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Original article

Prevalence of Diabetic Retinopathy and Associated Risk Factors in Diabetic Type II Patients in Ajdabiya, Libya

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ABSTRACT

Diabetic retinopathy (DR) is One of the most well-known microvascular complications of diabetes mellitus (DM) and is a frequent side effect of untreated diabetes that can lead to blindness and visual impairment. This study was conducted to assess the prevalence of diabetic retinopathy and associated factors among type 2 diabetic patients. A cross sectional study was done at Ajdabiya diabetic center from November 2023 to January 2024. Subjects and Methods: 52 patients (104 eyes) with T2DM were included in this study, their fasting blood sugar and glycosylated hemoglobin level, lipid profile measured.in addition to fundus examination (done by noncontact +90-diopter lens), fundus photographs taken by Non-Mydriatic Fundus Camera TFC-1000. Around 61 eyes (58.7%) had diabetic retinopathy, 27 eyes (26%) had back ground DR, 6 eyes (5.8 %) had pre-proliferative DR, 4 eyes (3.8%) had proliferative DR, 2 eyes (1.9%) had advanced diabetic eye disease, 22 eyes (21.2%) had CSME. Their ages ranges between 36–74 years with mean (58.90) years, (26.9%) were males, (73.1%) were females. There was a significant association between the development of DR and duration of DM (p=0.003), The FBS levels were also determined to be a significant risk factor for DR (p = 0.031), also LDL with (p=0.039). No other factors were found to have a significant association with DR. In this study more than half of diabetic patients had diabetic retinopathy. There was a significant association between the development of DR and duration of DM, FBS, LDL levels, there was no significant relation between diabetic retinopathy and hypertension, HgA1c Serum cholesterol or triglyceride levels or previous cataract surgery.

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INTRODUCTION

The World Health Organization defines Diabetes Mellitus as a collection of metabolic diseases that share the hyperglycemia phenotype. (1) This condition is described as > 2 readings of fasting plasma glucose of 126 mg/dl or >200 mg/dl 2-hour post-prandial glucose level or (HbA1c) > 6.5% glycosylated hemoglobin [1].

Diabetes mellitus (DM) is divided into two categories: type 1 insulin dependent diabetes mellitus (IDDM), which accounts for 10% of occurrences of DM, and type 2 which is non-insulin dependent diabetes mellitus (NIDDM) accounting for about 90% of cases [1].

Data from the 2021 International Diabetes Federation Atlas report that by 2045, there will be 136 million more persons with diabetes than there were in any other IDF Region, an increase of 86% [2]. The prevalence of diabetes in Middle East and North Africa is 16.2% and expected to increase to 19.3% by 2045 [2].
Long-term complications of diabetes include diabetic retinopathy with potential loss of vision, nephropathy, peripheral neuropathy and autonomic neuropathy [3]. Diabetic retinopathy (DR) is the most frequent microvascular consequence of diabetes and is still one of the main causes of blindness in persons aged 20 to 74 globally [4]. The global prevalence of diabetic retinopathy was estimated to be 34.6% [5], in Benghazi, the prevalence of DR was 30.6% according to Roaeid and Kadiki [6], while in Misurata was 16.2% [7].
Nearly all type 1 diabetic patients and approximately 60% of type 2 diabetic individuals experience retinopathy throughout the first two decades of their disease [8]. Diabetic retinopathy is a one of the complications of diabetes mellitus and it is characterized by microaneurysm, hemorrhage, hard exudates, cotton-wool spots, venous changes, and new vessel formation involved in the peripheral retina, optic disc, or both [9]. The risk factors of DR include uncontrolled DM, hypertension, hyperlipidemia and obesity, duration of diabetes, pregnancy, cataract surgery and genetic risk factors [10]. The purpose of this study was to find out the prevalence of diabetic retinopathy, grades of retinopathy and correlation with other risk factors, so that progression of diabetic retinopathy can be predicted, and early intervention can be instituted.

METHODS

Study design

A cross sectional study was used targeting the Libyan patient aged between 35-75 years and carried out at Ajdabiya diabetic center from November 2023 to January 2024. This study comprised of a sample size 52 patients (104 eyes) with T2DM.

