

# Assessment and Management of 51 Cases of Acquired Ptosis in Adults at the Ophthalmology Department of the University Hospital of Treichville. (Ivory Coast)

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## Abstract

**Aim:** The objective of this study was to assess the management of acquired ptosis in adults in our daily practice.

**Methodology:** We carried out a retrospective, descriptive cross-sectional study over a 6-year period at the ophthalmology department of the University Hospital of Treichville.

**Results:** Fifty-one (51) eyelids of 39 patients were treated during the study period. Twenty-six (26) patients, 66.67% were males compared to 13 females. The average age of patients was 40.62 years with extremes of 19 years and 78 years. Ptosis was unilateral in 27 patients that is 69.23% of cases and bilateral in 12 patients that is 30.77%. Myogenic involvement was the highest in 58.97% of cases. Frontal suspension was the most common operative technique performed, 64.71% of cases. The postoperative results were considered good and excellent in 58.82% of patients.

**Conclusion:** Acquired ptosis is multifactorial. Careful examination ensures a satisfactory functional and aesthetic result. A ptosis of sudden appearance makes fear a vital emergency.

**Keywords:** ptosis, acquired, adults, myogenic ptosis, frontal suspension, hypercorrection, exposure keratitis, aesthetic result.

## INTRODUCTION

Acquired ptosis appears after birth and can raise two problems: aesthetic and prognostic [1]. Some acquired ptosis may pay attention because deserve as cause of disability and death. They require emergency management. Acquired ptosis in adults responds to various etiologies whose management can be medical or surgical sometimes requiring multidisciplinary collaboration. The etiological research remains an important step in the management and must be guided by a thorough interrogation, a methodical clinical examination and a hierarchy of paraclinical examinations. Despite the problems raised by acquired ptosis, very few studies are devoted to it in black Africa, particularly in Côte d'Ivoire. The objective of

this study is to assess the management of acquired ptosis in adults in our daily practice.

## METHOD

We carried out a retrospective, descriptive cross-sectional study from March 2011 to July 31, 2017 at the ophthalmology department of the University Hospital of Treichville. All patients over 18 years with acquired ptosis were included. The files of patients with no ptosis, the badly or insufficiently informed files and the unusable files were not included. Epidemiological, clinical and therapeutic data as well as postoperative results were recorded. The postoperative result was assessed after 1 month according to the following 4 modalities and according to Escales [2].

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- Excellent result: symmetry between both eyes with satisfactory elevation of the upper eyelid.
- Good result: discreet asymmetry that only the specialist can detect either a residual ptosis  $\leq 2\text{mm}$  with a pupil completely unobstructed or a small asymmetry concerning the eyelid fold or the eyebrow.
- Mean result: residual ptosis of 3mm but the pupil is still unobstructed, associated or not with an incomplete occlusion without corneal exposure.
- Mediocre result: under correction or marked hypercorrection.

### RESULTS

During the study period, we identified 37059 adults, 39 of whom had ptosis, which corresponds to about 7 new cases per year with a hospital prevalence of

0.11%. Twenty-six (26) patients that is 66.7% were males compared to 13 females that is 33.3% respectively.

The average age of patients was 40.62 years with extremes of 19 years and 78 years. Ptosis was unilateral in 27 patients that is 69.23% of cases and bilateral in 12 patients that is 30.77%. We recorded a total of 51 eyelids with ptosis. According to the addressing mode, twenty-nine (29) that is 74.36% of patients consulted on their own for aesthetic discomfort while 10 patients that is 25.64% were referred by an ophthalmologist or by a neurologist. The installation of the Palpebral ptosis was brutal in 8 patients that is 20.51% and progressive in 31 that is 79.49%. The result of the examination of the 51 eyelids presenting a ptosis is mentioned in Table I.

