

Post-destructive eye surgery, associated depression at Sekuru Kaguvi Hospital Eye Unit, Zimbabwe: Pilot Study

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Abstract

Destructive eye surgery is associated with more complications than just loss of visual functions of the eye and aesthetics. Currently there is very little published literature on post-destructive eye surgery associated depression. Zimbabwe has been experiencing a surge in the rate of destructive eye surgery done at the National Tertiary Eye Unit. This situation could be churning out lots of unrecognized depressed clients into the community who require assistance in one form or another.

Objectives: To determine the prevalence of post-destructive eye surgery associated depression among patients attending Sekuru Kaguvi Hospital Eye Unit and assess if the current management protocol of patients undergoing destructive eye surgery at the Eye Unit addresses the problem adequately.

Methods: A cross-sectional study of 28 randomly selected patients who had destructive eye surgeries at Sekuru Kaguvi Hospital was conducted over five months from 1st March 2012 to end of July 2012. A structured questionnaire containing 15 questions on the following items: gender, age, diagnosis,

surgical procedure done, expectations before and after surgery, adequacy of counseling given and involvement of family was used to collect data. Nine questions to assess depression were adapted from the *Patient Health Questionnaire (PHQ-9)*.

Setting: The study was conducted at Sekuru Kaguvi Hospital Eye Unit, Parirenyatwa Group of Hospitals in Harare.

Results: Twenty-eight patients who underwent destructive eye surgery during the study period were selected using systematic random sampling. The gender ratio was 1:1 and the mean age was 38.7 years with a range from 24 to 65 years. Fifty percent of the patients in the study had orbital exenteration while the rest had enucleation (14%) and evisceration (36%). Twenty-eight percent of the study population had depression.

Conclusion: Destructive eye surgery is frequently associated with depression and our current management protocol of patients undergoing destructive eye surgery does not address this problem.

Key words: Depression, enucleation, evisceration, exenteration, destructive eye surgery.

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Introduction

Eyes may be lost accidentally due to severe ocular injury or as part of a management plan to treat life threatening ocular disease. Many authors agree that destructive eye surgery is psychologically and anatomically disfiguring and is associated with multiple co-morbidities¹⁻³. Indications for destructive eye surgery include malignancies involving the globe and surrounding structures, infections like orbital mucormycosis, severe endophthalmitis and panophthalmitis, painful blind eye and severe ocular injury⁴⁻⁷. However, loss of an eye is associated with a number of challenges. Problems associated with loss of an eye may be functional or aesthetic. Functional problems include blindness, loss of visual field, loss of binocular vision and stereopsis. These problems demand a change of life style for the affected individual to cope with the new status whose magnitude may depend on a number of factors like: age, gender, occupation and future plans. This need for life style change potentially causes a lot of stress on the affected individual leading to depression.

Many studies have shown that depression may be associated with various medical conditions⁸⁻¹⁰. Physiological and psychological stress caused by loss of an eye increases the risk of depression of an affected individual. The prevalence of post-destructive eye surgery associated depression is currently unknown locally and anecdotal reports seem to suggest that management protocols of these patients do not address this issue appropriately.

The aim of the study was to determine the prevalence and degree of post-destructive eye surgery associated depression among patients treated at Sekuru Kaguvi Hospital Eye Unit, Parirenyatwa Group of Hospitals, Harare. A secondary objective was to suggest mitigating factors to incorporate in the management protocol of patients undergoing destructive eye surgery.

Methods

A non-experimental exploratory and descriptive design was used to conduct this pilot study. Study subjects were selected from patients admitted to Sekuru Kaguvi Hospital Eye Unit for destructive eye surgery between 1st March and 31st July 2012

using a systematic random sampling technique. Data collection comprised of an in-depth interview with the 28 patients who had undergone destructive eye operations during the study period. An interviewer-administered detailed questionnaire was used as a data collection tool. The questionnaire had sections on demographic data, clinical intervention and nine questions that specifically looked for depression based on *Patient Health Questionnaire (PHQ-9)*^{10, 11}. It is worth noting that the choice of the PHQ-9 was based on proven validity following studies by Monahan *et al*¹⁰ and Kroenke *et al*¹¹. These studies found the questionnaire to have specificity and sensitivity of 88% respectively in diagnosing major depression^{10, 11}.

Data was collected and entered into Microsoft Excel database and analyzed using STATA 10.

Results

The study population comprised 28 randomly selected patients admitted to Sekuru Kaguvi Hospital Eye Unit for mainly unilateral destructive eye surgery during the study period. There was equal gender representation in the study population and the mean age was 38.7 years with the age ranging from 24 years to 65 years. Most (50%) of the patients had exenterations done for extensive invasive squamous cell carcinoma. Figure 1 below shows the distribution of study population by surgical procedures done to the 28 patients while Figure 2 summarises their indications.

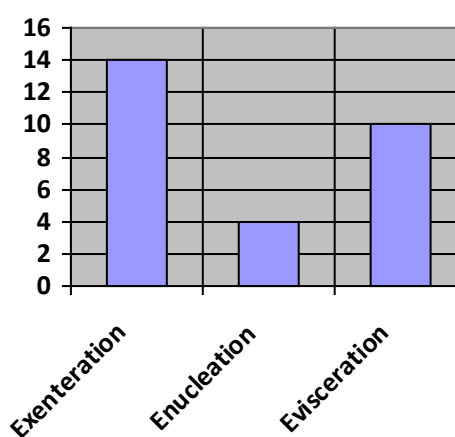


Figure 1. The distribution of surgical procedures performed on the study population.

Table 1. Summary of surgical procedures and their indications.

