

# Patients' Satisfaction with Destructive Eye Surgery in Ophthalmic Plastic Clinic in a Tertiary Institution

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## ABSTRACT

**Purpose:** To determine the rate of eye removal with their indications in a tertiary eye care centre and to assess patients' satisfaction with the procedure.

**Materials and Methods:** The study was carried out between January 2010 and July 2017. All clinic and theatre records of 54 patients who had destructive eye procedures were reviewed to obtain demographic characteristics, duration of symptoms, presenting visual acuity, types of destructive procedures, histopathological diagnosis and patients' satisfaction was assessed during follow up visit. Data were analyzed using SPSS 20. Ethical approval was obtained from the institution's ethical review committee.

**Results:** Fifty four patients had destructive eye surgery constituting 30% of all ophthalmic procedures and 3.6% of all ocular surgeries done. There were 35(64.8%) males and 19 (35.2%) females with a male to female ratio of 1.8:1. The commonest indication for destructive eye surgery was inflammatory cause 24(44.4%) occurring at 60years and above followed by traumatic causes which occurred at less than 60years 12(50.9%). The greatest proportion of procedure done was evisceration 44(81.5%), followed by enucleation 8(14.8%) while the least was exenteration. More than 4/5<sup>th</sup> of the patients that had destructive eye surgery were satisfied with the procedure after one year of follow up. Satisfaction among females was 17(89.5%) and 30(85.7%) in males. None of the patients that had exenteration was satisfied.

**Conclusion:** The rate of eye removal was relatively high with largely preventable inflammatory conditions in the elderly as the commonest reason for removal. The patients were largely cosmetically satisfied.

**Key Words:** Clinic; Destructive procedures; Eye-removal; Ophthalmic-plastic

## INTRODUCTION

Destructive eye procedures include evisceration, enucleation and exenteration. Evisceration is the removal of the contents of the eyeball, leaving the sclera coat, extra-ocular muscles, optic nerve and other orbital contents intact. Enucleation is the removal of the eyeball with the optic nerve which is usually removed as much as possible to obtain tumor free margin, leaving the extraocular muscles and other orbital content intact while exenteration is the

removal of the eyeball, other orbital contents, adnexa, periorbital and even part of the bony orbit if indicated. <sup>[1]</sup> The main goal of destructive eye surgery (DES) is to improve the quality of life of the patient <sup>[2]</sup> but this is not without its attendant economic and psychological effects on the patients, their relatives and the community. <sup>[3]</sup> The decision to remove an eye by the ophthalmologist must be critically evaluated, found justifiable and communicated to the patient who should be

allowed to have a written double consent. Patients need understanding, support and reassurance to help cope with the psychological effects resulting from loss of an eye. [4] The life style change after the loss of an eye potentially causes a lot of stress on the affected individual leading to depression. [5] In order to prevent this, the patients' satisfaction with the procedure must be taken into consideration by employing modern management method for these procedures. The frequency of the need to remove an eye is far less in the developed countries [6] where the most important indications are tumors, as against infectious or traumatic indications in developing countries. [7] The rate of eye removal was observed to be on the downward trend, 0.3 per thousand populations over a six year period in the study conducted more than a decade ago in the southern part of Nigeria [7] while the proportion was reported to be 7.4/year in Port Harcourt Nigeria. [8] The declining trend of destructive procedures reported in Morocco and United Kingdom was ascribed to improved diagnosis and treatment with resultant increased globe preservation. [9,10] this study was conducted to determine the current rate of eye removal with their indications and to assess patients' satisfaction with the procedure in our tertiary eye care centre. Understanding the views of patients that had this procedure will help in the preventive management of patients with eye pathology that could have resulted in eye removal in the oculoplastic subspecialty clinic.

