dominated by cataracts (48% of cases) and pillowcases (20% of cases).

Conclusion: Eye injuries in Children are serious because blindness sources especially in developing countries, where the lack of ressources and often late treatment worsens the prognosis.

Keywords: Children; Eye injuries

Introduction

Eye injuries are responsible for various and potentially serious injuries. Children are particularly vulnerable to such injuries that are responsible for almost 14% of the monocular blindness during childhood [1].

Eye injuries in Children are serious because blindness sources especially in developing countries, where the lack of ressources and often late treatment worsens the prognosis.

In our city, ophthalmic structures with a functional storage service are rare .This might explain the management of late, especially when the trauma occurs at night or during the weekend.

The aims of the study were to determine the demographic, clinical, and therapeutic aspects of eye injuries in Children.

Patients and Methods

A retrospective study over a period of 4 years (1st January 2009 to 31th December 2012), involved all Under 15 years of patient records received for eye trauma and / or eyelid. The patients consulting for se queles, or which clinical examination data were in complete were excluded.

On a survey sheet were specified, sex, age and geographical origin. As background, the consultation period, the circumstance of the injury, place of occurrence, the causative agent, visual acuity, type of injury, the Under taking treatment and post-treatment evolution.

The collection and analysis of statistical data was made using the software Epi Info 7.0 and Chi-square test

Results

We observed 199 cases of ocular trauma and / or eyelid in children from a total of 822 cases, a prevalence of 24.2%.

Demographic Data

The mean age was 7.88 ± 3.88 years, ranging from 0 to 15 years. The age group of 6 to 10 years were the most affected (43.7%). One hundred sixty-three patients were from urban areas (81.9%).

The sex ratio was 2.9. The sociodemographic characteristics are given in Table 1.

	n	%
Age (yrs)		
0-5		6231.20%
6 - 10	87	43.70%
15-Nov	50	25.10%
Gander		
Female	148	74.40%
Male	51	25.60%
Geographic origin		
Urban areas	163	81.90%
Rural areas	28	14.10%
Neighboring countries	8	4.00%
Total (N=199)		

Table 1: Sociodemographic Characteristics.

Clinical data

The clinical characteristics are shown in Table 2.

	n	%
Consultation deadline		
0 - 6 h	12	6.00%
6 - 24h	66	33.20%
24 - 48h	20	10.10%
2d - 7d	34	17.10%
> 7d	50	25.10%
Not specified	17	8.50%
Circumstances of occurrence		
Brawls	40	20.10%
Falls	36	18.10%
Leisure accidents	64	32.20%

Beatings	17	8.50%
Domestic accidents	28	14.10%
Not specified	14	7.00%
Type of eye damage		
Corneolimbic wounds	9	4.50%
Corneoscleral wounds	15	7.50%
Eyelid wounds	70	35.20%
Corneal wounds	64	32.20%
Hyphe ma	24	12.10%
Endophthalmitis	17	8.50%
Nature of the causative agent		
Métal object	113	56.80%
Blunt	23	11.50%
Vegetable	28	14.10%
Chemical	5	2.50%
Not specified	30	15.10%
Initial visual acuity		
<at 1/10	56	28.10%
1/10 - 5/10	26	13.10%
6/10 - 10/10	98	49.20%
Not specified	19	9.60%
Total (N=199)		

Table 2 : Clinical Characteristics.

The average time of consultation was 3.6 days. Sixty-six patients (33.2%) had consulted between 6th and 24th hour after injury.

Both sexes, the circumstances of occurrence were dominated by lei sure accidents (32.2%) and brawls (20.1%).

The injuries occurred on the street in 93 cases (46.7%), at home in 75 cases (37.7%) and at School in 31 cases (15.6%).

The most causative agent was a métal object (56.8%), followed by a vegetable agent (14.1%). The agent was not specified in 30 cases (15.1%).

The initial visual acuity was < at 1/10 in 56 cases (28.1%), and between 6 / 10ths and 10/10 in 98 cases (49.2%). It was not specified in 19 cases (9.6%).

Eyelid wounds were the most frequent (35.2% of cases), followed by isolated corneal wounds (32.2% of cases).

Treatment

The treatment was médical in 49 cases (24.6%) with eye drops and systemic drug Sand surgical in 150 cases (75.4%) including 11 eviscerations. The final visual acuity was >at 6/10 in

108 cases (54.3%). Table 3 displays the therapeutic data.

	n	%
Type of treatment		
Surgical	150	75.40%
Médical	49	24.60%
Final visual acuity		
<at 1/10	50	25.10%
1/10 - 5/10	22	11.00%
>at 6/10	108	54.30%
Not specified	19	9.60%
Total (N=199)		

Table 3: Treatment.

