Preoperative HIV Screening in Guinness Eye Hospital Onitsha, Nigeria

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SUMMARY

Background of the Study: The deadly pandemic HIV/AIDS is commonly transmitted through contact with body fluids and needle prick injury in surgical procedures[1]. Cataract with these body fluids is inevitable in ophthalmic surgery and needle prick injury is a common surgical accident. Opinions vary as regards the justification for presurgical HIV screening or testing. In this center all patients undergoing surgery are subjected to screening for HIV prior to surgery.

Aims and Objectives: To determine the association of HIV infection with surgical eye disease amongst patients in Guinness Eye Hospital, Onitsha.

Materials and Methods: The case files of all patients that had surgery in Guinness Eye Hospital, Onitsha from 1st September 2005 to 31st August 2006 were reviewed.

Results: HIV screening was carried out on 327(84.1%) of the 389 patients that had surgery within the period. Eighteen (5.5%) patients tested positive for HIV. Cataract was the commonest surgical eye disease for which patients were screened.

***Conclusion*:** Preoperative HIV screening should be carried out on all surgical cases irrespective of age, diagnoses or type of surgery.

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Key words: Human Immunodeficiency Virus (HIV), Preoperative and Screening.

INTRODUCTION

Human Immunodeficiency Virus (HIV) screening is carried out in different contests and for very different reasons. Different categories of HIV testing have varying requirements concerning counseling and consent.

The different categories if HIV testing include:-

- Voluntary HIV counseling and testing (VCT)
- Routine HIV testing
- Diagnostic HIV testing
- HIV testing for blood, semen and organ donation
- HIV testing for research and surveillance
- Required (mandatory) testing[1]

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The classic approach to HIV testing is the "voluntary counseling and testing (VCT)". This emphasizes extensive pretest counseling and focuses on social and preventive implication of being HIV infected or knowing one's serostatus. In VCT the decision whether to accept or reject the test rests entirely with the client. VCT remains an important preservation service but there was belated recognition that this model was not well adapted to the needs of healthcare programmes for prevention of transmission of HIV in treatment of HIV/AIDS[2,3].

Routine HIV testing aims at universal diagnosis and delivery of specific prevention interventions while diagnostic testing is aimed at diagnosing individual patients with HIV disease. These approaches have potential overlap. Since not all patients with advanced HIV diseases have specific symptoms or signs, diagnostic testing should be a routine activity for patients in high prevalence settings.

HIV can be transmitted by contact with infected body fluids like blood, tear drops and aqueous humour[4]. In ophthalmic surgery contact with these body fluids is inevitable. Amongst health workers, the commonest risk factor is needle prick injury, and 1 out of every 300 needle pricks will finally lead to AIDS in the absence of anti-retroviral treatment[5].

In this hospital some sharp instruments are unavoidably recycled during surgeries. The rate of transmission of HIV has been shown to be generally reduced among healthcare workers when they take precautions by avoiding contact with potentially infected body fluids, wearing gloves, goggles and masks when carrying out clinical procedures[6]. Knowledge of the HIV status of patients prior to surgery will reinforce appropriate precautionary measures to reduce transmission.

In a hospital-based study in Ilorin[7], Nigeria 62% of respondents considered themselves not adequately protected against HIV infection and 66.7% would not like to be involved in taking care of AIDS patients. The study emphasized the need for improvement of peer education/counseling and changes of government policy on screening for HIV especially for high risk group. The increase in the number of infected people is not inevitable. Early detection and sustained prevention efforts have been credited with lower rates in some countries like Uganda[8].

AIMS AND OBJECTIVES OF THE STUDY

This study aims at reviewing all surgical cases to determine the importance of HIV screening association with different eye diseases, age and gender of the patients and to make necessary recommendations.

MATERIALS AND METHODS

The case files of all the patients that had surgery and HIV screening or test prior to surgery from 1st September 2005 to 31st August 2006 were reviewed. Routine HIV testing method was used in the patients that had surgery and preoperative HIV test during the stipulated period were obtained and analyzed using S.P.S.S. (Statistical Package for social Scientists) computer programmed. The variables considered in the analysis include age, sex, diagnoses types of surgery and result of the HIV screening.

RESULTS

Ophthalmic surgery was performed on 389 patients within the period of study. HIV screening was carried out on 327(84.1%) of the operated patients. Eighteen (5.5%) patients, 7(2.1%) males and 11(3.4%) females tested positive for HIV. Only the screened patients were included in the study. Table 1 shows Age and Sex distribution of the patients screened for HIV. The highest number of patients screened was 60(15.4%) in the 51 – 60age group. The oldest patient was 89 years while the youngest was a 6 months old baby. Thirty Seven (11.3%) patients were above 70 years of age. The male : female ratio was 1.2:1. The highest number of men and women was in the 51 – 60 age groups respectively.

Table 2 shows Age and Sex distribution of the HIV positive patients. No patient 20 years and below tested positive for HIV. This was found to be statistically significant, $P < 0.05$, using Chi-Square Test. The highest number of HIV positive was seen in the 21 – 30 year age group, all females. Two (1.1%) patients, all males, above 70 years tested positive.

Table 3 shows surgical Eye diseases, and sex distribution of HIV positive patients. Cataract was the commonest surgical eye disease amongst HIV positive patients followed by ocular injuries.

