

Causes of Removal of The Eye In Ibadan

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The aim of the study was to enumerate the causes of removal of the eye in our community and find out ways of reducing this. 139 eyes were removed at the University College Hospital, Ibadan, over a 5 year period between January 1989 and December 1993. Only 100 of the cases were available for inclusion in this study. The age, sex, causes of removal of the eyes and final diagnosis were obtained. Most of the patients (64%) were below the age of 30 years, the youngest being 3 weeks of age. The most common cause of eye removal was found to be infective (endophthalmitis/panophthalmitis), although in the age group of 0-10 years, Retinoblastoma was the commonest cause of the removal of the eye.

Keywords: Eye, enucleation, evisceration, infections, neoplasms

Removal of the eye is an unfortunate end to any eye condition, be it an infective or a malignant cause. To reduce the incidence of this unfortunate end, it was decided to carry out this study to find out the causes of eye removal and ways in which the incidence could be reduced, to the ultimate gain of the patients. Majekodunmi¹ and Olurin², 12 and 25 years ago respectively found tumours, injury and infection to be the commonest causes of removal of the eye in Nigeria.

Patients and Methods

The case notes of all patients who had their eyes surgically removed by various methods in the 5 year study period of January 1989 to December 1993 were pooled for review. The various surgical methods of eye removal were noted, these were enucleation, evisceration and exenteration. The age and sex of the patients were noted, as well as the eye removed. The working diagnosis of each patient was also noted with histological diagnosis of all the eyes enucleated or exenterated, with particular reference to the tumour cases. All the operations were performed in the Ophthalmology theatre of the University College Hospital, Ibadan.

Results

139 patients had their eyes removed in the 5 year study period, 8% of all surgical operations in

the ophthalmic theatre of the University College Hospital in the same period (1742 surgeries): Out of the 139 patients, 100 cases notes were available for analysis, 72% of all the cases acceptable for the study.

Out of the 100 cases analysed, 73 were males and 27 were females, a male : female ratio of approximately 3 : 1.56 had right eye removed and 44 had left eyes removed. 48 patient had eviscerations, 31 had enucleations and 21 had exenterations, mainly the modified type of exenteration. All the patients were operated under general anaesthesia.

The age range of the patients was between 3 weeks and 80 years of age, the youngest being 3 weeks old and the oldest was 80 years old. Figure I shows the age brackets of the 100 patients. Age bracket 0-10 had the highest number of patients, (39%) most of whom had retinoblastoma, the commonest childhood tumour.

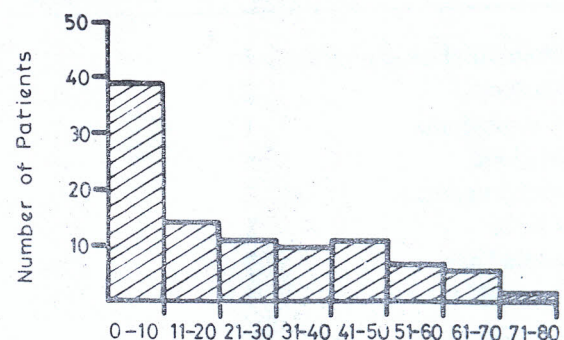


Figure 1: Age Range of Patients with eyes removed

Table I shows the causes of eye removal, first in the 0-10 year age bracket. Tumours, mainly Retinoblastoma made up the greatest number, 25 cases (64.1%), others being Embryonal Rhabdomyosarcoma, Non-Hodgkin's lymphoma and Neuroblastoma. The second part of Table I shows the causes of eye removal in the older patients, above 10 years of age, while Table II shows the summary of the causes of eye removal in all 100 patients, irrespective of age.

Table 1: Causes of Eye Removal In The Different Age Groups

Causes	0-10 years	Older Patients
Endophthalmitis/Panophthalmitis	8	38
Retinoblastoma	20	-
Anterior staphyloma	4	8
Ruptured globe	-	8
Embryonal Rhabdomyosarcoma	3	-
Irritable blind eye	-	3
Phthisis bulbi	2	1
Non-Hodgkin's lymphoma	1	-
Neuroblastoma	1	-
Severe corneal laceration	-	1
Squamous cell carcinoma	-	1
Haemangioma	-	1
Total	39	61

It is note worthy that infection is the main cause of eye removal in table II. 46% of the eyes removed were done as day cases in the main operating theatre while 54% were done as in-patients. Out of the 46 day cases 38 were older than 10 years of age, mostly panophthalmitis, anterior staphyloma and irritable blind eyes. Only 8 children were operated upon as day cases, 4 had anterior staphyloma and were sent home the same day. 3 had retinoblastoma, and were admitted onto the ward post-operatively and one had panophthalmitis.

