OUTCOME OF CATARACT SURGERY IN HIV-POSITIVE PATIENTS

NWOSU SNN (FMCOPH, FWACS, FICS, FACS)[1,2], OKPALA NE (FMCOPH, FWACS)[1,2], NNUBIA CA (MBBS)[2], AKUDINOBI CU (FMCOPH)

[1]Department of Ophthalmology, Nnamdi Azikiwe University, Awka, Nigeria

[2]Guinness Eye Center, Onitsha, Nigeria

Correspondence to: Prof. Nwosu SNN
Email: sabenwosu@gmail.com

Citation: *Nwosu SNN, Okpala NE, Nnubia CA, Akudinobi CU. Outcome Of Cataract Surgery In HIV- Positive Patients. Orient Journal of Surgical Sciences. March 2020; 1 (1): 10 - 13*

ABSTRACT

Objective: To determine the visual outcome of cataract surgery in HIV-positive patients at the Guinness Eye Center Onitsha.

Materials and Methods: The case files of HIV-positive patients who had cataract surgery at the Guinness Eye Center Onitsha between 2006 and 2014 were retrieved. Information obtained included socio-demographics, co-morbidities, pre- and post-operative visual acuity and surgical complications.

Results: Twenty six eyes of 18 patients (7 males, 11 females); age range: 32-73 years; median – 51 years had cataract surgery. Preoperatively, 22 eyes (84.6%) had visual acuity <3/60; 6 months after surgery 17 (65.4%) had attained acuity ≥ 6/18, with 9 (34.6%) having acuity ≥ 6/6. Post-operative blindness and low vision were due to pre-existing co-morbidity, uveitis, endophthalmitis and posterior capsule opacity.

Conclusions: The visual outcome of cataract surgery in HIV-positive patients is encouraging. However, the patients need to be regularly followed up post-surgery.

KEY WORDS: HIV, Cataract, Surgery, Visual outcome, Nigeria

INTRODUCTION

The first case of human immunodeficiency virus infection/acquired immune deficiency syndrome (HIV/AIDS) in Nigeria was reported in 1986[1]. This was 5years after the disease was first described in the United States of America[2]. In 1995 the first cases of its ocular manifestations were reported in Nigeria[3]. Human immunodeficiency virus (HIV) screening facilities became available in our hospital in 1993. Since then, all patients going for eye surgery are routinely screened using ELISA. Confirmatory test for those found positive is with the Western Immunoblot. However no patient is refused treatment including surgery because of HIV status.

Ocular and adnexal features of HIV/AIDS comprise surgical and nonsurgical disorders. But surgical eye diseases prevalent in general population do also occur in HIV/AIDS patients. One such disease is cataract-the commonest cause of blindness in Nigeria[4]. Cataract is mostly associated with ageing and may not be a direct complication of HIV/AIDS. On the other hand, it has been observed that HIV-infected persons are predisposed to premature ageing and are therefore at increased risk for age-related diseases including cataract[5]. Persistent, recurrent uveitis is a known complication of HIV infection[6]. A particular form of intraocular inflammation which occurs in HIV-positive patients consequent upon immune reconstitution following anti-retroviral therapy is known as immune recovery uveitis[7,8]. Uveitis from any cause and its treatment with steroids may lead to cataract formation.

The HIV-positive patient blind from cataract needs to be treated in order to restore sight. Surgery is for now, the confident method of restoring vision in the cataract blind.

However it is not clear how well HIV/AIDS patients fare after cataract surgery because of other blinding complications such as cytomegalovirus (CMV) retinitis, HIV retinopathy and uveitis that may coexist[6]. Reports on outcome of cataract surgery in HIV-positive patients are few. In a study in Denmark, Rasmussen et al[9] reported that HIV-infected persons were at increased risk for cataract surgery compared to age- and sex-matched persons without HIV infection. The highest risk was found in patients with CD4 count ≤ 200 cell/μL. A review of 46 eyes of 27 HIV-positive patients that had cataract surgery in Singapore reported that the outcomes were similar to that observed in the general population[10]. However they cautioned that each patient's ocular and general health should be optimized before surgery.

