Epidemiological profile of visits in a public ophthalmic emergency service

Perfil epidemiológico dos atendimentos em um serviço público de urgência oftalmológica

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ABSTRACT

Objective: To identify the most frequent diagnosis and epidemiological characteristics of patients attended in a public ophthalmic emergency service. Methods: This is a retrospective and transverse study based on 2834 patients' chart attended from July to September 2017 at the Ouro Verde Hospital Complex, Campinas, Brazil. The following variables were investigated: age, gender, and diagnosis. Results: Most patients were male (52.6%) and aged between 30 to 59 years (43.5%); 21.1% were elderly. The most frequent diagnoses were conjunctivitis (23.9%), ocular trauma (15.7%), and ocular surface disorders (14.6%). Infectious/inflammatory conditions predominated among children and female; 83.6% of traumas occurred in man, and 62.2% were due to a foreign body. Conclusion: The most prevalent diagnoses in the ophthalmologic emergency department were infectious conjunctivitis and ocular trauma. Education and prevention measures are necessary to reduce morbidity and absenteeism and to avoid inappropriate use of specialized emergency services.

Keywords: Eye diseases/epidemiology; Emergencies; Conjunctivitis; Eye foreign bodies; Eye injuries

RESUMO

Objetivo: Identificar os principais diagnósticos e características epidemiológicas dos pacientes atendidos em um serviço público de urgência oftalmológica. Métodos: Estudo transversal e retrospectivo, com análise de prontuários de 2834 pacientes atendimentos no período de julho a setembro de 2017, no serviço de Urgência Oftalmológica do Complexo Hospitalar Ouro Verde, Campinas, Brasil. As variáveis estudadas foram idade, gênero e diagnóstico. Resultados: Houve a prevalência do gênero masculino (52,6%) e da faixa etária de 30 a 59 anos (43,5%); 21,1% eram idosos. Os diagnósticos mais prevalentes foram conjuntivite infecciosa (23,9%), trauma ocular (15,7%) e doenças da superfície ocular (14,6%). Entre mulheres e crianças houve o predomínio de quadros infecciosos/inflamatórios; 83,6% dos traumas ocorreram em homens, sendo 62,2% devido a corpo estranho. Conclusão: Os diagnósticos mais prevalentes no serviço de urgência oftalmológica foram conjuntivite infecciosa e trauma ocular. Medidas de educação e prevenção são necessárias para reduzir morbidade e absenteeismo e evitar o uso inapropriado dos serviços especializados de emergência.

Descritores: Oftalmopatias/epidemiologia; Emergências; Conjuntivite; Corpos estranhos no olho; Traumatismos oculares

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Introduction

Ophthalmologic urgencies can have a great impact on the health of the individuals, due to the potential risk of irreversible visual loss. Besides, they are an important cause of absenteeism, since the economically active population is the most present in ocular emergency room visits.

Knowledge about the main ophthalmological emergencies, as well as the epidemiological characteristics of the population that seeks this service is mandatory for the planning of health policies and improvement of services.

The Ophthalmological Emergency Service of Complexo Hospitalar Ouro Verde in Campinas, Brazil, performs clinical and surgical care of patients with ocular complaints on free demand, and patients referenced from primary and secondary services in Campinas and nearby cities. Therefore, it reflects the epidemiology of a broad region, serving as the basis for action to prevent blindness. However, there is still little data available.

The objective of the present study is to evaluate the most common diagnoses and epidemiological characteristics of the patients treated in the public service of ophthalmological emergency. It is also intended to update data on ophthalmological emergencies in our country, thus contributing to improvements in the care network.

Methods

This is a descriptive, cross-sectional, and retrospective study with a non-probabilistic sample with the review of medical records of patients treated at the Ophthalmologic Emergency Service of Complexo Hospitalar Ouro Verde from July to September, 2017.

The outcome variable was the ophthalmologic diagnosis, grouped into the following categories: ocular allergy, blepharitis/meibomitis, cataract, orbital/periorbital cellulitis, infectious conjunctivitis, retinal/vitreous diseases, ocular surface diseases (keratitis, deep epithelialisation, corneal infiltration, non-specific irritation and dry eye), lacrimal system diseases, subconjunctival hemorrhage, hordeolum, herpes simplex infection, ocular trauma (including closed trauma - bruises, lacerations, and superficial foreign body - open trauma - penetrating and intraocular foreign body - eye burns and others), pterygium/pingueculitis, corneal ulcer, uveitis and diagnosis to be clarified. The diagnoses with lower prevalence were grouped in “others”. The exposure variables were gender and age, divided into four age groups: 0 to 14, 15 to 29, 30 to 59 and > 60 years, for comparison with other national studies.