The inclusion and exclusion criteria

Patients with an established diagnosis of type 2 DM with or without DR were included in the study. Patients were excluded if they had type I diabetes, as well as those with intraocular infection or inflammation, peoples with abnormalities in anterior and posterior eye's chamber which can interfere visualization during retinal examination other than RD, with retinal diseases like retinal vascular occlusions or retinitis pigmentosa. Additionally, subjects receiving intravitreal injections or those who had previous laser treatment were not included. Individuals who were unable to provide informed consent were also excluded from this study.

Data collection tools

The data collected using researcher administered structured questionnaires with both open and closed-ended including age, gender, duration of diabetes (from the time of diagnosis to the time of examination), their fasting blood sugar and glycosylated hemoglobin level, lipid profile measured, anti-diabetic treatment used, presence or absence of systemic hypertension, cataract surgery.
Comprehensive ophthalmic examination, including slit-lamp biomicroscope and fundus examination of both the eyes was done, best-corrected Snellen visual acuity recorded as logarithm of the minimum angle of resolution (log MAR), followed by slit lamp biomicroscopic and fundus examination was done through dilated pupil using 1% tropicamide using noncontact fundus lens (Volk +90-diopter lens). Fundus photographs taken by Non-Mydriatic Fundus Camera TFC-1000; Intraocular pressure was measured using applanation tonometry.

Ethical issues

The study was conducted according to the principles of the World Medical Association Declaration of Helsinki. Before being included in this study written consent was obtained from all participants. Each patient has explained the nature of this study, its purpose, procedures, duration, and benefits involved, as well as any discomfort it might cause. Each patient was informed that participation was voluntary, they could withdraw from this study without giving explanations, and their decision to withdraw would not affect their medical treatment or their relationship with the treating physician.

Statistical analysis

Data from this study were analyzed using SPSS version 25 software for Windows. Descriptive statistics were used to express the results as mean ± standard deviation, frequencies, and percentages. Chi-square tests ($\chi 2$) was used to test for the association. $P \leq 0.05$ was considered statistically significant

RESULTS

Socio-demographic characteristics

Out of 52 (104 eyes) patients included in this study 28(26.9%) were males, 76(73.1%) were females. Their ages ranges between 36 – 74 years with mean (58.90) years SD (8.1), 44(42.3%) were in the age group 61 – 70 years, 38(36.5%) were between 51 and 60, 14(13.5%) were between 40 and 50, 6(5.8%) were above 70 years and 2(1.9%) were less than 40 years. With concern to education level, 23.1 % were non educated, while 76.9 % were educated.

Table 1. Socio-demographic characteristics of patients attending at diabetic center at Ajdabiya, Libya, 2023 (n = 104)

Variables	Frequency (n of eyes)	Percent (% of eyes)
Age in years		
< 40	2	1.9
40 – 50	14	13.5
51 – 60	38	36.5
61 – 70	44	42.3
> 70	6	5.8
Gender		
Male	28	26.9
Female	76	73.1
Education level		
None educated	24	23.1
Primary	42	40.4
Secondary	10	9.6
Tertiary	28	26.9

Treatment modality and different clinical factors

Among patients in this study (5.8 %) of them used insulin and (69.2 %) of them used oral antiglycemic and the remaining (25%) used both insulin and oral antiglycemic agents. The duration of diabetes was between 1 - 25 years with a mean duration of (10.38) years (SD = 6.4). While HbA1c levels ranged between 5.4 to 14.9 with a mean of (8.73) (SD 1.90), About (15.4 %) of the patient had glycemic control equal or less than 7 and the other (51.9 %) had glycemic level between 7 to 9 while remining (32.7%) were greater than 9. Fasting blood sugar level was up to 125 mg/dl in (19.2 %) and more than 125 mg/dl in (80.8%).

In our study, the mean fasting blood sugar level was 171.35 with a SD of 63.485 mg/dl. Cholesterol levels were equal to or above 200 in (26.9 %) and triglyceride (TG) levels were equal to or above 150 mg/dl in (33.7%), and low-density lipoprotein LDL levels were above 130 mg/dl in (28.8%).

