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Assessment Outcome of Patient with Optic Edema

Dr. MUTHANNA ABDULKHUDHUR ABBAS
M.B.Ch.B, MSc, (Ophthalmology), Iraqi Ministry of Health, Baghdad Health Directorate, Al Karama Teaching Hospital, Baghdad, Iraq.
Khuther2003@yahoo.com

Dr. Guler khidir Ghalib
M.B.Ch.B., Arabic Board of Ophthalmology 2009
Iraqi Ministry of Health, Kirkuk Health Directorate, Azadi Teaching Hospital, Kirkuk, Iraq. gulerophth@yahoo.com

Abbas AbdulWahhab Jumaah
Department of Applied Embryology, High Institute for Infertility Diagnosis and Assisted Reproductive Technologies, Nahrain University, Kadhimiya, Baghdad, Iraq.
Abbasabdalwahab@ierit.nahrainuniv.edu.iq

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ABSTRACT

Background:

Optic edema is a swelling of the optic nerve that connects the eye to the brain. This swelling is a reaction to the build-up of pressure in or around the brain, which may have many causes.

Objective:

This paper aims to assess the outcome of patients with optic edema.

Patients and methods:

This paper is interested to assess the outcome of patients with optic edema. This study was conducted on patients from 15 to 45 years for both sexes, male and female, in different hospitals in Iraq on 15th March 2021 to 17th August 2022. The collected data was analysed, and statistics by SPSS and Excel programs. This study was examined into patient groups with 85 members of patients.

Results and discussion:

Without mentioning the underlying etiology, the term "papilledema" merely refers to oedema of the optic disc. Because it is the most well-known and significant clinical symptom of increased intracranial pressure, papilledema must be recognized in clinical settings. Modern diagnostic techniques have evolved to the point that it is now common practice to identify and treat elevated intracranial pressure before papilledema manifests.

Conclusion:

In this paper, we have studied all the causes, symptoms, and evaluation of farsighted patients for ages from 15 to 45 years for both male and female sexes. Our results showed that males were more affected than females, with a rate of 69.4% and females 30.6%. Moreover, the data collected revealed that age-related macular degeneration and Idiopathic intracranial hypertension had the highest percentage of patients, finding 25 and 32 patients. In addition, these results showed that Headache and Lr palsy achieved a large proportion of affected patients.

Introduction

The optic nerve, which links the eye with the brain, swells in optic edema [1,2,3]. This swelling is a response to the pressure that has accumulated within or close to the brain, that may be caused by a variety of factors [4,5]. If left untreated, papilledema can cause visual loss. It is frequently an indication of a medical disease that has to be addressed, such as a brain tumor or hemorrhage, although occasionally, the pressure and swelling cannot be linked to a specific issue. [6,7,8]

Your skull only has so much room, so the intricate system of nerves, blood, and liquids that make up your brain fits tightly within. The internal pressure increases when something expands, something grows, or that is more fluid than usual, which might result in papilledema. [9,10]

The presence of symptoms helps diagnose neuritis, but it can be difficult to obtain reliable reports of symptoms from patients. Common symptoms include decreased vision [11,12], pain when moving the eyes, changes in color vision, or decreased brightness [13]. A relative afferent pupillary defect is often present if the condition is unilateral. Optic neuritis in children is often bilateral, with a clear decrease in vision compared to adults [14]. In severe cases, blood spots may appear on the retina. Tests may also be done to evaluate any changes in color vision, decreased visual acuity, or double vision. [15]

In rare cases, papilledema can be caused by very high blood pressure [16], for example, over 120/180 [16]. When patients' blood pressure rises to this level, it is known as a hypotensive crisis and requires immediate medical attention [17,18]. In these cases, blood pressure must be

lowered to prevent more serious infections, and this means medical treatment in the intensive care unit [19,20]. This paper aims to assess the outcome of patients with optic edema.

