MAŁGORZATA KOWAL, MAGDALENA KOWALSKA, KATARZYNA WÓJTOWICZ-CHOMICZ, BARBARA DYKA, ANDRZEJ BORZĘCKI

Choroby narządu wzroku występujące w populacji zamieszkałej w Ostrowcu Świętokrzyskim i okolicy

Eyesight diseases incidence among inhabitants of Ostrowiec Świętokrzyski and the region

Streszczenie

Wstęp. Podstawowym zmysłem umożliwiającym komunikację ze światem zewnętrznym jest narząd wzroku. Choroby oczu są często występującymi schorzeniami w naszym społeczeństwie. Wszelkie urazy, nawet powierzchowne, dotyczące gałki ocznej, a także jej narządów dodatkowych, stanowić mogą bezpośrednie lub pośrednie zagrożenie dla funkcji widzenia.

Celem pracy była ocena częstości występowania chorób narządu wzroku w badanej populacji.

Materiał i metody. Badaniami objęto grupę 3274 mieszkańców (69% kobiet i 31% mężczyzn) Ostrowca Świętokrzyskiego i okolic, w wieku 0-100 lat, będących pod opieką Poradni Okulistycznej NSZOZ. Metodą badawczą była analiza dokumentacji medycznej poradni okulistycznej.

Wyniki. Najliczniejszą grupę pacjentów stanowiły osoby z przedziału wiekowego 70-80 rok życia – 22,83%. Analiza badań wykazała, że głównymi schorzeniami narządu wzroku były kolejno: zaćma (43,44%), jaskra (28,61%), zapalenie spojówek (6,32%), AMD (5,89%) oraz urazy oka (2,35%). Urazy oka zajmują 5 miejsce i występują częściej u mężczyzn – 81,63%. W głównej mierze były to urazy mechaniczne i chemiczne. W badanej populacji oprócz chorób oczu obserwowaliśmy również wady wzroku. Nadwzroczność stanowiła 33,70%, astygmatyzm 29,64%, krótkowzroczność 20,44%.

Wnioski. Najczęściej w badanej populacji występowała zaćma, jaskra, zapalenie spojówek oraz zwyrodnienie plamki związane z wiekiem. Urazy oka dotyczą najczęściej mężczyzn.

Słowa kluczowe: choroby narządu wzroku, wady wzroku, urazy oka.

Summary

Introduction. Eyesight is the crucial sense responsible for external contact. Eyesight diseases frequently occur in our society. All injuries, even those superficial of eyeball and its additional organs might contribute to direct and indirect risk of vision functions.

Aim of the work. Evaluation of eyesight diseases incidence among examined population was the aim of the work.

Materials and methods. Studies covered 3274 inhabitants of Ostrowiec Świętokrzyski (69% of women and 31% of men) and the region, within the age group of 0-100 year-old patients hospitalised at the ophthalmic outpatient clinic of Non-Public Independent Health Care Institution. The analysis of medical documentation stored at the ophthalmologic clinic was the research tool.

Results. The most numerous group of patients included people aged 70-80 years – 22.83%. The analysis of examinations showed major chronic illnesses as following: cataract (43.44%), glaucoma (28.61%), conjunctivitis (6.32%), AMD (5.89%) and eye injuries (2.35%). Eye injuries take fifth position and are more frequent among men (81.63%). In most cases, it was related to mechanical and chemical injuries. Apart from the eyesight diseases, also refraction errors have been reported in the examined group. Hypermetropia accounted for 33.70%, astigmatism for 29.64% and myopia for 20.44%.

Conclusions. Cataract, glaucoma, conjunctivitis and macular degeneration referring to age were the most frequent diseases occurring among examined group. Most often eye injuries relate to men.

Key words: eyesight diseases, refraction error, eye injury.

Chair and Department of Hygiene, Medical University of Lublin

INTRODUCTION

Eyesight is the crucial sense responsible for contact with external environment. Eyesight diseases are frequent lesions in our society. Each injury, including superficial injuries of eyeball and its organs turns into direct or indirect risk to vision functions. [1-3] Aim of the work – evaluation of eyesight diseases prevalence was the aim of the work.