## MATERIALS AND METHODS

Patients with ophthalmic plastic conditions of all age groups, both male and female in our centre were derived from either self referral, General Ophthalmology Clinics within the centre or other centres within and outside the state. A descriptive cross sectional study was carried out between January 2010 and July 2017. All the patients were examined and assessed at the oculoplastic clinic following referral from ophthalmologists from other

subspecialty (Retina, Glaucoma and general ophthalmology clinics) and clinical diagnoses were made. The clinic and theatre records of 54 patients who had destructive eye procedures were reviewed to obtain demographic characteristics, duration of symptoms, presenting visual acuity, type of destructive procedures and his topathological diagnosis. The patients' satisfaction level with the procedure using questionnaire was assessed subjectively during follow up visit. The study was carried out in line with the ethical standards according to the Helsinki Declaration of 1975 as revised in 1983. Ethical approval was obtained from the institution's ethical review committee. Data obtained were recorded and analyzed using Statistical Package for Social Sciences (SPSS) version 20. Means (Standard deviations) were used to describe the distributions of continuous variables. Categorical variables were described in Percentages. Comparisons of categorical data were performed with the use of Pearson's chi-square test.  $P < 0.05$  was considered statistically significant

## RESULTS

Fifty four patients (54) had destructive eye surgery constituting 30% of all ophthalmic procedures and 3.6% of all ocular surgeries done during this period. There were 35(64.8%) males and 19 (35.2%) females with a male to female ratio of 1.8:1( $\chi^2 = 4.741$ ,  $df=1$ ,  $p=0.029$ ) . The ages ranged from 1year to 81years with mean age of  $40.56 \pm 23.5$ years.

The proportions of males were higher in all age groups except at age group 10-19years where there was even proportion and  $\geq 60$ years with higher female proportion .The majority of patients were less than 60 years old (Table 1 )

Table: 1 Age and Sex Distribution

AGE (YRS)	MALE (%)	FEMALE (%)
0-9	6(85.7)	1(14.3)
10-19	2(50.0)	2(50.0)
20-29	5(83.3)	1(16.7)
30-39	5(62.5)	3(37.5)
40-49	6(75.0)	2(25.0)
50-59	4(66.7)	2(33.3)
$\geq 60$	7(46.7)	8(53.3)
Total	35(64.8)	19(35.2)

The proportions of males were higher in all age groups except at age group 10-19years where there was even proportion and  $\geq 60$ years with higher female proportion. The majority of patients were less than 60 years old

The commonest indication for destructive eye surgery was inflammatory

cause 24(44.4%) occurring at 60years and above followed by traumatic causes which occurred at less than 60years 12(50.9%). All retinoblastoma cases occurred at 0-9years age group (Table 2).

**Table: 2 Indications for destructive eye surgery by Age.**

AGE (YRS)	Trauma	Inflammation/Infection	Retinoblastoma	Orbital Neoplasm	Staphyloma
	n(%)	n(%)	n(%)	n(%)	n(%)
0-9	0(0)	0(0)	4(100.0)	0(0)	3(30.0)
10-19	0(0)	2(8.3)	0(0)	0(0)	2(20.0)
20-29	3(21.4)	2(8.3)	0(0)	0(0)	1(10.0)
30-39	4(28.6)	3(12.5)	0(0)	0(0)	1(10.0)
40-49	3(21.4)	2(8.3)	0(0)	0(0)	3(30.0)
50-59	2(14.3)	3(12.5)	0(0)	1(50.0)	0(0)
$\geq 60$	2(14.3)	12(50.0)	0(0)	1(50.0)	0(0)
<b>Total</b>	14(25.9)	24(44.4)	4(7.4)	2(3.7)	10(18.5)

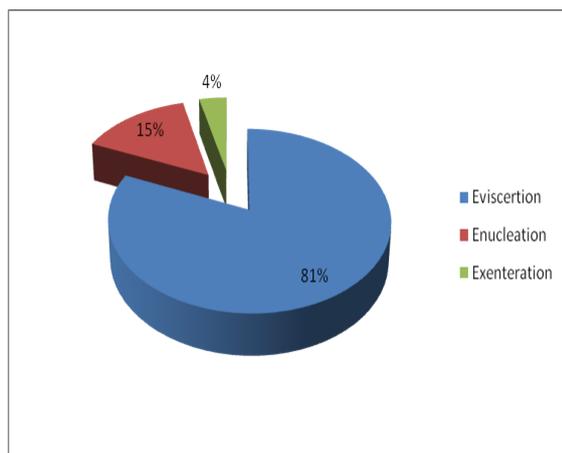
The commonest indication for destructive eye surgery was inflammatory cause 24(44.4%) occurring at 60years and above followed by traumatic causes which occurred at less than 60years 12(50.9%). All retinoblastoma causes occurred at 0-9years age group. Inflammation/infection group included cases of severe keratitis with corneal melting, postoperative endophthalmitis, and painful blind eye

