

## Tolerance of ocular prostheses in enucleated and eviscerated patients: aesthetic aspect and quality of life: about 92 cases

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### Summary:

#### Introduction

Patients with ocular prostheses have an altered quality of life mainly due to the loss of visual function. But aesthetics and the gaze of others is also part of it. The aim of our study was to evaluate the quality of life and aesthetic aspects of ocular prosthesis wearers.

#### Patients and Methods

We included patients enucleated or eviscerated during their follow-up in the ophthalmology department B (hospital of rabat specialties), at various times of their surgery, whatever their pathology and surgical technique.

#### Results

Our study included 92 patients, 52 of whom were eviscerated and 40 enucleated, all of whom were fitted with definitive prostheses. The median mobility of the stump and prosthesis, in terms of area traveled relative to the healthy eye, was significantly greater in eviscerated patients than in enucleated patients.

Prosthetic mobility was limited relative to stump mobility by an average factor of 3.4 in eviscerated patients and 2.5 in enucleated patients.

#### Conclusion

Although altered by the loss of visual function, the quality of life of patients seems to be improved by prosthetic equipment, the evolution of which over the last century has been significant.

The lack of prosthetic mobility remains a major factor of alteration of the aesthetics of their face, especially noted by the patients' entourage.

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### I. Introduction:

Evisceration or enucleation is a mutilating procedure that has a major impact on the quality of life of the patients concerned. Prosthetic adaptation after enucleation or evisceration is giving good results nowadays. However, the lack of prosthetic mobility remains problematic and few studies in the literature analyze it objectively.

The aim of our study was to evaluate the quality of life and aesthetic aspects of ocular prosthesis wearers.

### II. Patients & Methods

Our study was a descriptive epidemiological survey of patients who were enucleated or eviscerated during their follow-up in the ophthalmology department B (hospital of Rabat specialties), at various times after their surgery, regardless of their pathology and surgical technique. We excluded files that could not be used and patients who were lost to follow-up.

First, we wanted to analyze the quality of life of the patients who had undergone an evisceration or enucleation procedure by comparing their condition before and after the surgical procedure and the prosthetic equipment, by means of a questionnaire (Figure 1).

Then an analysis of the mobility of their stump and their prosthesis.

Statistical analyses and diagrams were carried out using the R software version 4.0.2. Quantitative variables are presented as the mean and the median with extremes. The qualitative variables are presented as frequency and percentages. Some qualitative variables of interest are presented as pie charts.

### **III. Results**

Our study included 92 patients, 52 patients benefited from evisceration surgery (68.57%), while 40 of them were enucleated (31.42%). The average age was 38 years.

Concerning the first part of our questionnaire, rather oriented on the physical aspect of the handicap, the amputation and the wearing of ocular prosthesis, the results are rather in favor :

- an absence of physical limitation in the external movements and at home
- Half of them have difficulty reading and watching television.
- A limitation of certain activities in the very active young population such as the practice of certain sports (swimming).
- Expulsion of the prosthesis in certain patients with coughing and sneezing.
- A discomfort in driving for more than half of them, but the patients described that other medical concerns also came into play for many.

These results are mostly related to the loss of visual function in one eye and are less related to the aesthetics of the prosthesis, but are interesting to consider. Figure 2

Concerning the second part of our questionnaire, which is essentially related to the psychological experience, the main results are the following:

- the wearing of a prosthesis does not seem to affect the patients in terms of their confidence and physical appearance, but on the contrary an increase in confidence and self-esteem.
- However, we note a major positive effect on the way others look at them, on their relationships with friends, on the isolation they feel, and on their vision of their physical appearance, since the majority of the answers are oriented towards a positive effect of the prosthetic equipment in this sense.

As for our additional question concerning the major aesthetic defect noted by the patients following the operation and the prosthetic equipment, we note that none of them seems to be bothered by the mobility of the prosthesis. The 7 patients who responded reported discomfort concerning the height of the palpebral fissure or the statics of the eyelids.

The mobility of the prosthesis is therefore of secondary importance in the overall aesthetic consideration of the ocular prosthesis. This can be explained by the fact that it is difficult for the patient to judge, unlike those around him.(figure 3 ; 4 )

### **IV. Discussion:**

The quality of life of patients with ocular prostheses has already been studied in many studies, but these studies have given little importance to the aesthetic aspect and are rather interested in the psychological profiles of the patients. Although this last parameter is one of the most important for prosthesis wearers, our work focused on the aesthetic result and the patients' feelings about it.

After having considered at length the alteration of the quality of life due to the loss of the visual function of an eye, in 2003, the Londoners Clarke and Rumsey decided to take an interest in the psychological experience of these patients. In their study, they consider the level of psychosocial stress expressed by anophthalmic patients, and the need to provide them with an adapted medical response (1).

In the 2010s, several studies show a significant drop in the level of quality of life of these patients.

In 2012, a team of ophthalmologists from Copenhagen, using the famous SF-36 questionnaire, noted a major effect on the rate of stress perceived by these patients, as well as the rate of change of profession, and of separation if they were in a couple (2).

A 2010 Korean study confirmed these results on a cohort of anophthalmic patients compared to a control group (3).

In 2015, a Chinese team also reported an increased rate of anxiety and depression in enucleated patients. These rates do not depend on the clinical criteria of the patients, but rather on psycho-social criteria such as the level of education or the anger felt towards the procedure (4).

In these patients whose quality of life has been shown to be impaired, three essential factors can be considered: loss of visual function, psychosocial complaints and aesthetic complaints. The psycho-social part concerns essentially the decrease of their personal esteem, and the feeling of their entourage regarding their mutilation. The aesthetic aspect concerns rather symptoms such as abundant secretions around the prosthesis, or the enucleated syndrome (Post Enucleation Socket Syndrome).