Patients and methods

This paper is interested to assess the outcome of patients with optic edema. This study was conducted on patients from 15 to 45 years for both sexes, male and female, in different hospitals in Iraq on 15th March 2021 to 17th August 2022. The collected data was analysed, and statistics by SPSS and Excel programs. This study was examined into patient groups with 85 members of patients.

To start up, this paper compared with previous studies to get this kind of data, where includes the distribution of patients based on ages and sexes, which can you find in **Table 1 and Table 2** in parameters of mean, mode, standard deviations, median, maximum, and minimum. To follow that, this paper was conducting the Disc Edema test into two parameters, unilateral and bilateral, where all these details can be shown in **Figure 1**.

To build up, this study analysed causes of vision impairment where these data was included age-related macular degeneration, cataract, diabetic retinopathy, and glaucoma, and these outcomes can be seen in **Table 3**.

This study extended into study symptoms of disc edema patients, which include Headache, Nausea, vomiting, Transient obscuration of vision, Lr palsy, and Diplopia, which can be shown in **Table 4**.

Furthermore, this paper Assesses of distance vision impairment patients, which are divided into three scores, Mild, Moderate, and Severe, where these outcomes can be seen in **Table 5.**

Results

Table 1: Statistics distributed of patients according to age.

Statistics

Age-patients

N	**Valid**	**85**
	Missing	**0**
Mean		**34.5471**
Median		**40.0000**
Mode		**45.00**
Std. Deviation		**10.69246**
Variance		**114.329**
Skewness		**-.573**
Std. Error of Skewness		**.261**
Range		**30.00**

Minimum	**15.00**
Maximum	**45.00**
Sum	**2936.50**

Table 2: Statistics distributed of patients according to sex.

sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**male**	**59**	**69.4**	**69.4**	**69.4**
	female	**26**	**30.6**	**30.6**	**100.0**
	Total	**85**	**100.0**	**100.0**	

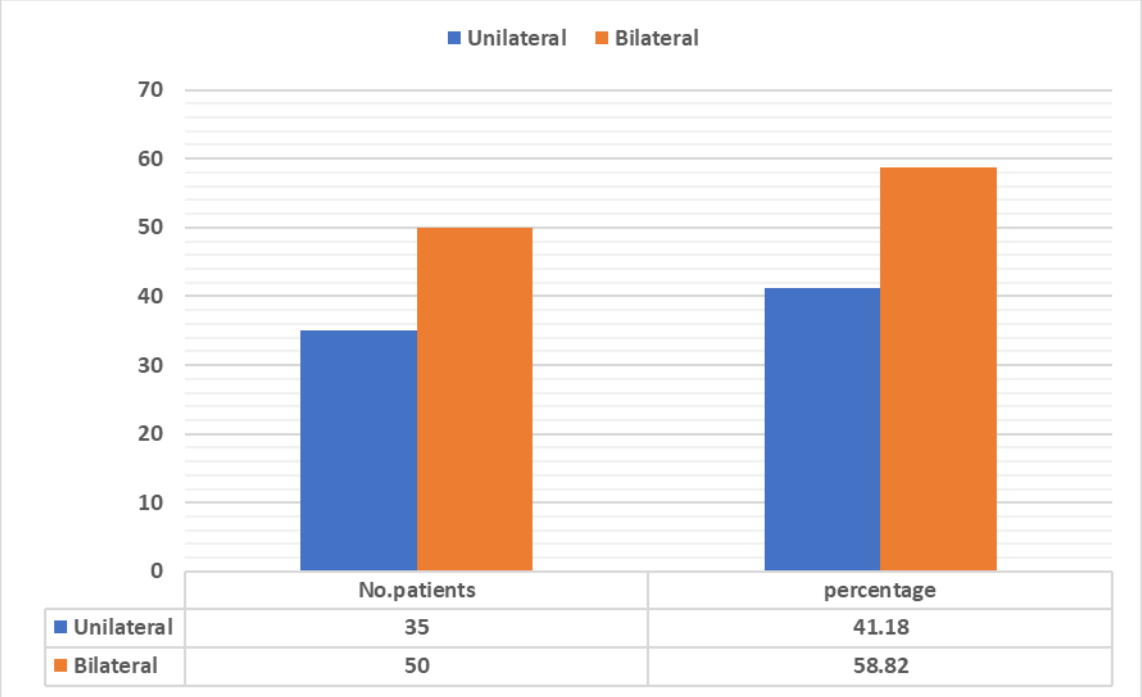

Figure-1: Conducting of Disc Edema test.