**Table 1.** Results of clinical examination of ptosis of 51 eyelids.

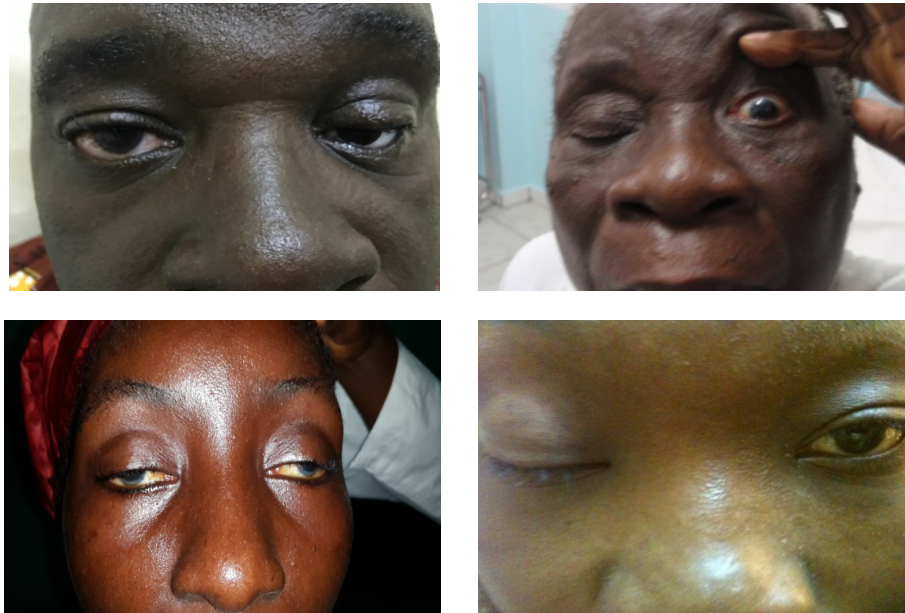
Ptosis examination		Number	Percentage (%)
Importance of ptosis	Minimal	6	12.67
	Moderate	28	54
	Major	17	33.33
Force of the levator muscle of the upper eyelid	Poor	25	48.98
	Mediocre	20	39.22
	Good	6	11.76
Upper eyelid fold	Erased	12	23.53
	High situated	6	11.76
	Normal	33	64.71

The etiological research required in some cases the achievement of paraclinical assessments, including: an inflammatory and metabolic assessment of 20 patients (51.28%) particularly blood count, assay of the C-reactive protein (CRP) and blood sugar;

determination of thyroid hormone in 4 patients (10.26%) in particular (T3, T4, TSH), orbital and encephalic CT scan in 16 patients (41.03%). The etiologies of ptosis are listed in Table II, figure 1. Myogenic ptosis predominates, 23 patients that is 58.97%.

**Table 2.** Etiological mechanism of ptosis.

Type of ptosis	Number	Percentage (%)
Myogenic	23	58.97
Traumatic	7	17.95
Neurogenic	5	12.82
Mechanic	2	5.13
Aponeurotic	2	5.13
Total	39	100



**Figure 1. Clinical Forms of ptosis: Sympathetic (A), Senile (B), Myasthenic (C), Aneurysm rupture(D)**

The surgical indication was made in 32 patients (36 eyelids) that is 82.05%. Neurological management and following were required in 6 patients (15.38%). One patient died from carotid aneurysm rupture. Out of the 32 patients, 13 patients (17 eyelids) underwent ptosis surgery.

Among the surgical techniques, frontal suspension was the most performed in 64.71% of cases followed by resection of the levator muscle of the upper eyelid in 23.53% of cases. Fascia surgery was performed in only 11.76% of cases (figure 2,3).



**Figure 2. Equipment for frontal suspension: ptosis probe (A), fascia lata sampling site (B), Fascia lata (C).**



**Figure 3. Per and postoperative photos of ptosis (A and B)**



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Immediate post-operative complications were over-correction (23.53%), exposure keratitis (11.76%), and under-correction (5.88%). After a month of

follow-up, the result of post-surgical treatment of the 17 operated eyelids was excellent and good in 58.82% (Figure 4).

