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TO TREAT OR NOT TO TREAT? (CLINICAL CASE)

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SUMMARY

This article examined the clinical case of a patient with ocular hypertension, who was under observation for 9 years. During the follow up period (2014-2023) she had two pregnancies and now she is a mother to two healthy children. Both pregnancies were planned, during which we had to decide: "Should we continue antihypertensive

therapy, taking into account all the risks, or cancel it?" Unfortunately, there is very little information in the world literature regarding the management of pregnancy with ocular hypertension. Using this clinical case as an example I would like to emphasize the importance of this problem and share my observations.

Key words: *ocular hypertension, pregnancy, therapeutics*

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MÜALİCƏ OLUNMALI VƏ YA OLUNMAMALI? (KLİNİK HAL)

XÜLASƏ

Təqdim olunmuş məqalədə 9 il ərzində müşahidə altında olan oftalmohipertenziyalı xəstənin klinik halı araşdırılmışdır. Bu müddət ərzində (2014-2023) o iki dəfə hamilə olmuş və hal-hazırda iki sağlam uşaq anasıdır. Hər iki hamiləlik planlaşdırılmışdı, bu müddət ərzində biz qərar verməli idik: "Bütün riskləri nəzərə alaraq

antihipertenziv terapiyaya davam etməliyik, yoxsa onu ləğv etməliyik?". Təəssüf ki, dünya ədəbiyyatında oftalmohipertenziya ilə hamiləliyin aparılması ilə bağlı çox az məlumat var. Bu klinik halı nümunə kimi istifadə edərək, bu problemin əhəmiyyətini vurğulamaq və müşahidələrim ilə bölüşmək istədim.

Açar sözlər: *oftalmohipertenziya, hamiləlik, müalicə*

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ЛЕЧИТЬ ИЛИ НЕ ЛЕЧИТЬ? (КЛИНИЧЕСКИЙ СЛУЧАЙ)

РЕЗЮМЕ

В данной статье был разобран клинический случай пациентки с офтальмогипертензией, которая находилась под наблюдением в течении 9 лет. На протяжении данного периода (2014-2023) она была беременна дважды и сейчас является матерью двоих здоровых детей. Обе беременности были запланированы, в течение которых нам пришлось решать: "Следует ли продолжать гипо-

тензивную терапию, принимая во внимание все риски, или отменять?" К сожалению, в мировой литературе очень мало информации относительно ведения беременности с офтальмогипертензией. На примере данного клинического случая хотелось бы подчеркнуть важность этой проблемы и поделиться своими наблюдениями.

Ключевые слова: *офтальмогипертензия, беременность, лечение*

Ocular hypertension (OH) is traditionally considered as a condition that the patients aged 40+ with a present increase of intraocular pressure (IOP) can face with no glaucomatous changes. Long-term studies "The Ocular Hypertension Treatment Study" (OHTS) and the European Glaucoma Prevention Study (EGPS) revealed that in 9.5% of cases the patients with ocular hypertension, not treated within 5 years, developed glaucoma, but with timely treatment the risk of its development decreased by about 50% [1, 2, 3]. And here comes the dilemma what to do with youngsters, especially if it is a pregnant woman, for example.

What to do with ocular hypertension? To treat or not to treat? The health of a young woman who is about to become a mother and her unborn child is on the scales.

A risk factor to develop glaucoma in future or teratogenic factors in about 24% of cases, negative effect of drugs on the fetus which causes 1-3% of congenital malformations that can lead to the death of the embryo, or slow growth and development, as well as the course of pregnancy itself [4, 5, 6, 7]. Unfortunately, there is no reliable information on the management of patients with ocular hypertension. As well as there is no final decision concerning drugs. As known, Food and Drug Administration (FDA) has specific guidelines to use antihypertensive drugs during pregnancy and lactation. According to them, prescribing C class drugs (all hypotensive drugs except brimonidine) is undesirable during pregnancy (European Glaucoma Society 4 and 5-th Edition), while the prescription of brimonidine in the third trimester and in postpartum period is not recommended due to the risk of apnea and/or hypotension in the fetus and newborns [1, 2, 5, 8].