Type of surgical procedure	Invasive squamous cell carcinoma	Ruptured globe	Panophthalmitis	Painful blind eye
Exenteration	14	0	0	0
Enucleation	2	0	0	2
Evisceration	0	5	5	0
Total	16	5	5	2

When asked on whether adequate explanation had been given on the surgical procedure, 43% of the study subjects admitted to having the procedures clearly explained to them in terms of nature of surgical procedure planned for and physical disability resulting from the destructive surgery, while 57% indicated that they did not get adequate information before the surgical procedure. The latter group expressed that the post-operative findings were shocking. This shocking experience was commonly found amongst patients who had undergone orbital exenterations.

When asked on whether the patient had been given enough time to think about the surgical procedure, only 26% of the study subjects admitted to having been given enough time to ponder on the proposed surgical procedure. This applied mostly to the patients who had evisceration of their eyes. Fifteen percent of the patients thought that their conditions could have been managed differently to allow for better cosmetic outcome.

Twenty nine percent (that is, eight patients) of the study subjects had developed minor depression postoperatively according the PHQ-9 scoring. Seven of the patients with minor depression had received orbital exenteration and one had been enucleated. There was no gender predilection in term of destructive eye surgery associated depression. Demographic data for patients who developed postoperative depression did not vary significantly from that of the rest of the study subjects. There was no patient with major depression detected among the study subjects. However, one female post extenteration had suicide ideation. The rest of the patients had minimal symptoms of depression.

Eighty five percent of the study subjects had adequate family support and 72% of patients did not

have any discussions of possible use of prosthesis postoperatively to deal with aesthetic problems. One particular patient had a prosthesis fitted intraoperatively and was satisfied with the aesthetic outcome immediately postoperatively.

Discussion

The destructive eye operations performed at Sekuru Kaguvi eye unit are eviscerations, enucleation and exenteration. Anecdotal reports suggest that during the period from July 2010 to July 2011, 13% of patients admitted at Sekuru Kaguvi Hospital had exenterations done. Exenterations are the most disfiguring of destructive eye surgeries performed in the world today.

Destructive eye operations have various indications world over^{4-7, 12, 13}. However, most of the eviscerations done at our hospital are for ruptured eyeballs. Ideally, ruptured eyeballs should be enucleated in order to minimize the risk of sympathetic ophthalmitis, but due to the technical difficulties of the later and added advantages when considering cosmetic outcome, surgeons tend to prefer eviscerations^{14,15}. Panophthalmitis is another indication for evisceration. Both ocular trauma and panophthalmitis present to the ophthalmologist as ocular emergencies. As such, patients are unlikely to get enough time to think about the procedure preoperatively. This could explain our findings in this study where 76% of the study population who had eviscerations said they had not been given enough time to ponder about the procedure before the operation. Their discharges also tend to be prompt leaving little time for the patient to adjust to their new status as inpatient. Luckily, our study did not have depressed patients among those who had

undergone evisceration.

Enucleation is indicated for painful blind eyes of unknown causes, and for intraocular malignancies still localized within the globe¹². Exenteration is done for extensive orbital malignancies and rarely for mucormycosis¹³. These indications are of a chronic nature and tend to be associated with gradual loss of vision or blindness over prolonged periods not overnight. Malignancies and mucormycosis are life-threatening conditions that are associated with pain. Patients are therefore motivated to have the eye removed in order to be pain free. About 60% of the patients who had exenterations in the study had pain as the major presenting symptom that prompted them to seek medical assistance. Our study has shown that orbital exenteration (50%) is more likely to be associated with postoperative depression than enucleation (25%). Unfortunately, the sample size is too small to permit us to be dogmatic about this observation. This underscores the need for a bigger study to support or refute this finding.

Loss of body part(s) and alteration of body image can cause grief that may last for months to years¹⁶ and controversies on the duration and definition of grief vis-à-vis depression have been raised by different authors^{17, 18}. Failure by the individual to cope with the loss of body part(s) and altered image increases their risk of developing depression. Emotional support provided to individuals both pre and postoperatively is critical in mitigating depression. Unfortunately such support was not available at the Sekuru Kaguvi Hospital Eye Unit.

Our study showed that 28% of the patients had mild depression according to the PHQ-9 tool. PHQ-9 is a multipurpose tool for screening, diagnosing, monitoring and measuring depression. The tool is patient administered and scored by the health provider and is based on Diagnostic and Statistical Manual of Mental disorders (DSM –IV) criteria of depression. It scores each of the nine DSM-IV criteria as “0” (not at all) to “3” (nearly every day)¹¹. In this study assessment for depression was done at least four weeks after the surgical procedure and all the affected patients were adamant of the symptoms starting when they first viewed the surgical wound. This obviously suggested that their minds were not prepared for the surgical outcome. Medical staff should have spend more time with patients explaining the procedure and outcome using patients who had similar experiences

during the preoperative period.

Although 85% of the study population claimed to have adequate family support, the role of the family in the decision making process on whether or not to undergo surgery can be very unpredictable. More often than not family consultations are retrogressive and time-consuming, having detrimental consequences to the patient. These problems tend to be more prevalent among people deeply rooted in cultural and religious beliefs. Experience has taught us that family consultations are not reliable when dealing with urgent issues although their involvement mitigates depression of the affected individual.

Recommendations

- Medical personnel should be motivated to offer emotional support for their patients both pre and postoperatively.
- Availability of a qualified counselor at the eye unit is paramount when the surgical rate of destructive eye operations is high.
- The use of families in decision-making processes should be handled with care and priority should be the promotion of the individual's health.

Conclusion

Depression associated with destructive eye surgery is a serious problem although its magnitude and severity may not always be adequately addressed. Larger studies are required to address these issues.

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