ISSN: 2754-4990

Journal of Ophthalmology Research Reviews & Reports

SCIENTIFIC Research and Community

Research Article

Open Access

Prevalence of Diabetic Retinopathy at the 5th Celpa/Kindu Eye Care Center

Lukinga Witanene Jean Paul*

Physician Head of the Ophthalmology Department

ABSTRACT

The present retrospective, descriptive study from January 01, 2009 to December 31, 2011 in the city of Kindu with 9,798 patients registered at the 5th CELPA Eye Care Center for a period of two years from which we selected 525 cases of Diabetic Retinopathy for a technique sampling of documentary analysis of cases recorded in the patient register. Was initiated to determine the prevalence of Diabetic Retinopathy in the city of Kindu and its surroundings.

Patients and Methods: This descriptive cross-sectional study collected retrospective conducted from January 01, 2009 to December 31, 2011 at the 5th CELPA eye care center in the city of Kindu from 525 cases of DR selected from the registers of hospitalisé and outpatients.

Results: DR is as common in type I diabetes as in type II diabetes. The reason for this difference is that type I diabetes is more aggressive than type II. The year 2010 there was a high frequency of patients compared to other years, this is justified by the fact that during this year there were several eye surgery campaigns for visiting doctors and this was free of charge. Our study has proven that men were examined a lot during this period than women, this is explained: the women of Maniema do not have sufficient means to access eye care only men who can decide. The maximum age group between 60-89 years is more affected compared to beings age groups, this is explained the disease is related to age, more people of the third age.

Conclusion: The Prevalence of Diabetic Retinopathy is considerable and it is accentuated by bilaterality, late detection of this condition predominates in the elderly constituting a real public health problem.

***Corresponding author**

Lukinga Witanene Jean Paul, Physician Head of the Ophthalmology Department, Congo. Tel: (+243) 811671807, 990219244; E-mail: jpwitha@gmaail.com

Received: July 15, 2021; **Accepted:** July 25, 2022; **Published:** August 12, 2022

Keywords: Prevalence, Diabetic Retinopathy, 5th Celpa/Kindu Eye Care Center, City Of Kindu, Blindness

Introduction

Diabetic retinopathy is an eye abnormality that develops in association with diabetes mellitus. Due to high blood sugar levels, the retinal feeder vessels deteriorate. This deterioration can allow blood to leak out of vessels and cause new branching vessels to form. Sight can be seriously impaired and even lost if the problem is not specifically treated. In industrialized countries, DR is the leading cause of blindness affecting the working population under 30 years of age. Overall, it can be estimated that after 15 years of development of diabetes, approximately 2% of diabetics are blind and 10% suffer from visual impairment. Retinal complications of diabetes mellitus. It is estimated that approximately 40% of diabetics are carriers of retinopathy, which would represent approximately 1,000,000 patients in France Currently diabetes alone accounts for 347 millions sick people in the world. DR is as common in type I diabetes as in type II diabetes. In type I diabetes, DR generally does not occur before 7 years of disease progression. After 20 years, 90 to 95% of type 1 diabetics have DR, including 40% proliferative DR.

The Democratic Republic of Congo, classified among the poor and heavily indebted "HIPC" countries, on the basis of an estimated health survey, has a prevalence of blindness around 32%, which is already a preponderant property.

In Lubumbashi (a city in the DRC) a cross-sectional descriptive study including 369 diabetic patients examined in the ophthalmology department of university clinics during a period from May 2006 to March 2008 revealed that DR is a real health problem. which requires early detection in order to prevent or delay progression to blindness in patients 2008.

Methodology

Study Framework

Our study was carried out in Kindu, capital of the province of Maniema in the Democratic Republic of Congo and focused on the prevalence of diabetic retinopathy at the 5th CELPA Eye Care Center, located in the Health Zone of Kindu which has 253,969 inhabitants. (Health Zone 2009)

Study sample

The study sample consists of 525 DR cases who consulted the CSO 5th CELPA during the period from January 1, 2009 to December 31, 2011. Inclusion criteria: Known diabetic with or without visual disturbances.