In this study the number of hypertensive patients was (36.5 %) and patients with previous cataract surgery were (19.2%) visual acuity (log MAR) Snellen equivalent was 0.3 and less in (76 %) and more than 1 in about (3.8 %)

Table 2. Treatment modality and different clinical factors among patients attending at diabetic center at Ajdabiya, Libya, 2023 (n = 104)

Variables	Frequency (n of eyes)	Percent (% of eyes)
Duration of Dm		
< 5 years	28	26.9
5 – 10 years	24	23.1
11 – 15 years	28	26.9
16 – 20 years	22	21.2
> 20 years	2	1.9
Treatment		
Oral hypoglycemic drug	72	69.2
Insulin	6	5.8
Both	26	25.0
HgA1c		
< 7 % (good)	16	15.4
7.1 - 9 % (sub optimal)	54	51.9

> 9 % (poor)	34	32.7
FBS		
Up to 125	20	19.2
> 125	84	80.8
Cholesterol		
Less than 200 mg/dl (normal)	76	73.1
Equal or more than 200mg/dl (dyslipidemia)	28	26.9
Triglyceride (TG)		
Less than 150 mg/dl (normal)	69	66.3
Equal or more than 150 mg/dl (dyslipidemia)	35	33.7
Low density lipid (LDL)		
Less than 130mg /dl	74	71.2
More than 130 mg/dl	30	28.8
Hypertension		
No	66	63.5
Yes	38	36.5
Cataract surgery		
No	84	80.8
Yes	20	19.2
Visual acuity (log MAR) Snellen equivalent		
0.3 and less	79	76.0
More than 0.3 up to 1	21	20.2
More than 1	4	3.8

HbA1c: hemoglobin A1c, DM: diabetes mellitus, Log MAR: logarithm of the minimum angle of resolution

Prevalence of diabetic retinopathy among type 2 Diabetic patients

The result of this study showed that 61 (58.7 %) of participants had diabetic retinopathy and the remaining 43 (41.3 %) did not have diabetic retinopathy. Therefore, as shown in Fig.1 below the prevalence of retinopathy among type 2 diabetic patient was 58.7%.

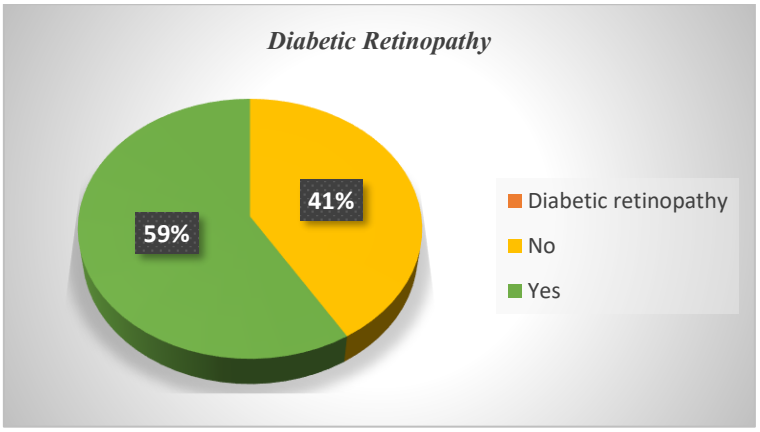

Figure 1. Prevalence of diabetic retinopathy among type 2 diabetic patients attending at diabetic center at Ajdabiya, Libya, 2023 (n = 104)

Among patients with DR: 27 eyes (26 %) had background DR, 6 eyes (5.8 %) had pre-proliferative DR, 4 eyes (3.8 %) had proliferative DR, 2 eyes (1.9 %) had advanced diabetic eye disease, 22 eyes (21.2 %) had CSME.

Table 3. Classification of Diabetic Retinopathy among type 2 diabetic patients attending at diabetic center at Ajdabiya, Libya, 2023 (n = 104)

Diabetic retinopathy		
	Frequency (n)	**Percent (%)**
No DR	43	41.3
Background DR	27	26.0
Pre-proliferative DR	6	5.8
Proliferative DR	4	3.8
Advanced diabetic eye disease	2	1.9
CSME	22	21.2

DR: diabetic retinopathy, CSME: clinically significant macular edema

Associated factors of diabetic retinopathy

As shown in Table 4, the chi-square test, which was used to assess the relationship between DR and the studied factors, showed that the relationship between the presence of DR and the duration of DM was significant (p = 0.00), the relationship between DR presence and HbA1c levels was (p = 0.044). between DR presence and level of education (p=0.004), However, there was no significant association between DR and gender, hypertension, cholesterol and triglyceride levels. (All p > 0.05)

Table 4. Chi-square test showing the association between diabetic retinopathy and the studied factors.

