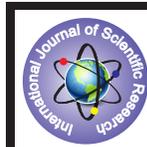


Profile of Destructive eye Surgery in A Tertiary eye Care Centre in Eastern India



Medical Science

KEYWORDS : Enucleation, evisceration, endophthalmitis, trauma.

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ABSTRACT

A retrospective, record based analysis of destructive surgery was done in a tertiary care centre in Eastern India from January 2012 to December 2015 to determine the incidence, causes and trend of destructive ocular surgery.

The data was obtained from the review of history, clinical examination and investigations as noted in out patients and surgical records. Results were analysed statistically with Epi info version 3.4.3 and z tests. Fifty two eyes of 52 patients were included in this study. thirty five were male patients (67%) were male and 17(33%) were female. The indications for surgery were severe ocular infections, especially panophthalmitis (25%), endophthalmitis (13%), severe penetrating eye injuries (19.2%), anterior staphyloma(21.1%) and orbito-ocular tumours(11.5%). Compared to the total number of surgeries done each year the crude incidence was 1.33% per year. This study showed that most causes of destructive procedures are preventable and serious preventive strategies are needed to change this trend

Introduction

Destructive surgery includes enucleation, evisceration and exenteration. Enucleation is one of the oldest procedures in ophthalmic surgery and was initially done in painful blind eyes.¹ Destructive ocular procedures are usually recommended as a last resort to save the other eye, to save life, to treat painful blind eye and for cosmetic reasons. The relative importance of each aetiology, however, seems to differ from place to place depending on the level of development and socio-cultural dynamics of each specific setting. In many developed countries the most important causes are orbito-ocular tumors whereas in the developing world these are often of traumatic and infectious origin.² Besides the clinical indication, the physician has to consider the visual potential of the eye, the potentials for complications and the patient's psychology.³ Current evidence shows that destructive ocular procedures are on the decline due to improved diagnosis and treatment with resultant increased globe preservation.⁴

Our hospital is a reference centre for many eye diseases, including destructive surgical procedures. Present study was done to analyze the profile of destructive surgery in a tertiary care centre in Eastern India and to help formulate the measures to prevent them.

Materials and Methods

It was a retrospective analysis of 52 eyes of 52 consecutive cases who underwent destructive surgery at our centre from January 2012 to December 2015. In this study, destructive ophthalmic procedure was defined as a surgical procedure involving the removal of part of the globe or the entire to save the fellow eye, the life of the patient or for cosmetic reasons. The data was obtained from the review of out patients and surgical records. The aetiology responsible for destructive surgery was determined on the basis of history, clinical examination and investigations as obtained from the existing records. A full consent both from patient and guardian were taken. The decision of destructive surgery was taken by a group of surgeons (three). The primary clinical indications for evisceration were categorized into five groups namely; infection, trauma, degenerative lesions, neoplasms, and others. Results were analysed in Epi info

version 3.4.3 and z tests were applied to find out significance.

Results

Over the 3-year study period, a total of 52 eyes of 52 patients underwent destructive surgery. Local anaesthesia was used in 47 cases & 5 cases were done under general anaesthesia. Implants were used in 13 cases.

Among these 52 cases, 35 were males (67%) and 17 were females (33%) giving a sex ratio of 2.03:1

In our study the mean age of males are 48.57 years and mean age of females are 46.47 years. Difference not statistically significant (z test done). Patients aged 0 to 19 years comprised 15.3% (n = 8), including 5 cases aged <5 years (9.6%), and elderly patients (above 60 years) comprised 36.5% (n = 19)

Table 1: Age distribution

Age in years	Male	Female
0 – 19	5	3
20 – 39	7	3
40 – 59	10	5
60 – 79	11	6
≥ 80	2	

The most common condition for which a destructive surgery was recommended was panophthalmitis (n = 13, 25%), endophthalmitis (n = 7, 13%) followed by anterior staphyloma (n = 11, 21.1%), trauma (n = 10, 19.2%) and neoplasm (n = 6, 11.5%). Out of seven cases of endophthalmitis, four cases was postoperative endophthalmitis.

Evisceration was done in 35 cases and enucleation was done in 17 cases.

Late presentation was common and it was the major cause of advancement of the disease at presentation mostly in those with endophthalmitis/panophthalmitis and those with absolute glaucoma. In most of the cases perception of light was absent (only two cases had perception of light in the operated eye). Maximum conservative therapy was tried, surgery was proposed only when there was no im-

provement. Surgery was recommended as the first-line therapy in 30.7% of cases (n = 16). This involved all cases with post-traumatic rupture of the globe and those with advanced neoplasm. The biopsy reports of all enucleated specimens were tallied to the preoperative diagnosis. The clinico-pathological diagnoses were all found justifiable.