MATERIALS AND METHODS

Studies covered 3 274 inhabitants of Ostrowiec Swietokrzyski (69% of women and 31% of men) and the region who were hospitalized at the ophthalmic clinic of Non-public Independent Health Care Institution. Studies were carried out in the age group of 0-100 year-olds. City inhabitants accounted for 66%. The analysis of ophthalmologic medical documentations was the research tool.

RESULTS

The most numerous group of patients were those from the age group of 70-80 years old and accounted for 22.83%. The analysis of the results showed that the major lesions were: cataract (43.44%), glaucoma (28.61%), conjunctivitis (6.32%), AMD (5.89%) and injuries of the eye (2.35%) [Table 1]. Cataract mostly appeared within the age group of 60-80 year-olds, and women were more frequently affected with it. In most cases, glaucoma affects women and accounts for 72.91%. The most numerous group were women at the age of 50 up to 60 years of age. Reports of conjunctivitis were mostly noticed among women within the age group of 40-80. AMD was reported among patients who were over 40 years old. Most frequent eye diseases regarding different age groups were as following: 0-20 year-olds – conjunctivitis, at the age of 20-40– glaucoma, 40-60 years of age – glaucoma, 60-80 year-olds – cataract, 80-100 years of age – cataract. Refraction disorders accounted for 1 184 reports in ophthalmic clinic. The most frequent eye-sight disorders were: hyperopia– 33.7%, astigmatism – 29.64%; myopia – 20.44%; hypermetropia – 33.7%; presbyopia – 16.22%. Women were mostly affected with astigmatism, myopia and hypermetropia and presbyopia which statistically accounted for 64.67%, 73.15% and 65.63% respectively. Eye injuries take fifth position regarding frequency of eye-sight diseases and appear mostly among men – 81.63%. Particularly, men at the age of 20-30 years are exposed to injuries. The examined group of patients accounted only for cases which were at risk of mechanical – 93.88% and chemical – 6.12% injuries.

TABLE 1. Eye diseases occurring in the examined group.

Diseases of vision organs	N	Gender: Women / Men	Age group: 0-20	20-40	40-60	60-80	80-100
Chalazion	15	7	0	1	4	2	0
		8	4	4	0	0	0
Sty	7	4	0	1	3	0	0
		3	0	0	0	3	0
Blepharitis	6	5	0	0	5	0	0
		1	0	0	1	0	0
Xanthoma	3	3	0	0	1	2	0
		0	0	0	0	0	0
Entropion or ectropion of eyelid	4	4	0	0	0	4	0
		0	0	0	0	0	0
Dry Eye Syndrome	3	3	0	0	0	3	0
		0	0	0	0	0	0
Occlusion of nasolacrimal canal	9	3	1	0	0	2	0
		6	3	0	0	3	0
Conjunctivities	132	75	11	8	32	22	2
		54	17	12	13	12	3
Pterygium	5	1	0	0	1	0	0
		4	0	0	4	0	0
Keratitis	10	6	0	0	2	4	0
		4	0	2	0	2	0
Keratoconus	3	2	0	2	0	0	0
		1	0	1	0	0	0
Cataract	908	619	2	1	115	439	62
		289	0	4	56	197	32
Cycloiritis	3	2	0	0	2	0	0
		1	0	0	1	0	0
Optic neuritis	2	1	0	0	1	0	0
		1	0	0	1	0	0
Vitreous hemorrhage	12	10	0	0	5	5	0
		2	0	0	1	1	0
Retinitis	17	13	0	0	2	11	0
		4	0	1	2	1	0
AMD	123	85	0	0	12	60	13
		38	0	0	7	28	3
Diabetic retinopathy	4	2	0	0	1	1	0
		2	0	1	0	1	0
Retinopathy of Prematurity	4	2	2	0	0	0	0
		2	2	0	0	0	0
Glaucoma	598	436	7	27	179	196	27
		160	0	8	60	82	10
Primary glaucoma	147	112	9	15	51	30	7
		35	2	5	17	8	5
Strabismus	26	19	12	6	0	1	0
		7	7	0	0	0	0
Eye injuries	49	9	5	3	1	0	0
		40	5	21	13	1	0
All together	2090	1423	49	64	417	782	111
		667	40	59	176	339	53