Variables		**Diabetic retinopathy**		**Chi-Square X2**	**p value**
		No N (%)	**Yes N (%)**		
Age	< 40	2(100.0)	0(0.00)	20.561	0.000
	40 – 50	8 (57.1)	6 (42.9)		
	51 – 60	23 (60.5)	15(39.5)		
	61 – 70	10 (22.7)	34(77.3)		
	> 70	0(0.00)	6(100.0)		
Gender	Male	9(32.1)	19(67.9)	1.338	0.247
	Female	34(44.7)	42(58.7)		
Education level	Non educated	6(25.0)	18(75.0)	13.557	0.004
	Primary	13(31.0)	29(69.0)		
	Secondary	8(80.0)	2(20.0)		
	Tertiary	16(57.1)	12(42.9)		
	more than 0.3 up to 1	2(9.5)	19(90.5)		
	more than 1	0(0.00)	4(100.0)		
Duration of Dm	< 5	23(82.1)	5(8.2)	50.091	0.00
	5-10	16(66.7)	8(33.3)		
	11-15	3(10.7)	25(89.3)		
	16 – 20	1(4.5)	21(95.5)		
	> 20	0(0.00)	2(100.0)		
Treatment	OHD	36(50.0)	36(50.0)	7.626	0.022
	insulin	2(33.3)	4(66.7)		
	both	5(19.2)	21(80.8)		
HgA1c	=< 7.0	10(62.5)	6(37.5)	6.268	0.044
	7.1 – 9.0	24(44.4)	30(55.6)		
	>9.0	9(26.5)	25(73.5)		
FBS	up to 125	14(70.0)	6(30.0)	8.383	0.004
	> 125	29(34.5)	55(65.5)		
Cholesterol	Less than 200 (normal)	35(46.1)	41(53.9)	2.578	0.108
	Equal or more than 200 (dyslipidemia)	8(28.6)	20(71.4)		
TG	Less than 150 (normal)	30(43.5)	39(56.5)	0.384	0.535

	Equal or more than 150 (dyslipidemia)	13(37.1)	22(62.9)		
LDL	Less than 130	38(51.4)	36(48.6)	10.589	0.001
	More than 130	5(16.7)	25(83.3)		
Hypertension	No	30(45.5)	36(54.5)	1.257	0.262
	Yes	13(34.2)	25(65.8)		
Cataract surgery	No	40(47.6)	44(52.4)	7.087	0.008
	Yes	3(15.0)	17(85.0)		
	more than 0.3 up to 1	2(9.5)	19(90.5)		
	more than 1	0(0.00)	4(100.0)		

DR: diabetic retinopathy, HbA1c: hemoglobin A1c, DM: diabetes mellitus, OHD: oral hypoglycemic, CSME: clinically significant macular edema.

In Table 5**,** the logistic regression showed that the duration of DM was significant as a risk factor for DR with a p-value = 0.003, FBS was similarly significant with a p-value = 0.031, LDL levels with a p-value = 0.039. Otherwise, no significant association was observed between DR and the other studied factors (age, gender, level of education, mode of treatment, HgA1c, hypertension, cholesterol levels, triglycerides, and previous cataract surgery).

Table 5. The relationship between diabetic retinopathy and associated factors using logistic regression.

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1a	**Age**	-0.101	.6600	.0240	1	.8780	.904
	Gender	-1.228	.8970	1.876	1	.1710	.293
	Education level	-0.489	.5060	.9310	1	.3350	.614
	Duration of DM	1.653	.5480	9.098	1	.0030	5.222
	Treatment	-0.041	.5720	.0050	1	.9430	.960
	HgA1C	-0.830	.6690	1.538	1	.2150	.436
	FBS	3.169	1.471	4.642	1	.0310	23.794
	cholesterol	-1.339	1.660	.6510	1	.4200	.262
	TG	0.464	.9420	.2430	1	.6220	1.591
	LDL	3.426	1.662	4.251	1	.0390	30.767
	Hypertension	.9340	.9420	.9820	1	.3220	2.545
	Cataract surgery	1.141	1.233	.8570	1	.3550	3.131
	Constant	-12.125	4.897	6.132	1	.0130	.000

HbA1c: hemoglobin A1c, DM: diabetes mellitus, FBS: fasting blood sugar; TG: triglyceride, LDL: low density lipoprotein.

