



ORIGINAL RESEARCH PAPER

Ophthalmology

Evisceration: our experience for last 8 years in a peripheral medical college in West Bengal.

KEY WORDS: Evisceration, destructive eye surgery, ocular trauma, panophthalmitis

Bivas Bala

Assistant Professor, Department of Ophthalmology, Malda Medical College, West Bengal, India.

Sima Biswas*

Rmo Cum Clinical Tutor, Department of Obstetrics & Gynaecology, Rampurhat Govt. Medical College, West Bengal, India *Corresponding Author

ABSTRACT

Aim: The aim of this study is to determine the indications for evisceration and complication associated with it.
Patients and Methods: This retrospective study done over a period of 8 years from December 2012 to November 2019 in department of ophthalmology of Malda Medical college, West Bengal, India. Case record & data of each eviscerated patient was obtained from medical record section of the hospital and analyzed regarding patients' demographic character, clinical indication for evisceration, pattern of orbital implant and post-operative complication.
Results: During the study period total 107 evisceration operation was done. Most of them are male and in between 21-49 years of age. Severely traumatized eye is the commonest clinical indication followed by panophthalmitis due to neglected corneal ulcer or endophthalmitis. Primary orbital implant done in 68.22% cases. Implant exposure or extrusion seen in 6.84% cases while partial conjunctival dehiscence seen in 14.95% patients. None of them develop sympathetic ophthalmia.
Conclusion: In severely traumatized eye with no PL or in panophthalmitis evisceration with primary orbital implant gives satisfactory result.

INTRODUCTION

In 1817 James Bear first accidentally performed evisceration in an eye with expulsive haemorrhage (1). Later Noyes performed routine evisceration in 1872 and published a review article in an international congress in London (2). In 1884, Mules first use a hollow glass ball after evisceration (3). Although there is a remote possibility of sympathetic ophthalmitis associated with evisceration (4) its popularity increases in last few decades as it provides superior functional and cosmetic result. A national survey of evisceration and enucleation practice patterns between ophthalmic plastic surgeon in the United States showed that two-thirds of them preferred evisceration over enucleation when the underlying cause of painful eye was benign in nature (5).

In today's world destructive ophthalmic surgery like evisceration although uncommon but not rare. It may need in severely traumatized eye, in panophthalmitis and to restore cosmesis in phthisis bulbi.

In this retrospective study analysis, we will evaluate the clinical indication of evisceration and associated post-operative complication at a peripheral medical college set up in rural West Bengal.

METHODS

This is a hospital based retrospective study of patients who underwent evisceration at Malda Medical College, West Bengal, India over a period of 7 years (Dec 2012 to Nov 2019). All the patients who had evisceration surgery in the Department of Ophthalmology at Malda Medical College during the study period were included. Patients whose who lost follow up before 3 months after evisceration were excluded from this study. Admission ticket and related documents of each patient was collected from the record section of the hospital. The following data we are collected patients' demographics, clinical indication for evisceration, operated eye, whether orbital implant done or not and complications noted during the 3 months follow up period. We have analyzed each case and data recorded in a MS excel. We record demographic data, nature of the disease, cause of evisceration, type of anesthesia, type of orbital implant and post-operative complication.

Operated eyes are recorded as right or left. Type of anesthesia noted as local or general anesthesia. Special emphasis was given to record whether primary orbital implant was done or not. Post-operative complication if any mentioned also recorded in systemic manner.

Surgical technique

After obtaining written informed consent for evisceration, patient was prepared for surgery. Most of the cases done under standard peribulbar anesthesia. Now 360° peritomy done and a stab incision was made in the sclera 1 mm posterior to surgical limbus with a no 11 scalpel blade. The incision was the continued circumferentially around the limbus with Westcott scissors. Now with the help of evisceration scoop we separate the uveal tissue from the sclera and the whole globe content removed. The scleral wall was carefully cleaned and debrided. Anterior relaxing incisions were made in sclera nasally and temporarily while keep in mind about medial and lateral rectus muscle. A proper sized implant inserted as a primary procedure in all cases. The scleral shell was closed with 5-0 polyglactin (Vicryl, Ethicon Inc.) in horizontal mattress fashion. The anterior tenon's capsule and conjunctiva were closed in layers with 5-0 and 6-0 polyglactin (Vicryl, Ethicon Inc.) sutures respectively. A medium size conformer was inserted and patient receive post-operative intravenously and were discharge on oral antibiotic for 10 days. The conformer was maintained for 6-8 weeks. Further follow up done after 1st, 4th and 12th week.

RESULTS

One hundred and seven eyes were eviscerated during the period under rivew. Fifty-seven (53.2%) patients had the right eye eviscerated while fifty (46.8%) had the left eye eviscerated.

Table 1 shows the epidemiological characteristic of the 107 patients. There were 78 (72.9%) males and 29 (27.1%) females with a male: female ratio of 2.68:1. The mean age at the time of evisceration was 31.3 ± 29.5 years with a range of 7 years to 77 years. Altogether 79 patients (73.82%) are in the age group of 11-49 years. All the eyes that were underwent evisceration were blind having a visual acuity of no perception of light.

