

Clinical and etiological aspects of ptosis at university hospital of cotonou

Alamou S^{1*}, Assavedo Cra², Abouki COA¹, Godonou Nye¹, Sounouvou I¹, Yehouessi L¹, Tchabi S¹ and Doutetien C¹

¹Department of Ophthalmology, HKM University Hospital of Cotonou, Benin

²Ophthalmology Unit, Faculty of Medicine, University of Parakou, Benin

Abstract

Ptosis is a rare disease in ophthalmic consultation. It results in the abnormal drooping of the upper eyelid muscle by weakness of the upper eyelid or its innervation. The aim of this work is to study the clinical and ethological aspects of ptosis in the University Hospital "Hubert Koutoukou Maga" of Cotonou (CNHU-HKM). It was a 10-year retrospective and descriptive study which covered from 1st January 2004 to 31 December 2013. Among the 45,924 patients examined, 58 showed ptosis (frequency 0.13%). Patients are ranged from 1 to 69 years old with a mean age of 28.7 years. The sex ratio was 2.2 with men. 94.8% were referred by a doctor. Visual impairment (34.5%) and eyelid swelling (25.9%) were dominant. 73 eyes were affected by ptosis among which 43 (73.1%) unilateral. The symptoms onset and the first consultation was 7 days in 60.3% of cases. The settlement method was progressive in 56.9%. Ptosis was acquired in 76.7% of cases. Traumatic causes topped the list (42.9%) followed by myogenic (21.4%) and neurogenic (10.7%).

Introduction

Ptosis is when the upper eyelid droops over the eye. it may droop just a little or so much that it covers the pupil. It is a rare disease encountered in ophthalmological consultation in Benin's hospitals. It is an inefficiency of the upper eyelid muscle either by myogenic, neurogenic or disintegration of the aponeurosis or by abnormal innervation of the concerned muscle [1]. It can be unilateral or bilateral. This has as a consequence, in addition to the functional aesthetic defect, the risk of the appearance of an amblyopia in the child especially when it is congenital. The literature on its prevalence is mainly of Western origin because very few isolated studies exit on the epidemiology of ptosis. The aim of the present study is to determine the epidemiological profile of ptosis, to describe the clinical aspects and to identify the main etiologies in the University Hospital of Cotonou.

Method

It is a 10 year, retrospective and descriptive study that covered from 1st January 2004 to 31 December 2013. The study population consisted of patients of both sexes suffering from ptosis who consulted during the period in the Ophthalmology Clinic in the University Hospital of Cotonou. Here we used socio-demographic variables such as age, sex, occupation, educational level, added to clinical and etiological one. Ptosis disease is said to be:

- minor, when the difference in level between the two free edges is less than or equal to 2 mm.
- moderate when the difference is between 2 and 4 mm.
- major, when the difference is greater than 4 mm [1].

Data processing was made using Microsoft Office Excel 2013 software.

Analysis and processing of the data was made using SPSS21 software. The degree of significance is $p \geq 0.05$.

Results

Epidemiological aspects.

Frequency.

Among the 45924 patients received during the study period, 58 ptosis cases were recorded, that means a frequency of 0.13%.

Age

Patients were aged from 1 to 69 years with a mean age of 28.7 ± 19.8 years. The age group under 15 years of age was the most affected, with 31.1% of cases. Then, those between 16-30 years and 31-45 years with 24.1% of cases each as illustrated in Table 1.

Sex

Ptosis was higher in men (69%) than in women (31%). The sex ratio was 2.2.

Method of admission

Very few patients were referred by a doctor. The majority consulted on their own initiative in 94.8%.

Clinical aspects

Complaints

Those recorded in patients were recorded in Figure 1.

Correspondence to: Alamou soulé, Department of Ophthalmology, HKM University Hospital of Cotonou, 04Box 0848 Cotonou, Benin, Tel: 00229 97 13 69 86; E-mail: s_alamou@yahoo.fr

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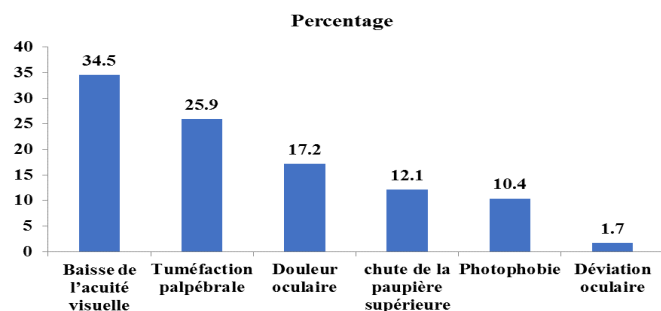


Figure 1. Distribution of identified complaints

The decrease in visual acuity (34.5%) and palpebral tumefaction (25.9%) were more accurate. The upper eyelid droop was recorded in 12.1% of cases.

Table 1. Distribution of patient by Age

	Number	%
<15 year	18	31,1
16- 30 years	14	24,1
31 – 45 years	14	24,1
46 – 60 years	8	13,8
>60 years	4	6,9
Total	58	100

Laterality

The impairment was predominantly unilateral (74.1%) as shown in Table 2. The left eye was the most affected in 41.4% of cases.

At the beginning

The beginning of ptosis was progressive in more than half of the patients (56.9%). The consultation period was between 1 day and 20 years with a median of 7 days.

Visual acuity

The distribution related to visual acuity is illustrated in Table 3.

Degree of ptosis

The distribution according to the degree of the palpebral fall is noted in Table 4.

Ptosis was major in 23.3% of cases.

The acquired ptosis was 76.7% (56 eyes). The causes of the acquired ptosis are shown in the Table 5.