Clinical case

Patient L. (b. 1998) with ocular hypertension (OH) in the right eye and high degree of myopia in the left one was under prospective longitude observation. At the time of treatment, the IOP in the right eye was 23-24,0 mm Hg, and in the left eye it was 17,0 mm Hg while visual acuity Vis OD = 20/20 and Vis OS = 20/1000 with correction - 6.0 D = 20/200. Central corneal thickness (CCT) OD - 566, OS - 563 μ m, which in principle confirms the theory that CCT cannot be thin in patients with OH

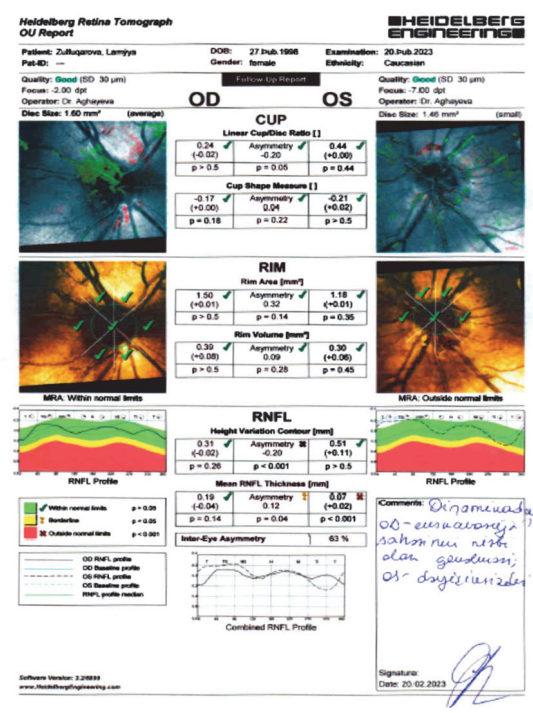
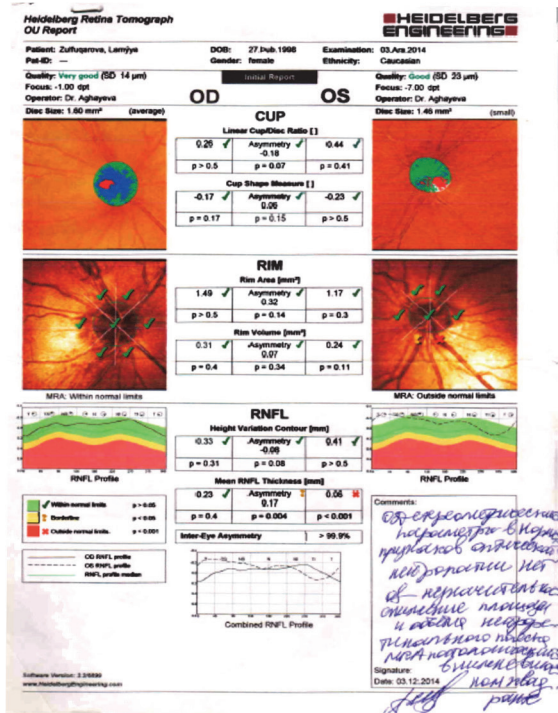
[9, 10]. During the follow up period (2014-2023) she had two pregnancies and now she is a mother to two healthy children. Both pregnancies were planned. For dynamic control, in addition to the standard ophthalmological examination we used HRT, pachymetry, and measurement of the length of the anterior-posterior axis (APA) of the eye.

In both cases together with the patient we decided to cancel antihypertensive drugs under the strict control of IOP with a cycle of 14-21 days. In the first years of follow-up (2014-2016) we used β -blocker drops to lower IOP. The therapy was used only during the periods of increased IOP. During the first pregnancy (09.2017-05.2018) she did not take the drug from the beginning of the year. Thus, throughout 2017 the patient did not use drops, but 40 days after delivery the IOP in the right eye was 38 mm Hg. In the following years 2017-2021 the patient was under medication (brimonidine drops x 2 times a day). During the second pregnancy (05.2021-02.2022) she stopped taking the drug from the first month of her pregnancy and only a year later in May 2022 IOP increased to 30 mmHg. And though the American Academy of Pediatrics certified β -blockers and carbonic anhydrase inhibitors as safe drugs while breastfeeding [5, 8, 11], we decided to refrain from breastfeeding in both cases due to possible side effects caused by their penetration into breast milk [1, 2, 5, 7, 12, 13].