Discussion

Enucleation is one of the oldest procedures in ophthalmic surgery and was first performed by Johnnas Langes in 1555AD in Germany. Enucleation technique that is practiced now a day was pioneered by Ofrail in Ireland and Bonnet in France in 1841AD. In enucleation the globe and an attached portion of the optic nerve are excised from the orbit. Evisceration is the complete evacuation of the intraocular contents and cornea preserving the sclera shell and all of the extraocular adjacent structures. Enucleation is indicated in malignant tumour, intractable intraocular foreign body, and post-op endophthalmitis, crush injury where the eyeball can't be preserved and sympathetic ophthalmitis. Evisceration is the alternative procedure of enucleation and it is preferred due to cosmesis, improved motility and better patient acceptance and where spread of infection is apprehended. With the advent of modern anaesthesia, these procedures become less painful. Indications of enucleation & evisceration appear to be the same worldwide.^{4,5} In many developed countries the most important causes are orbito-ocular tumors whereas in the developing world these are often of traumatic and infectious origin.^{2,6}

In this study, the commonest causes of destructive procedures were infection (38.4%) followed by anterior staphylocoma (21.1%) and irreparable ocular injury (19.2%) compared to the northern Indian study, where 78.6% of all eviscerated eyes were reported to be due to panophthalmitis while another 21.3% were due to irreparable globe injury.⁷ These leading roles of infection and trauma in this study are similar to the trends that have been reported in a number of developing countries.^{8,9,10}

Evisceration was done in 35 cases and enucleation was done in 17 cases. The evisceration (67.3%) was higher than enucleation (32.6%) as the number of infected cases undergoing destructive surgery were higher, quite similar to the picture (73.17% evisceration & 26.83% enucleation) seen in a study in Nepal Eye Hospital.¹ Moreover it was preferred to enucleation due to better cosmesis for use of implant. Implants were used in 13 cases in this study- most of them were hydroxyapatite. Male:female ratio was 2.03:1 as 67% were male and 33% were female. This could be due to more outdoor activities of males than females. Another important cause of destructive surgery in this study was corneal degeneration, particularly anterior staphylocoma (n=11, 21.1%) a condition which was largely associated with complications of infective corneal ulcers. Among children less than 5 years, retinoblastomas were the commonest causes of enucleation, consistent with reports in the literature.^{5,8,10,11} Though chemotherapy is the mainstay of treatment of retinoblastoma now-a-days, the late presentation among these patients was the reason for primary enucleation. Much work needs to be done in educating people to identify early presentations of such conditions and report for clinical assessment and management. Irreparable ocular injury was the third most common cause of evisceration in our study.

In many developed countries the causes of destructive eye surgeries are likely to be of non-preventable neoplastic origin, whereas most of the causes of globe excision in this study are largely preventable. Most common indication for destructive eye surgery in our setting was found to be infection. Measures to prevent destructive surgery are the prompt treatment of infection and early diagnosis

of glaucoma and retinoblastoma. Fundus evaluation for early detection and treatment of glaucoma can reduce the number of destructive operation from absolute glaucoma. Also availability of cyclodestructive procedure can reduce globe excision due to this cause. A good microbiological laboratory set up is essential for proper management of endophthalmitis & corneal ulcer. Application of prosthesis for cosmetic purposes should be encouraged. Spreading awareness about importance of early presentation in cases of ocular infections, avoidance of self-medication and better access to eye care at all levels can help reduce the need for destructive eye surgeries. Prevention of injury may begin with finding the risk factors to define the problem. Moreover, changing behavior and adopting preventive measures often requires expanded community and government involvement. The media, newspapers, radio and television are extremely important in creating awareness of the problem in community.

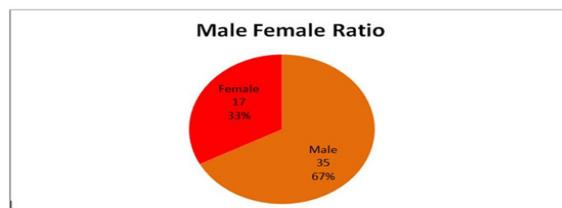
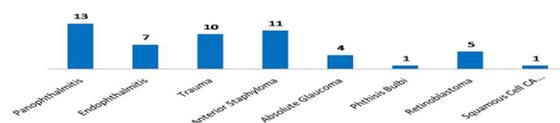


Figure 1: Sex ratio

Figure 2 : Indications of destructive surgery



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