Our method of measuring ocular mobility has shown several advantages. In particular, it is the only one in the literature to analyze the prosthetic gaze in its eight extreme positions. It is also the first time that a

quantitative measurement of the ocular mobility of the prosthesis and the ocular stump relative to the healthy eye is proposed by means of percentages. This is an objective measurement that does not depend on the judgment of the examiner. It allows a comparison between individuals, thus between different types of prostheses, different sizes of balls, different types of surgeries affecting different anatomical structures (fornix, eyelids, orbital cavity, muscular sutures...). Moreover, our small population was heterogeneous. The patients were reviewed at very different times after their surgery and prosthetic adaptation. Their surgeries were performed by different operators, using various techniques.

The results of our study confirm the results obtained in the literature. Indeed, the subjective measurements of ocular mobility carried out by several authors, give an overall tendency towards a better mobility of the prostheses after evisceration rather than enucleation.

They thus allow the surgeon to objectively attest that when evisceration is possible, with preserved scleral tissue, this procedure should be attempted rather than enucleation from the start. Furthermore, the analysis of mobility according to the different sizes of implanted balls (from 16 to 20 mm) did not show any significant difference in the mobility of the stump or the prosthesis. Significance was only reached for the multiplicative coefficient between prosthetic and stump mobility. This result is in favor of a reduced mobility by a thicker prosthesis in case of a small ball, which seems logical. However, mobility is not the only factor involved in the aesthetics of the patients (ptosis, enophthalmos...). Other factors must be considered in the therapeutic indication, such as the initial pathology, the patient's future comfort, the pre-existing ocular tissue, and the future prosthetic adaptation.

## V. Conclusion

As part of the evolution of surgical practices and prosthetic equipment, our work has focused on the patient's aesthetic and psychological feelings and on the objective measurement of the mobility of the ocular and prosthetic stump following an evisceration or enucleation procedure. Although altered by the loss of visual function, the quality of life of the patients seems to be improved by the prosthetic equipment, the evolution of which over the last century has shown to be significant.

## References

- [1]. Clarke A, Rumsey N, Collin JRO, Wyn-Williams M. Psychosocial distress associated with disfiguring eye conditions. *Eye Lond Engl. janv 2003;17(1):35-40.*
- [2]. Rasmussen MLR, Ekholm O, Prause JU, Toft PB. Quality of life of eye amputated patients. *Acta Ophthalmol (Copenh). août 2012;90(5):435-40.*
- [3]. Ahn JM, Lee SY, Yoon JS. Health-related quality of life and emotional status of anophthalmic patients in Korea. *Am J Ophthalmol. juin2010;149(6):1005-1011.e1*
- [4]. Goiato MC, dos Santos DM, Bannwart LC, Moreno A, Pesqueira AA, Haddad MF, et al. Psychosocial impact on anophthalmic patients wearing ocular prosthesis. *Int J Oral Maxillofac Surg. janv 2013;42(1):113-9.*

## ICONOGRAPHY:

### QUESTIONNAIRE OF PATIENTS WITH OCULAR PROSTHESIS

**During the past week, have you felt limited in any of the following actions :**

**o Riding a bicycle :**

yes severely limited / yes slightly limited / no not at all limited

**o Driving :**

yes severely limited / yes slightly limited / no not at all limited

**o Moving around your home :**

yes severely limited / yes slightly limited / no not at all limited

**o Going outside :**

yes severely limited / yes slightly limited / no not at all limited

**o Reading :**

yes severely limited / yes slightly limited / no not at all limited

**Watching TV :**

yes severely limited / yes slightly limited / no not at all limited

**o Other hobby or activity:**

yes severely limited / yes slightly limited / no not at all limited

**During the past week, have you felt prevented from doing something you wanted to do because of your prosthesis?**

**o Yes "severely" / yes slightly / no not at all**

**Do you feel that your appearance has changed because of your prosthesis?**

**o Yes in a bad way / no / yes in a good way**

**Do you feel that you are more stared at in the street because of your prosthesis?**

**o Yes much more / yes a little more / no less than before**

**Do you feel that people are more unpleasant to you since you have a prosthesis?**

**o Yes much more / yes a little more / no less than before**

**Do you think that your prosthesis has a negative influence on your self-confidence?**

**o Yes a lot / yes a little / no on the contrary**

**Do you feel more isolated since you have a prosthesis?**

**o Yes much more / yes a little more / no on the contrary**

**Do you think that your prosthesis has an influence on your friendships?**

**o Yes a lot / yes a little / no on the contrary**

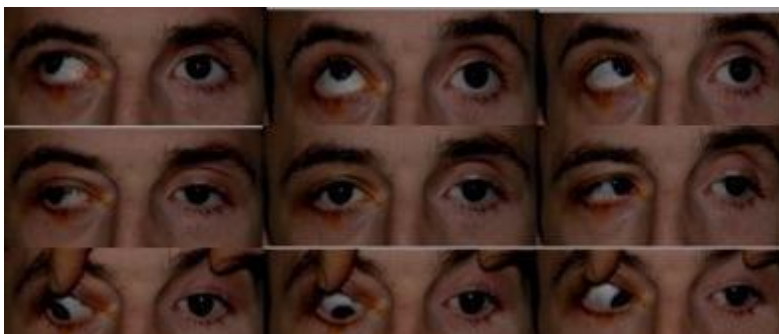
**Figure1 : QUESTIONNAIRE OF PATIENTS WITH OCULAR PROSTHESIS**



**Figure 2 :Patients, after final prosthesis**



**Figure 3 :The nine gazes positions without prosthesis**



**Figure 4 : The nine gazes positions with prosthesis**

**(Declaration of interest: the authors declare that they have no interest in relationship to this article).**

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