The greatest proportion of procedure done was evisceration 44(81.5%), followed by enucleation 8(14.8%) while the least was exenteration 2(3.7%). ( $\chi^2=57.333$ ,  $df=2$ ,  $p=0.001$ ). (Figure1)

by enucleation 8(14.8%) while the least was exenteration 2(3.7%). ( $\chi^2=57.333$ ,  $df=2$ ,  $p=0.001$ )

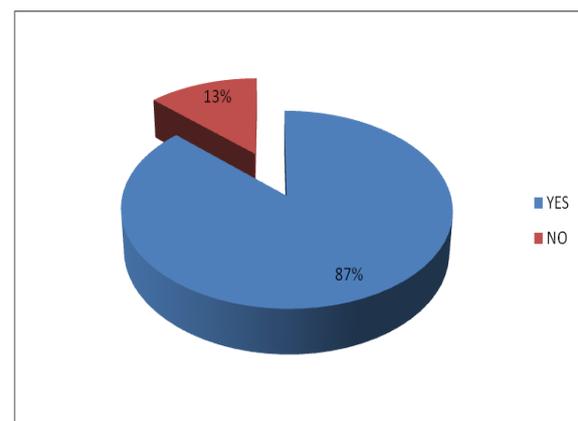
The destructive procedures performed were evisceration with or without orbital implant, enucleation with orbital implant and insertion of conformer with fixing of ocular prosthesis six weeks after surgery and exenteration.

More than 4/5 47(87%)of the patients that had destructive eye surgery were satisfied with the procedure after one year of follow up. ( $\chi^2 =29.630$ ,  $df=1$ ,  $p=0.001$ ). (Figure2)



**Figure 1: Destructive Procedures**

The greatest proportion of procedure done was evisceration 44(81.5%), followed



**Figure2:Patient Satisfaction With DES**

More than 4/5<sup>th</sup> 47(87%) of the patients that had destructive eye surgery were satisfied with the procedure after one

year of follow up. ( $\chi^2 = 29.630$ ,  $df=1, p=0.001$ )

Most of the patients were satisfied with the procedure one year postoperatively. Satisfaction among females was 17(89.5%) and 30(85.7%) in males. A total of 33(93.3%) of patients aged  $\geq 60$  years were satisfied as against 14(84.6%) of patients  $< 60$  years. However, all the patients 44(100%) that had evisceration were satisfied whereas no patient 0(0%) was satisfied with exenteration. (figure3).

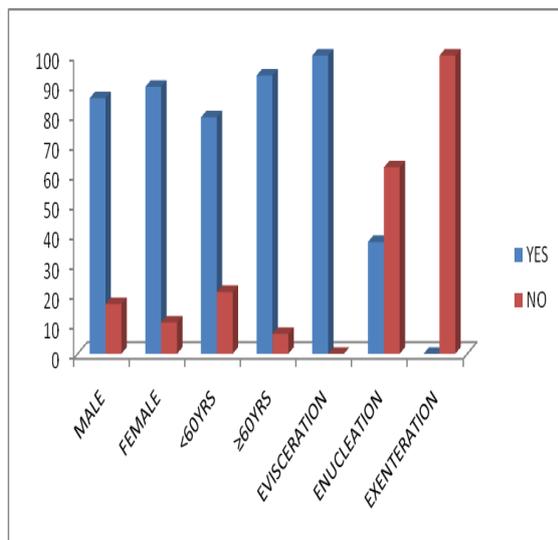


Figure 3: Patients' satisfaction with the destructive procedure

Most of the patients were satisfied with the procedure one year postoperatively. Satisfaction in females was 89.5% and 85.7% in males, 93.3% of patients aged  $\geq 60$  years were satisfied as against 84.6% of patients  $< 60$  years. However, all the patients that had evisceration were satisfied whereas no patient was satisfied with exenteration.