DISCUSSION

The analysis of the studies revealed that women living in the city are between major cases affected with eye-sight diseases. Medical advice was given mostly to the 50 up to 60 year-old patients. Cataract, glaucoma, conjunctivitis and AMD were mostly reported diseases at the regional clinic in Ostrowiec. Neither diseases of orbital cavity or sclerotic coat were noticed in the studied period. Opacity of the lens was the most frequent ophthalmic disease reported in the examined population. Cataract related to the partial or complete capacity of the lens is said to be the most frequent pathology of lens. Consequently, lens losses its basic optic function – transparency [3]. Whereas, senile cataract is the most common type of cataract and it refers to people over 50 years. It might also affect patients at the age of 40; however it is mostly revealed at the age 50-60. Depending on the level of lens which goes under opacification, senile cataract might occur as cortical, sub-capsular or central cataract [1-3]. It was proved, that intensification of cataract appears among patients who are over 70 years old. People, who are at the age of 65-74, are in 50% affected with senile cataract, and

those who are over 75 years can be afflicted in 70% [4]. In our studies, patients at the age of 60-80 years were the most numerous group. Such result confirms data given above. Opacification is caused by physical and bio-chemical disorders of lens proteins, insoluble proteins concentration, by disturbances of semi- permeability of lenticular capsule and by decrease in efficiency of lens's auto-oxidative system [5]. It is congenital disorder or hereditary disease as well as it might be the result of varied diseases and senescence of organism [4]. In our studies, we showed surprisingly high percentage of glaucoma cases. Glaucoma syndrome includes diseases with symptoms such as: progressive lesion of optic nerve along with typical morphological changes, progressive and typical defects in visual field, high intraocular pressure. Glaucoma is major social disease and leading cause for loss of vision all over the world [6]. Ten per cent (10%) of all cases of vision loss reported in highly-developed countries is associated with glaucoma. Present studies reveal that 1.5% of people over 40 years of age are stricken with glaucoma [7]. In our research, significant number of patients had recognized glaucoma which additionally confirms the thesis that it is a big social problem. It is said, that glaucoma prevalence increases with the age, particularly starting from fifth decade of life. Presumably, every tenth person over 80 years is affected by glaucoma [1, 7]. It has to be noticed that vision organ is the major sense which makes it possible to communicate with external world. Therefore, loss of ability to receive external vision signals is one of the most serious disabilities which people might be stricken with [4]. In our studies, regarding eye diseases, conjunctivitis takes third position and is most popular inflammation state of vision organs. Bacteria, viruses and Chlamydia are among etiological factors causing disease discussed above. However, bacteriological conjunctivitis accounts only for 5% of overall conjunctivitis cases. The most common pathogenic microorganism regarding conjunctivitis is respectively: Staphylococcus ureus, Streptococcus pneumoniae, Haemophilus influenzae, Streptococcus pyogenes and Staphylococcus epidermidis [2]. Another examined group includes patients with AMD. Age related Macular Degeneration is a disease condition of macula field which clinically occurs after 50 years of age [1]. AMD accounts for serious social and economic issue. Due to aging society, this chronic illness ranges wider group of patients. It accounts for growing social and economic problem, as well as it afflicts people who are over 50 years of age. In the conducted studies, the most numerous group of patients stricken with AMD included people at the age range: 60-80. However, general number of patients affected with AMD was lower than the statistical numbers open for general use. Age related Macular Degeneration is often characterized by progressive course of its disease which might result in significant deterioration of sight vision and eventually leads to blindness [1, 2]. Twenty five million of people in the world are affected by AMD. It is predicted that this number triples in the next 25 years. It is said that in the group of people at the age of 65-84 years, AMD is the reason for irreversible vision loss in 30-80% of cases and the cause of irreversible impairment of visual acuity in 17-35% of cases. Patients at the age of 70-84 years account for the most numerous group of patients whose blindness is associated with AMD. It is assumed that in the European society above 65 years of age, the number of blind people related to AMD will increase by 19.1% in the year 2020. AMD leaves behind cataract, diabetic retinitis, myopia and takes leading position as the factor causing permanent impairment of vision. AMD might have rapid or slow course, it can last for a couple of weeks or for few years time [8-10]. Significant group in the examined studies included also patients with refraction disorders. Such disorders are crucial factors influencing condition of binocular vision. They decrease visual acuity, and if affecting both eyes, might be similar or different from anisomtropia cases. Refraction disorders appear when parallel rays coming into the eye are not concentrated on retina [11]. In the studied group patients with myopia predominated. Each injury, including superficial injuries of eyeball as well as its organs might turn into direct or indirect risk of vision functions. The most common type of mechanical injury is breakage of eye socket, whereas the most frequent chemical injury is base burn, particularly burn with lime [1, 2]. In our studies, we proved that the most popular mechanical injuries appeared among men at the age of 20-30 years old and in most cases it includes breakage of eye socket. Apart from conjunctivitis, the most frequently occurring ophthalmic conditions are pathological disorders leading to impairment of vision functions in reversible (opacity of the lens) or irreversible way (glaucoma injury of vision nerve) as well as AMD.

