Research Article
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Epidemiological, clinical, and therapeutic features of ptosis in Bukavu, Democratic Republic of the Congo

Abstract

Introduction: Ptosis is a fall of the upper eyelid caused by a defect in the levator. The aim of the study was to describe epidemiological, clinical, and therapeutic features of ptosis in Bukavu.

Methodology: This is a prospective study conducted on 77 patients admitted for ptosis in ophthalmology departments of the Panzi Hospital and the CBM-CELPA Ophthalmological Clinic in Bukavu (Democratic Republic of the Congo) during a period of 3 years, from 1 January 2018 to 31 December 2021.

Results: The median age at management was 14 years, with a male predominance (57.1%). This was congenital ptosis in 77.9%, and acquired ptosis in 22.1%. Ptosis was major in 24.1%, and moderate in 61.0% of cases. Amblyopia was present in 63.6% of the cases. Resection of the levator muscle of the upper eyelid was the most common surgical technique (56.4%), followed by suspension of the upper eyelid from the frontal muscle (43.6%). Functional and aesthetic results were satisfactory in 17 eyes (30.9%). Among the postoperative complications, we noted the suture thread release (16.4%) and the inflammatory granuloma (12.7%).

Conclusion: Ptosis is a pathology encountered in Bukavu. It is unilateral in the majority of cases. Congenital ptosis is the most common form. Surgical treatment gives good results in our context.

Keywords: ptosis, amblyopia, upper eyelid levator resection, upper eyelid suspension to the frontal muscle, Bukavu

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Introduction

Blepharoptosis, or ptosis, as it is more commonly known, is defined as the lower displacement of the upper eyelid when the eye is in the primary position.[1] Ptosis is a fall of the upper eyelid caused by a defect in the eyelid's levator. It is a condition of insufficient position of the upper eyelid. The descending upper border of the eyelid usually causes partial or complete obstruction of the upper visual field. Causes vary but can be categorized as congenital or acquired. Congenital ptosis may be isolated or associated with malformative syndromes. Acquired ptosis can also be differentiated based on anatomic abnormalities, including traumatic, mechanical, neurogenic, and myogenic.[2] In fact, it presents two significant problems: one of a functional nature associated to the increased incidence of amblyopia during severe congenital ptosis, and the other of an aesthetic nature, which is the primary cause for consultation.[3,4] Ptosis has highly variable clinical features, largely correlated with its etiology. These clinical features are critical in the surgical management of ptosis. We found it interesting to carry out a prospective study of epidemiological, clinical, therapeutic features of ptosis in patients admitted to two ophthalmological departments in Bukavu city, in the Democratic Republic of the Congo (DRC).

Material and methods

This is a prospective descriptive study of all cases of ptosis admitted to the ophthalmology departments of the Panzi Hospital and the ophthalmological clinic CBM CELPA in Bukavu in Bukavu (DRC) from 1 January 2018 to 31 December 2021. All patients were operated on by the same surgeon and were followed for at least 6 months postoperatively. All patients had a complete physical examination, including the degree of upper eyelid droop and levator muscle function.

As inclusion criteria for the study, we included any patient with ptosis who consulted during the study period. We proceeded with the exhaustive recruitment of all patients with ptosis aged 5 years and older. All patients with ptosis (unilateral or bilateral) were examined and each patient underwent a complete examination including:

a. An interrogatory (research of the notion of heredity, etiological factor, mode of installation of the ptosis, evolution, etc.);

b. Examination of the ptosis (height of the palpebral fissure, palpebral fold, functional value of the levator, epinephrine test, etc.);

c. Eyelid examination (occlusion, associated malformations, scarring, tarsal and conjunctival conditions);

d. Examination of the ocular half (deductions, versions, Charles Bell sign, intrinsic motility);

e. Detection of mandibulopelebral synkinesia (Marcus Gunn syndrome)

f. Examination of the eyeball (pupillary state, corneal state, lacrimation, etc.);

g. A visual function test;

h. Operations depending on the etiology (scanner, neurological examination, electromyography, etc.).