## DISCUSSION

The proportion of destructive eye surgery carried out was 30% of all ophthalmic plastic procedures giving a rate of 36 per 1000 of all ocular surgeries done over the study period. This is higher than similar procedures reported in some other studies [7,11-13] but similar to report of the study done in Ghana. [14] This might be partly due to the fact that more surgeries were done in this study because of the establishment of oculoplastic subspecialty

clinic which receives referrals from the whole state and the neighbouring state or might be due to late presentation of patients for which neither vision nor the eye could be salvaged. This high incidence rate calls for serious concerns because of the psychologically devastating effects associated with an eye loss. [4] Every effort should be directed towards reducing the preventable causes in order to bring down the seemingly unacceptable rate. The higher male proportion is similar to reports from many other studies. [3,8,11,15] this has been attributed to the fact that males commonly engage in more physical activities that may endanger the eyes than females. [8] Thus the community especially men need to be frequently educated and reminded of the need to use protective eye devices to reduce the incidence of eye injury that might result to losing the eye. The average age of this study population was 40 years which was similar to a ten year study done in Lome [16] but slightly higher than other studies. [8,14,15] the young, more active males had destructive eye procedures in our study similar to other studies in the country. [8,11,15] the commonest indication in this study for destructive eye surgery was inflammatory because followed by traumatic cause. This was similar to the findings in the study done in Kebbi northern part of Nigeria, and some other studies outside the country, [3,8,14,16,17] however contrary to the study done in Ile Ife where trauma was the leading cause of eye removal probably due to the period of local inter-communal violent conflict reported in their study [15] and another one reported in North Central Nigeria. [18] Our study was consistent with the documented reports in the literature which states that infections are the dominating factors responsible for eye removal in developing countries. [4,14] Majority of the inflammatory causes responsible for DES occurred in the elderly while the traumatic causes were found in the active young patients. The pattern observed in our study might be due to late presentation, use of harmful eye medications and probably poverty which

might make eye removal inevitable although all these determinants were not assessed but might be assessed in the future study. The study revealed that all retinoblastoma indications for eye removal occurred within the first decade of life consistent with some studies in the literature. [14,19] The late presentation that bedevils patients with orbito-ocular neoplasm and findings of extensive local infiltration on histological evaluation in developing countries [15,20] leave the managing team with no other choice than surgical removal of the eye in order to save the life of the child. Early presentation, prompt clinical assessment and early interventions [15] could only avert this destructive but life saving procedure.

Evisceration was the commonest destructive eye surgery performed accounting for almost four fifth of the all the destructive surgeries in this study. This is similar to other studies. [7,8,11,16] Although, it is generally accepted that motility and cosmetic appearance are better after evisceration and patients usually agree to this, [21] patient that had the modern method of enucleation (myo-conjunctival technique) with orbital implant and fixing of customized ocular prosthesis could also have acceptable cosmetic appearance. This is to minimize the devastating psycho-social effects associated with eye loss. Some patients might require orbital reconstruction surgery to improve their quality of life since this is the main goal of destructive eye surgery. The few cases that had exenteration due to orbital neoplasm were later referred for orbital prosthesis. The patients who had enucleation and evisceration with fixed customized ocular prosthesis were cosmetically satisfied after one year of follow up as ocular motility in the operated was comparable with the normal fellow eye this is similar to a multi-center report of North central Nigeria. [22] It was observed that all the patients that had exenteration done were not satisfied and compared with evisceration where all patients were satisfied. This might not be unconnected with the fact that exenteration are the most

disfiguring of destructive eye surgeries performed in the world [5] coupled with the non availability of ocularist in the centre thus all our patients had to be referred for further management in a centre with radiotherapy facility and orbital prosthesis.

## CONCLUSION

The rate of eye removal was relatively high with largely preventable inflammatory cause occurring in the elderly as the commonest reason for removal. Although these patients were largely cosmetically satisfied, efforts need to be directed towards intensifying preoperative counseling of these patients, provision of highly skilled method with employment of trained ocularist.

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