Table 1: Age and Sex distribution of screened patients

Age in Years	Sex		Total
	Males	Females	
1 – 10	16	12	28
11 – 20	23	13	36
21 – 30	31	18	49
31 – 40	25	22	47
41 – 50	13	16	29
51 – 60	36	24	60
61 – 70	15	26	41
Above 70	17	20	37
Total	**176(53.8%)**	**151(46.2%)**	**327(100%)**

Male : Female is 1.2:1

Table 2: Age and Sex distribution of HIV positive patients

Age in Years	Sex		Total
	Males	Females	
1 – 10	-	-	-
11 – 20	-	-	-
21 – 30	-	-	6(33.3%)
31 – 40	-	6(33.3%)	3(16.7%)
41 – 50	3(16.7%)	3(16.7%)	5(27.8%)
51 – 60	1(0.6%)	2(1.1%)	1(0.6%)
61 – 70	1(0.6%)	-	-
Above 70	2(1.1%)	-	2(1.1%)
Total	**7(38.9%)**	**11(61.1%)**	**18(100%)**

The male : female ratio is 1:1.6

Table 3: Surgical eye diseases and Sex distribution of HIV positive patients

Surgical Eye Diseases	HIV Positive Patients		
	Male	Female	Total
Cataract	2(11.1%)	3(16.7%)	5(27.8%)
Glaucoma	1(5.6%)	2(11.1%)	3(16.7%)
Retinal Detachment	-	1(5.6%)	1(5.6%)
Pterigium	1(5.6%)	3(16.7%)	4(22.2%)
Chalazion	-	1(0.5%)	1(5.6%)
Ocular Injuries	3(16.7%)	1(5.6%)	4(22.2%)
TOTAL	7(38.9%)	11(61.1%)	18%

DISCUSSION

HIV/AIDS has constituted one of the most difficult challenges for the health care professions[8]. There is high awareness of risk among health workers in Nigeria yet it does not receive an appropriate attention[9]. This inadequate attention is manifest in the poor hospital control preventive procedures against the infection such as use of gloves, auto destruction of used syringes and sharp objects. The classic approach of HIV testing is the voluntary counseling and test (VCT) which is generally patient or client initiated focusing on social and preventive implications of being HIV-infected[1].

In this study the routine and diagnostic HIV testing was adopted for all preoperative cases reducing pretest information and prioritizing post-test counseling especially for the patients found to be HIV seropositive. The clinical consequences of high HIV sero prevalence in such Saharan Africa are by now becoming apparent to health workers but the issue of voluntary and involuntary HIV screening among health care personnel and patients has generated controversies as ethical and moral issues[10]. Similar reactions followed Lesotho Government's offer of or HIV test and counseling to every person in the country over 12 years of age by the end of 2007[11]. Some saw this as an attempt to shift attitudes and normalize knowledge of HIV status, resulting in earlier HIV diagnosis and tangible prevention outcomes. Others raised concerns over potential human rights violations, including lack of confidentiality. Despite the controversy the universal HIV screening offer is still in progress.

The number of screened patients peaked at 51 – 60 years age group with male preponderance, as shown in table 1. In the 51 – 60 years age group cataract constitute the major cause of blindness in both Nigeria and the world and the mode of

treatment is surgery[12-14]. Cataract was found to be the commonest surgical eye disease in this study as shown in table 2. Cataract extraction is a major ophthalmic surgery with marked contact with body fluids such as blood, tears and aqueous humor. These body fluids including tears and aqueous have been found to contain HIV organisms[4]. Contact with these fluids, if contaminated, can results in HIV infections especially when there is an open wound. This mode of infection is possible in cataract extraction where the cataract time is prolonged and sharp instruments used. Eye injuries are the second commonest surgical eye disease in this study as shown in table 3. Most eye injuries are ophthalmic emergencies and require urgent treatment. In this environment, in some cases, appropriate aseptic theatre environment may not be ensured prior to surgery. Also in the treatment of eye injuries contact with body fluids like blood, tears and aqueous is prolonged. There situations increase the chances of HIV infection incase of infected patients.

It is worthy of note that nobody below age of 20 years, as shown in table 2 tested positive of HIV. Sixty four (19.6%) of the screened patients were below 20 years of age. This was found to be statistically significant using chi-square test, $P < 0.05$. It is remarkable that no males 40 years and below tested positive in this study as against females in whom positive result was obtained from 21 years as shown in table 2. This may be attributed to the fact that females become sexually mature and active earlier than males in life[15].

HIV positivity is more amongst females than males in this study with a male:female of 1:1:6. This is at variance with the male:female ratio of screened patients which is 1.2:1. This therefore suggests that females are more susceptible to IV infection than males. Preoperative HIV screening should be ensured particularly amongst females patients above 20 years of age. The presence of HIV in patients above 70 years supports screening for HIV in all patients no matter how old.

No child was found to have HIV in this study despite the fact that Sixty four (19.8%) of the screened patients were below 20 years of age. The advantage of early detection or knowing one's HIV status is remarkable. In some countries like Lesotho HIV screening for everybody 12 years and above have been found acceptable to the populace despite the initial controversy[11]. It is therefore recommended that children should not be excluded in the routine HIV laboratory screening prior to ophthalmic surgery.

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