Table II: Causes of Eye Removal in All 100 Patients

Causes	Number of eyes	Percentage
Endophthalmitis/Panophthalmitis	46	(46%)
Retinoblastoma	20	(20%)
Anterior staphyloma	12	(12%)
Ruptured globe	8	(8%)
Other orbital tumours	7	(7%)
Phthisis bulbi	3	(3%)
Irritable blind eye	3	(3%)
Severe corneal laceration	1	(1%)
Total	100	(100%)

Discussion

In the 5 year period under review, surgical removal of the eyes by various methods, evisceration, enucleation and exenteration accounted for 8% of all eye operations. This compares favourably with 5.7% in the Lagos series¹ but lower than 15.8% in Ibadan series². The higher incidence in the latter could be due to the fact that in recent time, the medical management of ocular diseases in developing countries has improved quite considerably and consequently there is a fall in the incidence of eyes which require removal.

There were 3 times more males than females, with their ages ranging from 3 weeks to 80 years. The highest number of patients were in the 0-10 years age group. The figure compared favourably with Olurins' report² but lower than Majekodunmi's finding¹. In spite of the differences, the age range (0-10 years) was the commonest in all three studies. Eviscerations accounted for 48% of cases, enucleations 31% and exenterations 21%. In Ibadan study, these accounted for 66.5%, 30.5% and 3% respectively. The widest discrepancy between the studies was in the number of exenterations. This was mainly due to the fact that after the completion of the study in Ibadan in 1972², a radiotherapy department was established in University College Hospital, Ibadan. This has necessitated the referral of patients with orbital tumours who require orbital clearance prior to the radiotherapy from all over Nigeria. In this study, the commonest method of eye removal was evisceration and this was done mainly for panophthalmitis. The indication for surgical removal of eyes in 33% of patients was injury. Panophthalmitis following injuries that occurred mainly on farms was responsible for removal of 23 eyes. Injury was the commonest cause of eye removal in the Ibadan study² as well as other studies^{3,4} but in the Lagos report, the commonest cause was tumours¹.

In the 0-10 year age range, intraocular tumours was the commonest indication for surgical removal of eyes. Retinoblastoma accounted for 20 of the 25 cases of tumour. This compares favourably with the report for Ibadan² in which 19 out of 21 tumour cases were due to retinoblastoma and as well as in the Lagos publication¹. Retinoblastoma has been found to be the commonest intraocular tumour in Africans^{5,8}, although it is by no means a common tumour, the incidence varies from 1 in 17,000 to 1 in 32,000 new births⁹. The increasing number of retinoblastoma cases seen in this hospital is prob-

ably due to referrals from hospitals in other parts of our subregion which has no radiotherapy facilities. The commonest diagnoses in all the age groups were panophthalmitis, tumours (27%) and anterior staphyloma (12%). Injury was the commonest cause of panophthalmitis. Most of the anterior staphyloma occurred in patients with previous measles keratopathy. This is a well known cause of ocular morbidity when associated with malnutrition and vitamin deficiencies¹⁰. In the Lagos series¹, the commonest diagnoses for all age group were tumours (47.7%), chronic inflammatory disease (16.8%) and glaucoma (12.3%). In the Ibadan study², these were injury (50.1%) corneal diseases (30.6%). This present study seems to agree more with the report for Ibadan² although tumours were more common in the present study.

In conclusion, majority of the indications for surgical removal of eyes in this study are preventable. Panophthalmitis and anterior staphyloma from corneal diseases could be prevented by prompt treatment if the patients present early. Also, advanced retinoblastoma with orbital extension could be prevented if patients were seen earlier, when cryotherapy or plaque radiotherapy could be used to treat early tumours especially in the second eye. Unfortunately, most of our patients present very late. There is therefore the need for public health education, which will emphasize the importance of early presentation in patients with eye disease.

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