The study was approved by the Research Ethics Committee of Faculdade São Leopoldo Mandic (protocol number 3,194,642), and there is no need for a Free and Informed Consent Form to guarantee total secrecy of the information. All patients were evaluated by ophthalmologists, and the medical records were analyzed by trained researchers. The frequency calculations were done in the Epi Info program, version 7.

Results

The medical records of 2834 patients with male prevalence (52.6%) and age group of 30 to 59 years (43.5%) were evaluated. The mean age was 39.6 years (± 21.3 years), and varied from 0 to 102 years (Table 1).

Discussion

Among the patients who sought the ophthalmological emergency service, males and the economically active age group predominated, similar to other cases.

Ocular traumas of all kinds (considering foreign bodies and slight abrasions to concussions and perforations) are the main
Emergency appointments in a period of 3 months, which should be taken into account, since there may be seasonal variations in the reasons for seeking care. In addition, retrospective studies may contain data collection flaws and defects, which was tried to be minimized with the review of medical records by trained researchers, and by the fact that the diagnoses are performed by ophthalmologists of a reference center.

**CONCLUSION**

Infectious conjunctivitis was the main diagnosis in an ophthalmological emergency public service, with the majority of cases being manageable in primary care. Ocular trauma was very prevalent among men of economically active age, reinforcing the need for educational and inspection measures aimed at reducing morbidity and absenteeism. The present study points to the frequent inappropriate use of the ophthalmological emergency network, and provides epidemiological data for the orientation of health policies.

**Table 2**

<table>
<thead>
<tr>
<th>Diagnostic</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious conjunctivitis</td>
<td>271</td>
<td>40.1</td>
<td>405</td>
<td>59.9</td>
</tr>
<tr>
<td>Ocular trauma</td>
<td>372</td>
<td>83.6</td>
<td>73</td>
<td>16.4</td>
</tr>
<tr>
<td>Diseases of the ocular surface</td>
<td>203</td>
<td>48.9</td>
<td>212</td>
<td>51.1</td>
</tr>
<tr>
<td>Blepharitis/meibomitis</td>
<td>97</td>
<td>40.1</td>
<td>145</td>
<td>59.9</td>
</tr>
<tr>
<td>Hordeolum</td>
<td>58</td>
<td>43.6</td>
<td>75</td>
<td>56.3</td>
</tr>
</tbody>
</table>

**Table 3**

<table>
<thead>
<tr>
<th>Diagnostic</th>
<th>Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-14</td>
</tr>
<tr>
<td>Infectious conjunctivitis</td>
<td>114</td>
</tr>
<tr>
<td>Ocular trauma</td>
<td>51</td>
</tr>
<tr>
<td>Diseases of the ocular surface</td>
<td>56</td>
</tr>
<tr>
<td>Blepharitis/meibomitis</td>
<td>8</td>
</tr>
<tr>
<td>Hordeolum</td>
<td>24</td>
</tr>
</tbody>
</table>

cause of demand for the ophthalmological emergency service in most of the national studies. In the present study, infectious conjunctivitis was the most prevalent diagnosis, and may be indicative of inadequacies in the ophthalmological emergency service in the region, since most cases of conjunctivitis can be managed by primary care or by non-specialist physicians.

Ocular traumas were predominantly prevalent in male adults, suggesting that this population is more vulnerable to risk factors such as labor, traffic and sports, and this population should be the main focus of preventive measures. Infectious and/or inflammatory conditions predominated among women and children.

It is noteworthy that 40% of cases of blepharitis/meibomitis occurred in elderly patients, with the second diagnosis being the most prevalent in this population. A study involving only the elderly in São Paulo showed a prevalence of ectropion (risk factor for palpebral infection/inflammation) of 2.9%, (against 0.18% in the general population). Cataract was the seventh reason for seeking the ophthalmological emergency service in patients >60 years (corresponding to about 5.0% of the diagnoses), indicating faults in the preferential port of entry of these patients to the public health system.

Although it is difficult to define precisely the percentage of cases not requiring care in the emergency service, it can be estimated that a significant number could be managed in the primary care network by general and/or ambulatory physicians. The majority of cases of infectious conjunctivitis, for example, is benign and self-limited, being able to be approached by doctors of primary care. In the northeast region of Brazil, it is estimated that almost half of appointments in an ophthalmological emergency service consists of common diseases of simple treatment, and that they could be diagnosed and be treated in an ophthalmologic clinic or by general physicians.

The study is limited to the analysis of ophthalmologic emergency appointments in a period of 3 months, which should

**REFERENCES**


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