To the best of the authors' knowledge, there has not been a report of the visual outcome of cataract surgery in HIV-positive patients in Nigeria. The need to bridge this knowledge gap is important. Therefore this study aimed at determining the visual outcome of cataract surgery in HIV-positive patients at the Guinness Eye Center, Onitsha, Nigeria.

MATERIALS AND METHODS

The case files of HIV-positive patients who had cataract surgery at the Guinness Eye Center Onitsha between 2006 and 2014 were reviewed. Information obtained included

age, gender, comorbidities if present, pre-operative and 6-months post-operative best corrected visual acuity as well as surgical complications. All the patients had cataract surgery: extracapsular cataract extraction (ECCE) or manual small incision cataract surgery (SICS) with intraocular lens implant. Two experienced consultant ophthalmic surgeons performed the surgery. All the patients were on treatment with the highly active anti-retroviral therapy (HAART). All the patients were followed up for a minimum of 6 months.

RESULTS

Eighteen patients (26 eyes) had cataract surgery; surgery was bilateral in 8 patients. All the surgeries were elective. Based on the available surgical instruments, the first 6 patients (6 eyes) operated between 2006 and 2010 had extracapsular cataract extraction with posterior chamber intraocular lens implant (ECCE/PCIOL). The manual small incision cataract surgery with posterior chamber intraocular lens implant (SICS/PCIOL) was the surgical procedure used for the 12 patients (20 eyes) operated between 2011 and 2014. The patient with lens subluxation had suture-fixated posterior chamber intraocular lens following small incision surgery.

There were 8 males (44.4%) and 10 females (55.6%), with age range of 32 – 73 years; median – 51 years. Two thirds of the patients were aged less than 60 years.

Figure 1 shows the age and sex distribution of the patients.

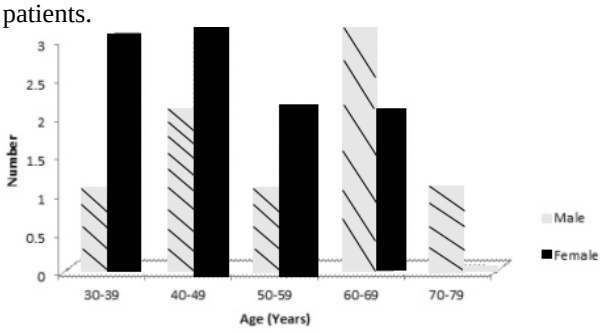

Figure 1 : Age and sex distribution

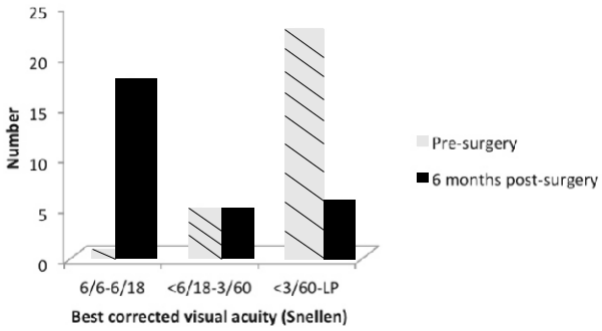

Figure 2 : Preoperative and 6-months post-surgery acuity

Figure 2 shows the pre-operative and 6-months post-operative best corrected visual acuity.

Pre-operatively, all the patients had severe visual impairment with 22 (84.6%) blind (acuity <3/60); 6 months after surgery, 17 patients (65.4%) had best corrected acuity >6/18 with 4 patients (15.4%) attaining 6/6 Snellen acuity.

Co-morbidity	No.	%
Retinal detachment	3	33.4
Lens Subluxation	2	22.2
Diabetic retinopathy	1	11.1
Retinitis pigmentosa	1	11.1
Total	9	100.0

Table 1: Ocular co-morbidity

In Table 1 is shown the ocular co-morbidities. Nine eyes (34.6%) had co-existing eye diseases (co-morbidities). Retinal detachment, lens subluxation and intraocular inflammation (uveitis) were the major ocular co-morbidities. Two patients had couching performed by itinerant medicine men leading to lens subluxation. As shown in Table 2, post-operative complications were recorded in 15 eyes (57.7%).