Data from the survey and clinical examination were analyzed according to a pre-established business plan comprising 4 sections:

epidemiological, clinical, and therapeutic data. Data analysis was performed using STATA version 16 software. The descriptive analysis was performed using calculations of proportions for qualitative variables (frequencies, percentages) and medians with interquartile range (IQR) for quantitative variables not normally distributed after verification by the Shapiro test. Ethical considerations have been respected. The present study has been submitted to the Medical Ethics Committee of the Official University of Bukavu for review and approval (Approval No: UOB/CEM/08/2022). The anonymity and confidentiality of patients were ensured by using codes instead of their names, so that no information could be linked to specific patients.

Results

Eighty-one eyes from 77 consecutive patients underwent surgery for ptosis during the study period. The median age was 14 years (IQR: 12 – 28 years). Male sex was predominant (53.3%) with a sex ratio (M/F) of 1.1. No family history of ptosis was noted. Ptosis was congenital in 77.9% of the cases and acquired in 22.1%. History of ocular trauma was noted in 11 patients (14.3%). The most common reason for consultation was cosmetic discomfort in 63.6% of cases and vision loss was noted in 36.4% of cases. Ptosis was bilateral in 5.2% of the patients and 59.7% of the cases were left-sided. The degree of ptosis was moderate in 61% and major in 24.7%. As abnormalities associated with ptosis, 19.5% of the cases were associated with amblyopia, 11.7% with blepharophimosis syndrome, and 9.1% with congenital oculomotor muscle fibrosis syndrome; 59.7% of the cases were not associated with an abnormality. Management was achieved in 40.3% of the patients by upper eyelid levator resection, 31.2% by upper eyelid to frontal muscle suspension and 28.9% were untreated (Table 1). Postoperative complications noted were suture thread release (16.4%) and inflammatory granuloma (12.7%) (Figure 1). Median values for visual acuity were 3/10 pre-management and 8/10 post-management (Figure 2).

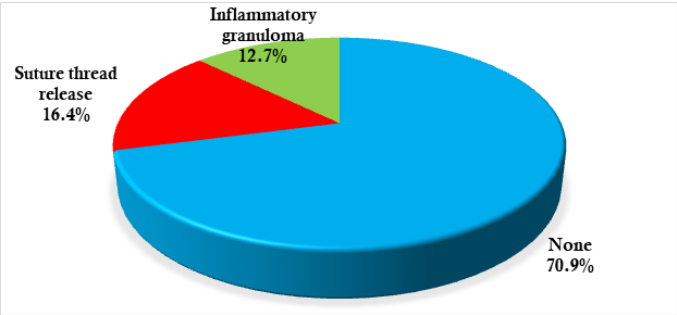

Figure 1 Distribution of patients according to postoperative complications.

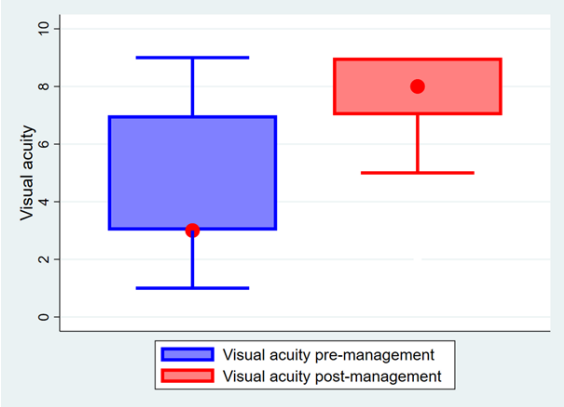

Figure 2 Median values of visual acuity before management and after management.