Type of study and data collection

This is a descriptive study with retrospective harvest from January 1, 2009 to December 31, 2011. For the realization of this one, we were inspired by the documentary analysis of data in the registers of the patients on the case of Retinopathy diabetic by noting the following parameters: age, sex, affected eye, treatment applied and evolution of the type of diabetic retinopathy.

Data processing and analysis

Data sorting and quality control

Data were drawn from patient registers by establishing the prevalence of all cases observed during this period; we first checked whether the data was complete, accurate and correctly recorded, checked the consistency of the data before processing. Data processing and analysis

The data processing consisted in the distribution of data appearing on the forms in different categorisations, or classification, then in their codification. We used the frequency, the percentage and the Chi-square test as statistical measure the E.P. INFO software (BHATIA, 2010).

Presentation of Results

Table I : Diseases Observed At Cso 5th Celpa/Kindu

Category	Observed workforce	Percentage
Cataract	3999	40,8
Glaucoma	1470	15
Conjunctivitis	978	10
Presbyter	828	8,4
Diabetic retinopathy	525	5,3
Pterygium	465	5
Corneal ulcer	447	4,5
Maculopathy	246	2,5
Hypertensive retinopathy	240	2,4
Pengueculitis	150	1,5
Leucoma	150	1,5
Myopia	150	1,5
Hyperopia	54	0,6
Keratitis	42	0,42
Aphakia	30	0,30
Others	24	0,24
Total	9.798	100

It follows from this table that DR occupies fifth place with 525 cases out of 9798 (5.3%) after cataract (40.8), glaucoma (15%), conjunctivitis (10%), presbyopia (8.4%).

Table 2: Frequency Distribution Of RD Patients According To The Years 2009, 2010 And 2011

Year	Effective	RD	Percentage
2009	2860	175	6
2010	4232	217	5,1
2011	2706	133	5,9
Total	9798	525	5,3

It follows from this table that in 2010 there was a high overall frequency 4232 patients consulted among whom there were 217 cases of RD or 5.1%, followed by the year 2009 which had an overall frequency of 2860 patients consulted of which 175 presented the DR or 6%, it was followed by the year 2011 which had 2706 patients consulted of which 133 manifested the DR or 5%, all the patients having consulted during this period of three years presented the overall number of 9798 patients consulted, of whom 525 manifested, the RD being 5.3%.

Table 3: Rd Frequency According To Gender

Sex	Obs staff	RD	Percent	Proportion
Masculin	5532	288	54,8	0,052061
Féminin	4266	237	45,1	0,055556
Total	9798	525	100	0,107617

This table shows that the frequency of DR cases was higher in male subjects with 288 cases out of 525 or 54.8% with a proportion of 0.052061 then the female sex with 237 cases or 45.1%. with a proportion of 0.055556.

Table 4: Relative And Observed Frequency

Frequency / Choice	F°	Fe	F°-Fe	(F°-Fe)²	X² obs
Homme	288	262,5	25,5	650,25	2,046
Femme	237	262,5	-25,5	650,25	2,046
Total	525	525	-	-	4,092

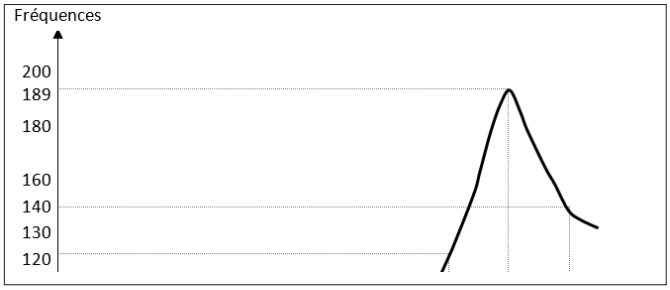
'il y a différence significative entre hommes et femmes.