Table 1: Epidemiological features of study population

Sl. No.	Characteristic	Number (n)	Percent (%)
1	Age (yrs.)	3	2.80
	<10	48	44.85
	11-29	31	28.97
	30-49	25	23.36
	50-79		
2	Sex	78	72.9%
	Male	29	27.1%
	Female		
3	Operated eye	57	53.2%
	Right	50	46.8%
	Left		

The various indication for evisceration is shown in table 2. The most common indication was severely traumatized eye documented in 61 (57%) cases. This was followed by corneal ulcer related cases in 21 (19.62%) patients. Evisceration due to post-operative endophthalmitis was also seen in six patients.

Table 2: Indications of evisceration during the study period

Sl. No.	Clinical diagnosis	Number (n)	Percent (%)
1.	Trauma and its sequela	61	57.0%
2.	Corneal ulcer related	21	19.62%
3.	Post-Operative Endophthalmitis	6	5.60%
4.	Endogenous Endophthalmitis	2	1.86%
5.	Glaucoma and sequela	2	1.86%
6.	Others	15	14.01%

Of these 101 eyes 94.39% were operated under peribulbar anesthesia and only 6 were performed under general anesthesia. Of these 107 cases of evisceration 73 (68.22%) had history of orbital implant while remaining 34 (31.78%) cases only evisceration done without any ball implant. The implant was intact in 68 (93.15%) cases at their last follow-up.

After evisceration, implant exposure or extrusion developed in 5 (6.84%) cases. Partial wound dehiscence seen in 16 (14.95%) patients. Overall, 82.24% of eviscerated patients (88/107) did not report any complication postoperatively during the follow up period. Most of the complication managed conservatively although 2 cases need replacement with a smaller implant size and 5 cases required re-suturing of the wound. Sympathetic ophthalmia did not develop in any of the case during the study period.

DISCUSSION

When medical and surgical treatment failed to save the eye and there is risk of endangering life then we have no option left other than to do evisceration.

In our study most of the patients were male (72.9%) and a large number of them are younger. Our hospital is situated close to a busy national highway where frequent motorcycle accident is quite common. Hence severely traumatized eye with gross contamination constitutes a large proportion (57%) of cases in our study. Most of patients attended to our hospital were late with sign of bacterial colonization at injury site. Chaudhary et al. (6) retrospectively evaluate 187 eviscerated cases where also males (M 105: F 82) are predominant while in a study at Nepal both sexes were almost equal (7)

In a study (8) at R.P Centre, New Delhi mean age of eviscerated patients were 51+ 13.84 years while in Ozgur et al. (9) study it was 57.6 years. In our study it is much less (31.3 ± 29.5 years). As trauma due to road traffic accident is the main reason behind evisceration in our study, this may be the probable reason for such low mean age in our study.

Severely traumatized eye documented in 61 (57%) cases in our study and it is the main clinical indication resulting evisceration in our study. Panophthalmitis due to neglected keratitis or endophthalmitis also become quite common in our study (25.22%). A large number of farmers working here in paddy or jute field. Hence fungal corneal ulcer is quite common here. After beginning of symptom often they visited local chemist shop or quack doctor and use unnecessary antibiotic-steroid mixture eye drop which ultimately worsen the situation. Minor trauma in patient with anterior staphyloma seen in 4 patients. In a study (6) at Saudi Arabia endophthalmitis (45.5%) was main reason followed by phthisis bulbi in 20.3% cases, traumatic injury in 19.2% and glaucoma in 7.5% patients. Similar type of result also seen at a retrospective study (8) in north India, 78.6% of evisceration done due to panophthalmitis followed by irreparable globe injury in 21.3% cases.

In seventy-three (68.22%) cases orbital implant done as a primary procedure. The success rate for orbital implant is comparable to other previously done study. Only 5 patients (6.84%) developed implant exposure or extrusion. In an Egyptian retrospective study by Tawfik et al (10) delayed implant extrusion was noted in 2 patients out of 63 patients. In another study by Ozgur et al. (9) implant exposure rate was 12% and pyogenic granuloma seen in one patient. Partial wound dehiscence seen in 16 (14.95%) patients in our study. Although this complication rate is slightly higher than other, probably post-operative wound hygiene play an important role here.

It is clearly noted that if patient come to early rather than doing self-medication or spending time at quack doctor then we can definitively reduce the number of eviscerations operation that we need to do.

Losing an eye has a negative impact on one self-image and self-esteem. Psychological trauma is quite high specially in those cases who eviscerated due to traumatized eye. Hence counselling after the evisceration should be mandatorily done in that cases.

CONCLUSION

Severely traumatized eye is the commonest indication for evisceration in our study followed by corneal ulcer related problem and endophthalmitis. As all of them preventable disease, so early treatment at a proper health care facility should be motivated. Make the young population aware about the consequence of rash driving and its impact.

Placement of orbital implant is recommended in same sitting as it has low complication and also, it avoids secondary surgical intervention.

It is a single centre retrospective study which show trauma due to road traffic accident is a major reason behind evisceration specially in young population. To analysis impact of road traffic accident on evisceration a multicenter study covering different part of the country is required.

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