Table 1 Epidemioclinical, clinical, and therapeutic characteristics of patients with ptosis in Bukavu

Variables	Number (n=77)	Percentage
Age, median (IQR) in years	14 (12 – 28)	
Sex		
Male	41	53.3
Female	36	46.7
Residence		
Rural	4	5.2
Urban	73	94.8
Reason for consultation		
Aesthetic gene	49	63.6
Decline in vision	28	36.4
Ptosis type		
Congenital	60	77.9
Acquired	17	22.1
Side		
Left	46	59.7
Right	27	35.1
Both	4	5.2
Visual acuity pre-management		
<3	38	49.4
≥3	39	50.6
Degree of ptosis		
Minor	11	14.3
Moderate	47	61.0
Major	19	24.7
Associated abnormalities		
None	46	59.7
Amblyopia	15	19.5
Blepharophimosis syndrome	9	11.7
Congenital oculomotor muscle fibrosis syndrome	7	9.1
Type of management		
Resection of the levator upper eyelid	31	40.3
Suspension of the upper eyelid to the frontalis muscle	24	31.2
Untreated	22	28.6

Discussion

The present study found that the median age at diagnosis was 14 years. Age at diagnosis varies by study. Ben Zina et al.[5] found a mean age of 13 years in Tunisia. In Morocco, Ballyout et al.[6] a mean age of 12 years and Hanan Handor et al.[7] had found a median age of 10 years. The British series had found ages lower than ours. Lee et al.[8] had a median age of 5.5 years and Berry-Brincat et al.[9] had registered 3.88 years. This could be due to low awareness in the community, low level of education, lack of access to specialized health facilities and lack of qualified staff. In addition, there is the political will to subsidize health care in our countries. We found a male predominance (53.3%). Similarly, Lee et al.[8] reported 63% of male patients. According to Benia[10] male predominance is linked to the type of ptosis. Posttraumatic and myogenic ptosis are thought to be more common among men who are more exposed to trauma than women. Ducasse et al.[11] regained a predominance of the female sex at 53.3%.

The majority of the authors consider that congenital ptosis accounts for more than three quarters of the ptosis encountered.[1,12] In our series, we noted a predominance of congenital ptosis, 77.9% of the cases against 22.1% for acquired ptosis. Congenital ptosis is the most common form of ptosis and is frequently associated with amblyopia[13]; in our series, this association was noted as 19.5%. The majority of patients (63.6%) consulted on their own initiative for an aesthetic discomfort related to ptosis. Adult consultations are still most frequently requested for aesthetic reasons.[14] Sudden onset of ptosis remains in most cases a life-threatening emergency that requires prompt diagnosis and management. Horton disease, an aneurysm of the internal carotid artery with compression of the oculomotor nerve, and dissection of the internal carotid artery are the greatest providers of acute and painful ptosis. The functional and aesthetic result according to the surgeon and the patient was good/excellent in 92.7% of the 55 cases operated. Our results are higher than those of Benia who reported 61.6% of the good results.[10] Furthermore, Escales[15] and McCulley et al.[16] achieved much better functional and aesthetic outcomes with 90% and 77% of the cases, respectively. In the McCulley et al.[16] study the post-operative result was more related to the function of the levator muscle than to the operative technique. In their study, all patients with good levator function achieved much better outcomes.

Considering the positive outcomes, complications may occur such as hypocorrection, overcorrection, corneal exposure, infection, inflammatory granuloma, and even suture thread release.[1,17] In our series, we noted the suture thread release (16.4%) and the inflammatory granuloma (12.7%). Postoperative corneal exposure did not occur in any patient because of controlled surgery to avoid over-correction and by the routine placement of a lower eyelid traction wire at the end of the procedure to ensure eyelid occlusion within 24 hours of surgery. On the other hand, Maalouf and George[18] had recorded 6 cases of serious keratitis in a series of 3500 cases of operated ptosis, including one case of corneal ulcer, 3 cases of corneal abscess, and 2 cases of keratitis which ended in evisceration. Regardless of the potential dangers of exposure keratitis, very few corneal problems have been reported in various research.[19]

Conclusion

Ptosis is a pathology encountered in Bukavu. It is unilateral in the majority of cases. Congenital ptosis is the most common form. Surgical treatment gives good results in our context.

Acknowledgments

None.

Conflicts of interest

The author declares that there are no conflicts of interest.

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