Complications and sequelae

Complications and sequelae were noted in 50 cases (25.1%). They were dominated by cataract (48%) and pillowcases (20%). Other complications and sequelae are reported in Table 4.

	n	%
Complications		
Cataract	24	48%
Cellulites	5	10
Ocular hypertension	4	8
Sequelae		
Leucome	1	2
Pillowcases	10	20
Phtyse	6	12
Total (N= 50)		

Table 4: Complications and sequelae.

Discussion

Demographic Data

The mean age was 7.88 years, and the age range of 6 to 10 years pre dominated. Which joined Other African séries [2,3]. While for Dembélé et al [4], it is the children of more than 11 years were the most affected.

Male dominance was clear, with a sex ratio of 2.9. It was reported by several studies [5,6], with rates ranging from 68.5% to 85%.

Most patients came from urban areas (81.9% of cases). Other séries also reported that prevalence [7,8] with slightly lower rates.

Clinical Data

The delay was not specified in almost 9% of cases especial-

ly in young children. In the other cases, the majority of patients (33.2% of cases) had consulted between 6th and 24th hour. This is consistent with data from Sidi Cheikh [5] which noted a lower rate of 23.8%. For Grieshaber [9] only 25% of injured presented to the hospital with in 24h of injury.

The average was 3.6 days, joining with Abraham data [10] reported that with in 3 days. Some African authors [11,12] evoke different factors to explain this long delay, including the scarcity of specialized structures, and lack of Financial means. In our city, ophthalmic structures with a functional storage service are rare. This might explain the management of late.

Lam [3] noted that 10% of patients had consulted before the 6th time, we reported a lower rate (6%). They were dominated by leisure accidents (32.2%). Doute tien [13] confirmed this trend and reported a higher rate of 41% While Grieshaber [9] in South African noted a two time higher rate of 66%. Brawls were the second circumstance with 20.1% of cases. This rate was lower for Luff [14] (8%) where they occupied the 4th place. Falls are the 3rd circumstance with 18.1% of the cases.

For Yaya [15], the beatings were the first circumstance with 25.9% of cases. This rate was only 8.5% in our séries, but still may be underestimated because physical abuse are not exceptional in our country. They are not always recognized and they could appear in un specified circumstances. The injuries occurred at home in 37.7% of cases, While Grieshaber [9] reported a higher rate of 55%. For him, most injuries (85%) occurred in the absence of a care givre.

The causative agent was not specified in 30 cases (15.1%). In other cases, métal objects pre dominated, with 56.8% of agents, like other séries [16,17]. For some authors [6,8], it is the vegetable nature of agents who dominated While in our série it is the second most causative agent (14.1%). The beatings were reported in 8.5% of cases, Dembélé [4] almost found a two times higher rate (15.4%). Initial visual acuity was not specified in 19 cases (9.6%), due to the lack of children's cooperation.

Visual acuity was >at 6/10 in 98 cases (49.2%). There were cases of eye injury with intact eyeball. Eyelid lesions pre dominated with 35.2% of cases, followed by corneal wounds (32.2% of cases). Other authors [3,4] note the process prevalence of corneal wounds.

The hyphe ma represented 12.1% of the cases, this rate was two times higher in Bella data [18]. In our séries, this rate may be underestimated because parents do not consulat systematically before contusive lesions that may be over looked or minimized.

Treatment

The treatment was surgical in 75.4% of cases. Several au-

thors report the frequent need for surgical treatment [14,19]. The extent of damage and the delay in the consultation often lead to mutilating surgery [20]. Thus according Rigal-sas tourne [21], one third of patients suffer an evisceration. In our série, it was a lower rate of 5.5% which were the results of endophthalmitis which did not respond well to treatment, mainly due to delayed management.

Most of half of our patients regained a visual acuity of 6/10 or better, While for Grieshaber [9] 51% of patients regained 20/40 or better.

Post-Treatment Complications and Sequelae

Cataract was the main complication (48% of cases). Which joined the literature data [22,23] with most of the major risk of amblyopie in children. All cases of cataract have been successfully operated, some have been implanted immediately, others in a second time.

Among the recovered sequelae, corneal scarring ranked first (20%), followed by eye ptyoses (12%).

These results confirm the serious ness of eye injuries in children with functional and anatomical significant impact. Even if the conditions for keratoplasty are possible it is not carried out because of a problem of législation.

Conclusion

Eye injuries in children are very serious, particularly because they may go unnoticed, and be responsible for amblyopia. The implémentation of parental awareness campaigns and the increase in human and material ressources would improve prognosis.

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