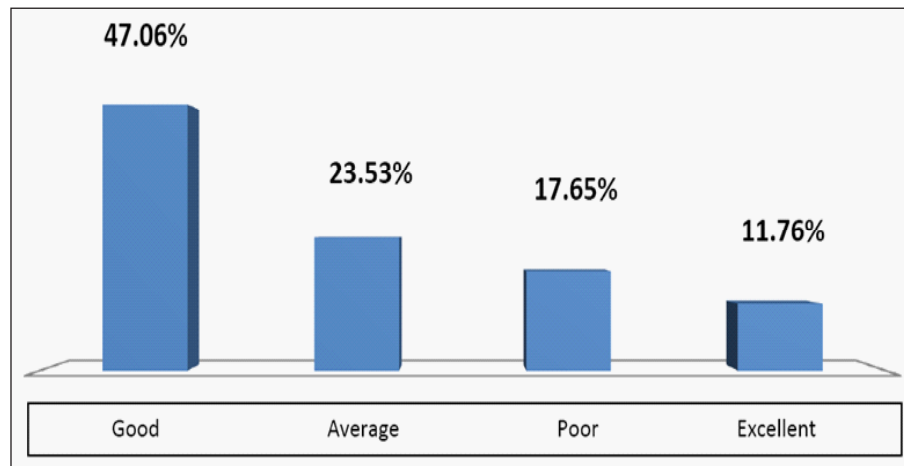


Figure 4. Postoperative results of ptosis surgery

### DISCUSSION

The hospital prevalence observed in our study was 0.11%. This prevalence is lower than that of Hashemi et al in Iran and Baiyeraju et al in Nigeria [3, 4] who recorded 1.16% and 2.1% respectively. This low prevalence of ptosis in our study could be explained by the fact that ptosis outside the urgent context is of little concern to the patient and some practitioners. Ignorance and the limited number of specialists could explain the fact that some patients with ptosis do not come to consult in our center which remains the only reference in the management of ptosis in our country.

The etiology of acquired ptosis varies according to the studies. Myogenic ptosis was predominant in 58.97% of patients while Baggio and Ducasse [5, 6] reported a predominance of fascia ptosis with 52.25% and 22%, respectively. In the study by Benia et al, we note a predominance of traumatic ptosis (34.9%) [7]. This difference in the results could be related to the type of population studied. In European studies, senile ptosis remains the most widely reported etiology due to increased aging of the population [5, 6].

In Africa, due to a rejuvenation of the population myogenic and traumatic etiologies are the most found, as in the study of Benia in Algeria [7]. We have recorded an average age of 40.62 years. This average age is lower than that found by Escales with 61.2 years [2]. Ducasse found a female predominance in 53.3% of cases while we report a male predominance

with a sex ratio of 2 [6]. Our study is superimposable to that of Lee [6,8]. This predominance of the male sex is rarely found in studies. According to Benia the male predominance would be related to the type of ptosis. Post-traumatic and myogenic ptosis would be more common in younger subjects and establish a relationship between trauma and males, men being more involved in risky occupations.

Most patients (29 cases) consulted on their own for aesthetic discomfort related to ptosis that is 74.36%. Aesthetic demand remains the main reason for consultation in adults [1]. The installation of ptosis was progressive for the majority of patients (31 cases) that is 79.49% against 8 cases of brutal installation that is 20.51%. A brutal ptosis remains in most cases a vital emergency whose diagnosis and treatment must be quickly started. Dissection of the internal carotid artery, an internal carotid aneurysm with compression of the III, and Horton's disease are the largest providers. We recorded a case of death by aneurysm rupture. The myogenic origin of ptosis was the most recorded in our study (56.76%) followed by neurogenic ptosis which would be more frequent in young subjects.