Table 5: Frequency According To Age Of Rd Subjects

Category	Observed workforce	Percentage
10-19	9	1,72
20-29	15	2,58
30-39	12	2,37
40-49	30	5,60
50-59	48	9,03
60-69	87	16,81
70-79	189	35,99
80-89	135	25,77
Total	525	100

Minimum age 9 – 39 years old
Average age 40 – 59 years old
Maximum age 60 – 89 years.
We did not find patients in the 0-9 years category.
This table shows that the frequency is high among people of the maximum age, i.e. 60 – 89 years old followed by the average age, i.e. between 40 – 59 years old then the minimum age. 9 – 39 years old.

Table 7 : Bimodal chart Frequency



Comment: this bimodal graph clearly shows that the maximum age group is more affected than the rest, with a peak of 180 to 90 years old.

Table 8: Repartition De Patients Selon La Duree De La Maladie

Category	Observed workforce	Percentage
5-9	175	33,4
10-15	350	66,6
Total	525	100

This table shows that for 350 diabetics observed in our study, the ocular manifestations occurred after 10 years of evolution.

Table 9: Diabetic Retinopathy Type

Type de RD	Effective	Percentage
RD Proliferation	396	75,5
Non-proliferative RD	129	24,5
Total	525	100

This table shows that proliferative DR occupies first place with 396 cases (75.5%), followed by non-proliferative DR with 19 cases (24.5%).

Table 10: Distribution of Cases of Bilaterality, According to the Right Eye or According to the left eye

The eye reaches	Effective	Percentage
Bilateral (00)	317	60,38
Right eye (OD)	119	22,7
Left eye (OG)	89	16,92
Total	525	100

It follows from this table that the majority of patients (317 out of 525 or 60.38%) have bilateral involvement.

Table 11: Distribution of DR cases according to the treatment and its Evolution

Treatment	Effective	Percentage
Blood sugar regulation and diet adaptation	159	30,3
Médical : Collyre indobis collyre, Rhumalgan	366	69,7
Total	525	100

It follows from this table that the medical treatment by eye drops which crosses the posterior segment of the eye occupies a first place with 366 cases or (69.7%) but with result of therapeutic evolution a little good follow-up of regulation of the glycemia and adaptation of a hypoglycemic diet with 159 cases (30.3%) with a good therapeutic outcome.

Discussions

DR is as common in type I diabetes as in type II diabetes. The reason for this difference is that type I diabetes is more aggressive than type II. The year 2010 there was a high frequency of patients compared to other years, this was justified by the fact that during this year there were several eye surgery campaigns for visiting doctors and this was free of charge.

Our study has proven that men were examined a lot during this period than women, this is explained: the women of Maniema do not have sufficient means to access eye care only men who can decide.

The maximum age group between 60-89 years is more affected compared to beings age groups, this is explained the disease is related to age, more senior people.The age of the disease which is not less than 7 years before the protests begin.

Our study shows that 75.4% of DR already present serious ocular complications while 24.5% present slight visual disturbances. This is explained by late screening of our patients.Our study showed that the majority of patients had bilateral lesions and bilateral visual impairment because the disease affects the blood vessels of the ocular vasculature.

The study showed that the majority of DR cases are treated with nonsteroidal anti-inflammatory eye drops that pass through the posterior segment. The study proves the non-existence of Laser Photo Coagulation care and the non-use of IVT (Intra Vitreous injections). DR occupies the 5th place among the affections having led the patients to the consultation but in Europe it is the first cause of blindness. The frequency of the disease varies with age according to the result of our study. For a period going from January 01, 2009 to December 31, 2011 led to the results which confirmed the assumptions formulated at the beginning of this work on the fact that, by means of register, files of the patients and documentary analysis allowed us to have a prevalence of 5.3%. This correspond to the result found en 2006 by the national program for the fight against diabetes (PNLD) 5-8%.

Conclusion

Ultimately, the study that we have just carried out as part of research for the publication of this article, based on the prevalence of Diabetic Retinopathy at the 5th CELPA/Kindu Eye Care Center. The Prevalence of Diabetic Retinopathy is considerable and it is accentuated by bilaterality, late detection, this condition predominates in the elderly constituting a real public health problem requiring early detection in order to delay the evolution towards blindness. We suggest that local authorities get involved in the fight against this scourge to prevent irreversible complications.

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