DISCUSSION

Diabetic retinopathy (DR) is a common microvascular complication of diabetes mellitus (DM) and a significant global health issue [9]. It is a frequent complication of untreated diabetes that can result in blindness and visual impairment. Since the likelihood of blindness in a diabetic is about 25 times higher than in the general population, early identification of diabetic retinopathy (DR) is the first line of defense against visual loss [11]. Our study found a prevalence of DR among patients with T2DM of 58.7%, which is higher than in previous studies conducted in Libya. In previous studies conducted in Libya, the prevalence was 30.5%, 16.2% in Benghazi [6], and Misurata [7], respectively. Based on DR grading, (41.3%) of the patients in our study had no apparent DR, (26%) had background DR, 5.8% had pre-proliferative DR, (3.8%) had proliferative DR, (1.9%) had advanced diabetic eye disease, and (21.2%) had CSME.

Elzarrug et al [12] found that (56.3%) had background DR, (5.8%) had pre-proliferative DR, (31.6%) had proliferative DR, (4.7%) had advanced diabetic eye disease, and of those, (22.1%) had CSMO. In our study, most of our patients were female (73.1%), as were Elzarrug et al [12], their ages ranged between 36 and 74 years, with a mean of 58.90 years. In this study, the duration of diabetes was between 1 and 25 years, with a mean duration of 10.38. There was a significant association between the development of DR and the duration of DM (p = 0.00). The relationship was also significant between the duration of DM and the severity of DR (p = 0.00), consistent with other studies [13-15].

In most previous research, hyperglycemia (measured by HbA1c) and FBS were considered significant risk factors for the development of DR. Therefore, in patients without diabetic retinopathy, monitoring FBS may be beneficial and reduce the risk of retinopathy [11,12,16].

In this study, FBS was considered a significant risk factor for the development of DR, while HgA1c was not a risk factor for DR, and this result was consistent with other studies [17]. We also evaluated hypertension as a potential risk factor. In the study, subjects demonstrated that it was not associated with an increased risk of developing of diabetic retinopathy. Other studies have also found no association between high blood pressure and the risk of diabetic retinopathy [16,18,22]. The statistical analysis showed an insignificant relationship between DR and high levels of cholesterol and triglycerides [13,20,22]. In contrast, however, a study of type 2 diabetic patients found a significant association between total cholesterol and triglycerides and the development of DR [19]. While there is a significant relationship between DR and high levels of low-density lipoprotein, which was proven in this study [21].
After cataract surgery, people with diabetes mellitus have been observed to experience an increased rate of retinopathy progression. Cataract surgery greatly raises the possibility of developing NPDR. Its effects last for five years following surgery [23]. In the study, subjects demonstrated that cataract surgery was not associated with an increased risk of developing diabetic retinopathy [24].

CONCLUSION

In this study, more than half of diabetic patients (58.7%) had diabetic retinopathy. Background diabetic retinopathy is the most prevalent presentation. There was a significant association between the development of DR and the duration of DM, FBS, and LDL levels; there was no significant relationship between diabetic retinopathy and hypertension, HbA1c serum cholesterol or triglyceride levels, or previous cataract surgery.