On clinical examination, the excursion force of the upper eyelid retractor muscle was rated from zero to mediocre in 88.2% of the eyelids with ptosis. The importance of ptosis in the majority of patients would explain a higher surgical indication that is 82.05% and the frontal suspension was the technique

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of choice. Resection of the levator muscle was the second indication in our study. The frontal suspension was also the technique of choice of Barbier in ptosis with poor function of the levator muscle of the upper eyelid [9].

According to the surgeon and patient the functional and esthetic postoperative result was good and excellent in 58.82% of eyelids and average in 23.53%. Our results are comparable to those of Benia, with 61.6% of good results. On the other hand, Escales [2] and McCulley [10] obtained better functional and aesthetic results with 90% and 77% of the cases respectively. According to McCulley, the postoperative result would be more related to the function of the initial levator muscle than to the operative technique. In his study, all patients with good elevator function had better results. Despite the satisfactory results complications can occur, of type over-correction with exposure keratitis (4 eyelids that is 23.53%). As in our study, Maalouf, out of 3500 cases of ptosis operated on reported 6 cases of severe keratitis, including 3 cases of corneal abscess, one case of corneal ulcer and 2 cases of keratitis which resulted in evisceration [11].]. Despite the theoretical risks of exposure keratitis, some studies report very little corneal injury [12].

### CONCLUSION

Acquired ptosis appears after birth and can raise two problems: aesthetic and prognostic. It responds to various etiologies whose management can be medical or surgical sometimes requiring multidisciplinary collaboration. Some acquired ptosis can be life-threatening and require emergency management. Careful examination ensures a satisfactory functional and aesthetic result.

### REFERENCES

- [1] Edmonson BC, Wolcae. Ptosis evaluation and management. *Otolaryngol Clin North Am.* 2005 oct; 38 (5) : 921- 46.
- [2] Escales P. Ptosis traité par une résection du muscle

de müller: analysed'une série de 51 patients. *J Fr Ophtalmol.*, 2006; 29, 8, 908-15.

- [3] Hashemi H, Khabazkhoob M, Yekta A, Mohammad K, Fotouhi a. The prevalence of eyelid ptosis in tehran population: the tehran eye study. *Iran J Ophthalmol.* 2010;22: 3-6.
- [4] Baiyeroju A, Oluwatosin O. Blepharoptosis in Ibadan, Nigeria. *West Afr J med.* 2004; 22: 208-210.
- [5] Baggio E, Ruban JM, Boizard Y. Etiopathogénie des ptosis à propos d'une série de 484 cas. Vers une nouvelle classification? *J Fr Ophtalmol.* 2002;25;10 : 1015-1020.
- [6] Ducasse A, Maucour MF, Gotzamanis A, Chaunu MP: Principales caractéristiques sémiologiques des ptosis. *J Fr Ophtalmol*, 1999 ; 22 ; 4 : 442-445.
- [7] Benia L. Etude rétrospective de 1500 cas personnels de ptosis. *J Fr Ophtalmol*, 1999 ; 22 ; 5 : 541-544.
- [8] Lee V, Konard H, Bunce C, Nelson C, Collin JRO: Aetiology and surgical treatment of childhood blepharoptosis. *Br J Ophthalmol*, 2002; 86(11): 1282-1286.
- [9] Galatoire O. Chirurgie du regard . Rapport de la société française d'Ophtalmologie. Ed Elsevier Masson. Avril 2016: 71 – 83.
- [10] McCulley TJ, Kersten RC, Kulwin DR, Feuer WJ. Outcome and influencing factors of external levator palpebrae superioris aponeurosis advancement for blepharoptosis. *Ophthalmic Plast Reconstr Surg.* 2003 Sep;19(5):388-93.
- [11] Maalouf T, George L. : le risque cornéen grave dans la chirurgie du ptosis : à propos de six cas. *J fr. ophtalmol*, 2007; 30(9) : 893-898.
- [12] Silvério J, Sugano DM, Lucci LM, Rehder JR.: frontalis suspension with polytetrafluorethylene for the treatment of blepharoptosis. *arq bras oftalmol*, 2009; 72:79-83.

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