CONCLUSIONS

1. Cataract, glaucoma, conjunctivitis and age related macular degeneration were the most frequent diseases occurring among examined group.
2. Most often, eye injuries relate to men.

REFERENCES

1. Kański JJ. Okulistyka kliniczna. Wrocław: Górnicki Wyd. Medyczne; 2005.
2. Szaflik J, Grabska-Liberek I, Izdebska J. Stany nagłe w okulistyce. Warszawa: Wyd. PZWL; 2004.
3. Niżankowska MH. Okulistyka. Warszawa: Wyd. PZWL; 2007.
4. Bradford CA. Okulistyka. Wrocław: Wyd. Urban & Partner; 2004.
5. Szaflik J, Izdebska J, Zaleska A. Zaćma – najczęstsza przyczyna uleczalnej ślepoty. Przew Lek. 2000;2(10):78-86.
6. Tsai JC, McClure CA, Ramos SE, Schlundt DG, Pichert JW. Compliance barriers in glaucoma: a systematic classification. J Glaucoma. 2003;12:393-8.
7. Szaflik J, Izdebska J, Tesla P. Jaskra. Przew Lek. 2000;2(10):88-96.
8. Pawlicka I. Zwyrodnienie plamki związane z wiekiem jako główna przyczyna utraty wzroku u starszych osób. Gerontol Pol. 2006; 14(2):53-6.
9. McConnel V, Silvestri G. Age-related macular degeneration. Ulster Med J. 2005;74:82-92.
10. Friedman DS, O'Colman G, Munoz B, Tomany SC, McCarty C, de Jong PT. The Eye Diseases Prevalence Research Group. Prevalence of age-related macular degeneration in the United States. Arch Ophthalmol. 2004;122:564-72.
11. Latkowski JB, Lukas W. Medycyna rodzinna. Warszawa: Wyd. PZWL; 2005.

Informacje o Autorach

Lek med. Małgorzata Kowal – doktorant, lek med. Katarzyna Wójtowicz-Chomicz – doktorant, Katedra i Zakład Higieny Uniwersytetu Medycznego w Lublinie, asystent Zakład Higieny i Promocji Zdrowia, Zamiejscowy Wydział Wychowania Fizycznego w Białej Podlaskiej, mgr Barbara Dyka, prof. dr hab. n. med. Andrzej Borzęcki – kierownik, Katedra i Zakład Higieny Uniwersytetu Medycznego w Lublinie.

Adres do korespondencji

Lek. med. Małgorzata Kowal
Katedra i Zakład Higieny UM w Lublinie
ul. Radziwiłłowska 11, 20-080 Lublin