REFERENCES

1. Singh C, Prasad SP, Kaul S, Motwani D, Mishra A, Padmakumar V. Association of HbA1c levels with diabetic retinopathy. Indian Journal of Clinical and Experimental Ophthalmology. 2021;7(2):339-45.
2. Federation ID. IDF diabetes atlas, tenth. International Diabetes. 2021.
3. American Diabetes Association. Diagnosis and classification of diabetes mellitus. Diabetes Care. 2014 Jan;37 Suppl 1:S81-90. doi: 10.2337/dc14-S081. PMID: 24357215.
4. Abu El-Asrar AM. Evolving strategies in the management of diabetic retinopathy. Middle East Afr J Ophthalmol. 2013 Oct-Dec;20(4):273-82. doi: 10.4103/0974-9233.119993.
5. Yau JW, Rogers SL, Kawasaki R, Lamoureux EL, Kowalski JW, Bek T, Chen SJ, Dekker JM, Fletcher A, Grauslund J, Haffner S. Global prevalence and major risk factors of diabetic retinopathy. Diabetes care. 2012 Mar 1;35(3):556-64.
6. Roaeid RB, Kadiki OA. Prevalence of long-term complications among Type 2 diabetic patients in Benghazi, Libya. Journal of Diabetology. 2011 Sep 1;2(3):3.
7. Elhwuegi AS, Darez AA, Langa AM, Bashaga NA. Cross-sectional pilot study about the health status of diabetic patients in city of Misurata, Libya. African health sciences. 2012;12(1):81-6.
8. Fong DS, Aiello L, Gardner TW, King GL, Blankenship G, Cavallerano JD, Ferris III FL, Klein R, American Diabetes Association. Diabetic retinopathy. Diabetes care. 2003 Jan 1;26(suppl_1):s99-102.
9. Zegeye AF, Temachu YZ, Mekonnen CK. Prevalence and factors associated with Diabetes retinopathy among type 2 diabetic patients at Northwest Amhara Comprehensive Specialized Hospitals, Northwest Ethiopia 2021. BMC ophthalmology. 2023 Jan 5;23(1):9.
10. Ting DS, Cheung GC, Wong TY. Diabetic retinopathy: global prevalence, major risk factors, screening practices and public health challenges: a review. Clinical & experimental ophthalmology. 2016 May;44(4):260-77.
11. Al Ashoor M, Al Hamza A, Zaboon I, Almomin A, Mansour A. Prevalence and risk factors of diabetic retinopathy in Basrah, Iraq. Journal of Medicine and Life. 2023 Feb;16(2):299.
12. Elzarrug H, Makhlouf T, Ruwida MS. Diabetic retinopathy in Libyan patients; severity and relation to systemic risk factors. IJSR. 2017;10:848-51.
13. Almutairi NM, Alahmadi S, Alharbi M, Gotah S, Alharbi M. The association between HbA1c and other biomarkers with the prevalence and severity of diabetic retinopathy. Cureus. 2021 Jan 6;13.(1)
14. Al-Maskari F, El-Sadig M. Prevalence of diabetic retinopathy in the United Arab Emirates: a cross-sectional survey. BMC ophthalmology. 2007 Dec;7:1-8.
15. Lima VC, Cavalieri GC, Lima MC, Nazario NO, Lima GC. Risk factors for diabetic retinopathy: a case–control study. International journal of retina and vitreous. 2016 Dec;2:1-7.
16. Rasoulinejad SA, Meftah N, Maniati MS, Maniati M. High levels of FBS and HbA1c and their association with diabetic retinopathy: a study in the north of Iran. Journal of Diabetes & Metabolic Disorders. 2022 Jun;21(1):399-406.
17. Maa AY, Sullivan BR. Relationship of hemoglobin A1C with the presence and severity of retinopathy upon initial screening of Type II diabetes mellitus. American journal of ophthalmology. 2007 Sep 1;144(3):456-7.
18. Foo V, Quah J, Cheung G, Tan NC, Zar KL, Chan CM, Lamoureux E, Yin WT, Tan G, Sabanayagam C. HbA1c, systolic blood pressure variability and diabetic retinopathy in Asian type 2 diabetics. Journal of diabetes. 2017 Feb;9(2):200-7.
19. Aldebasi YH, Mohieldein AH, Almansour YS, Almutairi BL. Dyslipidemia and lipid peroxidation of Saudi type 2 diabetics with proliferative retinopathy. Saudi Med J. 2013 Jun 1;34(6):616-22.

20. Cetin EN, Bulgu Y, Ozdemir S, Topsakal S, Akın F, Aybek H, Yıldırım C. Association of serum lipid levels with diabetic retinopathy. International journal of ophthalmology. 2013;6(3):346.
21. Gholami Chahkand MS, Esmaeilpour Moallem F, Qezelgachi A, Seifouri K, Pesaran Afsharian A, Sheikhzadeh F, Poursalehi A, Fani Sadrabadi FS, Saghab Torbati M, Ramezanzade M, Alishiri G. Lipoprotein (a) as a predictor of diabetic retinopathy in patients with type 2 diabetes: A systematic review. Diabetes & Vascular Disease Research. 2023 Nov 29;20(6):14791641231197114.
22. Raja SA, Chong VH, Rahman NA, Shakir LM, Knights J. Prevalence and associated factors of diabetic retinopathy among type 2 diabetes mellitus patients in Brunei Darussalam: a cross-sectional study. Korean Journal of Ophthalmology: KJO. 2022 Feb;36(1):26.
23. Tham YC, Liu L, Rim TH, Zhang L, Majithia S, Chee ML, Tan NY, Wong KH, Ting DS, Sabanayagam C, Wang JJ. Association of cataract surgery with risk of diabetic retinopathy among Asian participants in the Singapore epidemiology of eye diseases study. JAMA Network Open. 2020 Jun 1;3(6):e208035.-
24. Krepler K, Biowski R, Schrey S, Jandrasits K, Wedrich A. Cataract surgery in patients with diabetic retinopathy: visual outcome, progression of diabetic retinopathy, and incidence of diabetic macular oedema. Graefe's Archive for Clinical and Experimental Ophthalmology. 2002 Sep;240:735-8.