Discussion

Socio-demographically

Ptosis is one of the rare diseases recorded in Ophthalmological consultation in the University Hospital of Cotonou (0.13%). This low occurrence was observed by Hashemi *et al.* who obtained 0.90% of cases of ptosis in ophthalmic diseases [2] in Iran in 2010. On the other hand, Baggio and Ruban [3] recorded in Europe in 2002, 884 cases of ptosis among 1450 consultants for palpebral affections, or 60% of the palpebral affections.

The low frequency observed in our study could be explained by the ignorance of patients who rarely consult for eyelid drooping, or by traditional belief which makes certain pathologies of children at birth constitute a taboo or are considered as a mystic spell.

The male predominance observed in the present study (69%) was observed by Rivière *et al.* [4] in 2007 in France with 59% and by

Hashemi *et al.* [2] in Iran in 2010. This can be explained by a high exposure of men to traumatic related accidents resulting in ptosis.

The majority of patients (94.8%) who consulted on their own initiative in University Hospital of Cotonou, is explained by the fact that it is the referral hospital in Cotonou.

Clinical presentation

The main identified annoyances ranged from decreased visual acuity to palpebral tumefaction in 34.5% and 29.4%, respectively. This palpebral tumefaction is often post traumatic. For Handor *et al.* [5] in Morocco in 2014, aesthetic discomfort was the most reported in 65.9% of cases.

The ptosis is often unilateral, like in our study, Riviere *et al.* [4] recorded a rate of 74% unilateral attacks. Higher rates were reported by Handor *et al.* [5] and Hashemi *et al.* [2] respectively 90.9% and 95%. The left eye was the most affected in our series because a punch is usually blown with the right hand.

Only 39.7% of patients consulted a doctor within seven days of the eyelid drooping onset. More than a year and six months passed before the majority of patients consulted. This delay in consultation could be explained by the non-painful nature of non-traumatic ptosis, the absence of any real visual discomfort in the light ptosis. Amblyopia was noted in 20.5% of cases, more than 14.9% with Gregory *et al.* [6] in

Table 2. Distribution of patients according to the laterality of the ptosis

	Number	%
Right Unilateral	19	32,7
Left Unilateral	24	41,4
Bilateral	15	25,9
Total	58	100

For the 58 patients mentioned above, we have 15 bilateral cases (30 ptosis), 43 unilateral cases which constitutes a total of 73 ptosis.

Table 3. Distribution related to visual acuity

	Number	%
< 3/10	15	20,5
3/10≤AV<7/10	34	46,6
≥7/10	24	32,9
Total	73	100

67.1% of eyes had a decrease in visual acuity.

Table 4. Distribution related to the degree of ptosis

	Number	%
Minor	31	42,5
Moderated	24	32,9
Major	17	23,3
NR	01	1,3
Total	73	100

The upper palpebral fold was absent in 38.4% of cases. Corneal sensitivity was tested in only 16.4% of cases and was normal.

The congenital ptosis was 17, for 23.3% of cases and all isolated.

Table 5. Distribution of eyes with acquired ptosis

	Number	%
Neurogene	6	10,7
Myogene	12	21,4
Aponevrotic	14	25
Traumatic	24	42,9
Total	56	100

Trauma was the most observed cause of ptosis in 42.9% of cases.

Wisconsin in 2013. Our results are, however, closer to that of Handor *et al.* (25%) [5] in Morocco. This high percentage of the Moroccan study could be justified by the specificity of their series with congenital ptosis. Ptosis was minor in 42.5% of our series, which is significantly higher than that of Handor *et al.* (11.36%) [5]. But the frequency of the minor form constitutes an advantage in the management of ptosis.

Ptosis was said major in 23.3% of our series, which was higher than the 18.18% of Handor *et al.* [5]. In all cases, this major ptosis requires early and adequate management to avoid amblyopia in congenital ptosis.

Our study revealed that the upper palpebral fold was absent in 38.4% of cases, which was contrary to the observations with some authors [4,6] who found the palpebral bulge generally in good position. It should be noticed, however, that this information lacks in many of the patients in our series (30.1%).

Corneal sensitivity was not reported in the majority of patients but was retained in all cases tested. The preservation of corneal sensitivity is a good prognostic factor in the management of this condition, which is essentially surgical. Indeed, a loss of corneal sensation implies an involvement of the Trigeminal nerve with risk of post-operative corneal lesion related to transient lagophthalmos, sometimes prolonged [1].

Etiological presentation

Congenital ptosis was evoked in 23.3% of cases. This proportion is much lower than that observed in the literature [4,6], which notes the predominance of congenital ptosis in 75% of cases, probably due to parents' ignorance.

Congenital ptosis was isolated in our series, as highlighted by Handor *et al.* [5] who obtained a proportion of 91%. However, they reported an association with blepharophimosis in 6.81% of cases and a syndrome of congenital fibrosis of the oculo-motor muscles in 2.27% of cases [5]. The acquired ptosis is often classified on the basis of its pathogenesis into five subgroups: myogenic, aponeurotic,

neurogenic, mixed and false ptosis [7]. The majority of these ptosis are aponeurotic, usually associated with the disintegration or dehiscence of the aponeurosis of the levator muscle of the upper eyelid [8]. The 25% aponeurotic rate of ptosis in the current study is lower than that of 35.3% reported by Baggio *et al.* [7]. These were cases due to lack of technical equipment in developing countries.

Conclusion

Ptosis accounted for 0.13% of consultation causes in the clinic of ophthalmology in the University Hospital of Cotonou. It concerned predominantly male subjects and also young subjects with significant delay in consultation. The occurrence was generally one-sided. Patients often consulted for declined visual acuity and palpebral bulge. Ptosis was more often acquired and traumatic origin. This is mostly minor ptosis, usually with a palpebral fold of a preserved corneal sensitivity which presents a positive result when adequately managed.

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