Table 3: The main causes of vision impairment.

Causes	Frequency (n)	Percentage (%)
age-related macular degeneration	25	29.41%
cataract	18	21.18%

Idiopathic intracranial hypertension	32	37.65%
glaucoma	10	11.76%

Table 4: Symptoms of disc edema patients.

Symptoms	**Frequency, (n)**	**%**
Headache	18	16.47%
Nausea	14	21.18%
vomiting	11	12.94%
Transient obscuration of vision	13	15.29%
Lr palsy	17	20%
Diplopia	12	14.12%

Table 5: Assessment of distance vision impairment patients.

Score type	**Number of patients**	**Percentage (%)**
Mild	45	52.94%
Moderate	30	35.29%
Severe	10	11.76%

Discussion

Without mentioning the underlying etiology, the term "papilledema" merely refers to an oedema of the optic disc. Because it is the most well-known and significant clinical symptom of increased intracranial pressure [21], papilledema must be recognized in clinical settings. Modern diagnostic techniques have evolved to the point that it is now common practice to identify and treat elevated intracranial pressure before papilledema manifests. [22]

Idiopathic intracranial hypertension (IIH) is an uncommon condition characterized by elevated pressure in the intracranial cavity without radiological or laboratory evidence of intracranial pathology aside from empty Sella turcica [23], optic nerve sheath in overflowing off cerebrospinal fluid spaces, and smooth-walled nonflow-related venous sinus stenosis or collapse. The most common symptom in our study was headache. A similar study was conducted by Julayanont P [24]. Obese women are often affected by this illness.

With the prevalence of obesity rising, IIH is becoming more common. The most typical symptom is a constant headache. A significant consequence that patients might not be aware of is visual impairment. The clinical signs, difficulties with the diagnosis, and available therapies for IIH in adults are discussed in this study. The effectiveness of several imaging modalities for detecting IIH and papilledema has been investigated. [25,26]

The two main explanations for the papilledema brought on by high ICP in IIH are optic nerve compression and optic nerve ischemia. One of the characteristics for diagnosing IIH is papilledema [27]. Even while papilledema is often symmetric or just minimally asymmetric, considerable asymmetry may be present in certain cases, which can be explained by variations in the trabecular meshwork or differences in the size of the bone optic canals in the subarachnoid space surrounding the optic discs. [28]

Similar to our study, this outcome found that patients who got issues into Bilateral with 50 cases have more than Unilateral 35 cases. Most patients in this set of cases complained of headaches, as was to be expected and in line with earlier research. About one-fourth of the patients had depression; this conclusion is consistent with others research [29]. In fact, it has been shown that the majority of IIH patients experience migraines headaches that are unrelated to elevated intracranial pressure. Some can claim that IIHWOP is just a migraine in fat people. In addition, 18 of our patients with IIHWOP also showed one or more additional symptoms of elevated ICP in addition to headache. Finally, in addition to intracranial hypertension, our IIHWOP patients frequently exhibited headache as well as migraine aura symptoms. [30]

Conclusion

In this paper, we have studied all the causes, symptoms, and evaluation of farsighted patients for ages from 15 to 45 years for both male and female sexes. Our results showed that males were more affected than females, with a rate of 69.4% and females 30.6%. Moreover, the data collected revealed that age-related macular degeneration and Idiopathic intracranial hypertension had the highest percentage of patients, finding 25 and 32 patients. In addition, these results showed that Headache and Lr palsy achieved a large proportion of affected patients.

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