مدى انتشار اعتلال الشبكية السكري وعوامل الخطر المرتبطة به لدى مرضى السكري من النوع الثاني في أجدابيا، ليبيا

حنان بن حسن, أنور جبريل

قسم طب وجراحة العيون, كلية الطب البشري, جامعة بنغازي, بنغازي, ليبيا

المستخلص

اعتلال الشبكية السكري هو أحد أكثر مضاعفات الأوعية الدموية الدقيقة المعروفة لمرض السكري وهو أحد الآثار الجانبية المتكررة لمرض السكري غير المعالج الذي يمكن أن يؤدي إلى العمى وضعف البصر. أجريت هذه الدراسة لتقييم مدى انتشار اعتلال الشبكية السكري والعوامل المرتبطة به بين مرضى السكري من النوع الثاني. التصميم: تم إجراء دراسة مقطعية في مركز أجدابيا للسكري في الفترة من نوفمبر 2023 إلى يناير 2024. تم تضمين 52 مريضًا (104 عيون) يعانون من مرض السكري من النوع الثاني في هذه الدراسة، وتم قياس نسبة السكر في الدم أثناء الصيام ومستوى الهيموجلوبين الغليكوزيلاتي وقياس مستوى الدهون. بالإضافة إلى فحص قاع العين (الذي تم إجراؤه بواسطة عدسة +90 ديوبتر غير لاصقة)، تم التقاط صور قاع العين بواسطة كاميرا قاع العين غير الموسع للحدقةTFC-1000 . حوالي 61 عينًا (58.7%) مصابة باعتلال الشبكية السكري، و27 عينًا (26%) مصابة باعتلال الشبكية السكري DR الأرضي، 6 عيون (5.8%) بها DR ما قبل التكاثري، 4 عيون (3.8%) بها DR تكاثري، عينان (1.9%) مصابتان بمرض العين السكري المتقدم، 22 عينًا (21.2%) مصابان بوذمة بقعية هامة سرسريا. تتراوح أعمارهم بين 36 - 74 سنة، بمتوسط (58.90) سنة، (26.9%) ذكور، (73.1%) إناث.هناك ارتباط كبير بين تطور اعتلال الشبكية السكري ومدة الاصابة بمرض السكري .(p = 0.003)تم تحديد مستويات السكر في الدم أثناء الصيام أيضًا لتكون عامل خطر مهم لأعتلال الشبكية السكري (p = 0.031) ، وكذلك مع مستوى البروتين الدهني منخفض الكثافة .(p = 0.039) لم يتم العثور على عوامل أخرى لها ارتباط كبير مع اعتلال الشبكية السكري. في هذه الدراسة، كان أكثر من نصف مرضى السكري يعانون من اعتلال الشبكية السكري، واعتلال الشبكية السكري الخلفي هو العرض الأكثر انتشارا. كان هناك ارتباط كبير بين تطور اعتلال الشبكية السكريومدة الاصابة بمرض السكري ومستويات السكر في الدم أثناء الصيام و البروتين الدهني منخفض الكثافة؛ لم تكن هناك علاقة ذات دلالة إحصائية بين اعتلال الشبكية السكري وارتفاع ضغط الدم، أو مستويات الكوليسترول في الدم ومستوى الهيموجلوبين الغليكوزيلاتي أو الدهون الثلاثية، أو جراحة الساد السابقة

الكلمات الدالة. أجدابيا، مرض السكري، اعتلال الشبكية السكري، ليبيا