Table 2: Post-operative complications

Complication	No.	%
Uveitis	7	46.6
Uvea Prolapse	2	13.3
Posterior Capsule	2	13.3
Endophthalmitis	1	6.7
Corneal ulcer	1	6.7
De-centered IOL*	1	6.7
Raised IOP**	1	6.7
Total	15	100.0

***IOL = intraocular lens; **IOP = intraocular pressure**

Post-operative persistent uveitis accounted for 7 (46.6%) of the complications. The causes of poor vision post-surgery are shown in Table 3.

Casuse	No.	%
Persistent uveitis	3	30.0
Retinal datachment	2	20.0
Posterior Capsule Opacity	2	20.0
Retinitis pigmentosa	1	10.0
Corneal scar	1	10.0
Total	15	100.0

Table 3: Causes of poor vision post-surgery

Persistent uveitis, posterior capsular opacification and retinal detachment were the commonest causes.

DISCUSSION

The results of this study reinforce the idea that HIV-positive patients blind from cataract should be given the opportunity of vision restoration through surgery. However careful pre-operative evaluation is necessary at least to forecast the outcome and advice the patients accordingly.

With a median age of 51 years, the patients in this series are younger than non-HIV/AIDS patients that present with and are operated upon for age-related cataract in our hospital[11,12]. Nonetheless, they are older than patients previously recorded in the comprehensive review of HIV/AIDS patients in our hospital who had a median age of 32 years[13].

Up to half of the patients in this cohort had ocular comorbidities some of which could also predispose to cataract. These comorbidities were retinal detachment, uveitis, lens subluxation, diabetic retinopathy and retinitis pigmentosa (Table 1). Thus except perhaps for those patients who had suffered intraocular inflammation prior to surgery, HIV infection is not likely to be the direct cause of cataract in these patients. Apart from retinal detachment and diabetic retinopathy, patients in this series did not present with any other posterior segment lesions. Cytomegalovirus retinitis is a known posterior segment complication of HIV/AIDS that has deleterious effect on vision. A previous review in our hospital recorded a very low incidence of CMV retinitis among HIV/AIDS patients[13]. However considering the small number of cases in the present series, it bears to interpret with caution the absence of CMV retinitis in HIV/AIDS patients blind with cataract. In a review of cataract surgery in HIV-positive patients, Chew and Teoh[10] reported that patients with CMV retinitis developed further complications including retinal detachment 3 months post-surgery. This observation supports the need for prolonged follow-up of these patients after cataract surgery.

All our patients were on treatment with HAART. Immune recovery uveitis is a known complication of HAART which if not well treated may lead to inflammatory cataract[7-8]. The availability of HAART has conceivably increased the patient's longevity thus enabling them to seek cataract surgery. The encouraging vision outcome following cataract surgery will greatly improve the quality of life of these patients.

The causes of poor post-surgical visual outcome included pre-existing co-morbidity as well as post-operative infections and inflammation. Persistent inflammation will accelerate capsule opacification and synechiae formation all of which will compromise vision. Recurrent uveitis and posterior capsule opacity had been reported to be the commonest causes of poor vision in post-cataract surgery patients[12]. This raises the need for careful and long follow-up of the patients. The cases with posterior capsule opacity were recorded more than 4 months post-surgery. On the other hand, post-surgery intraocular inflammation kept flaring up when steroid drops were tapered. A drawback of this study is lack of viral count which could have given some information on the relationship between viral load and persistent uveitis in our patients. However, Chew and Teoh[10] in Singapore did not find any relationship between viral count and visual outcome in HIV-positive patients.

In conclusion, evidence from this study has shown that the visual outcome following cataract surgery in HIV/AIDS patients is encouraging. Nevertheless, HIV/AIDS patients need to be on steady treatment with HAART in order to minimize complications such as CMV retinopathy, AIDS retinopathy and opportunistic infections that could militate against good vision outcome[6,14,15]. This also implies that as much as possible, the patients should be in good general health. As earlier noted, all the patients in this series were healthy-looking with no features suggestive of AIDS. Regular follow up of the patients after surgery is also required in order to promptly treat any vision-threatening complication.

Finally, HIV/AIDS is still a dreaded disease. Fear of contracting infection by the surgical team is real especially with accidental injuries during surgery. But this should not be a reason to deny HIV/AIDS patients ophthalmic surgical care. A careful surgical team observing universal precaution will safely operate on HIV-positive patients.

Conflict Of Interest: Nil

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