It is noteworthy that over 9 years of long-term follow-up, there was no significant change in HRT and perimetry indices (pic.1, 2, 3) except for the length of the anterior-posterior axis (APA) of the eye: in the first time (2015) was OD – 23,5 mm; OS – 25,77 mm and now (2023) is OD – 24,13 mm; OS – 26,33 mm. That is undoubtedly very important, since we started to observe a teenager with ocular hypertension, and today it is a grown-up woman. To date, the IOP in the right eye is Tn OD = 17.0 mm Hg (with brimonidine), and in the left Tn OS = 18.0 mm Hg, while visual acuity Vis OD = 20/28 with corr. sph-0.75 D cyl – 0/5 D ax 1550 = 20/20; Vis OS = 20/500 k/I sph -6.5 D cyl -2.0 D ax 470 = 20/50.

2014

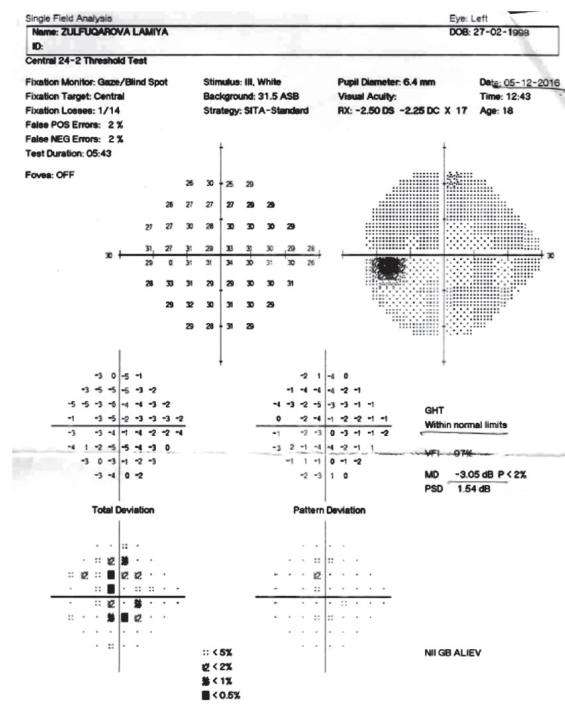
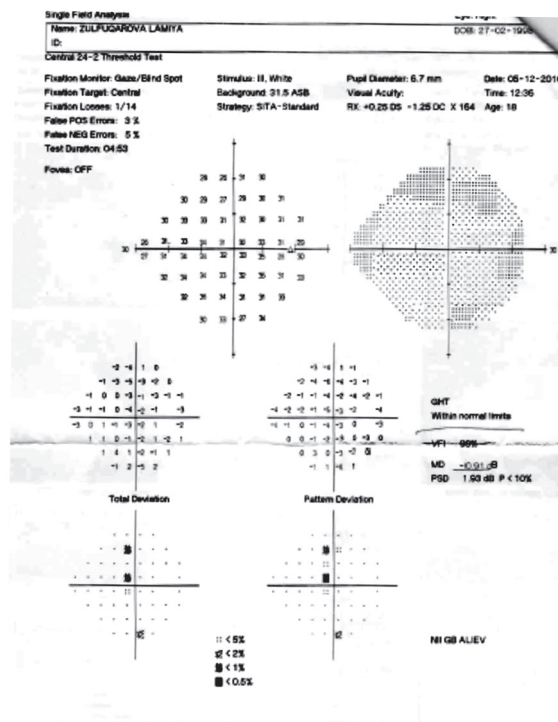
2023



Pic.1 HRT report OU

OD

OS



Pic.2. Field analysis - 2016

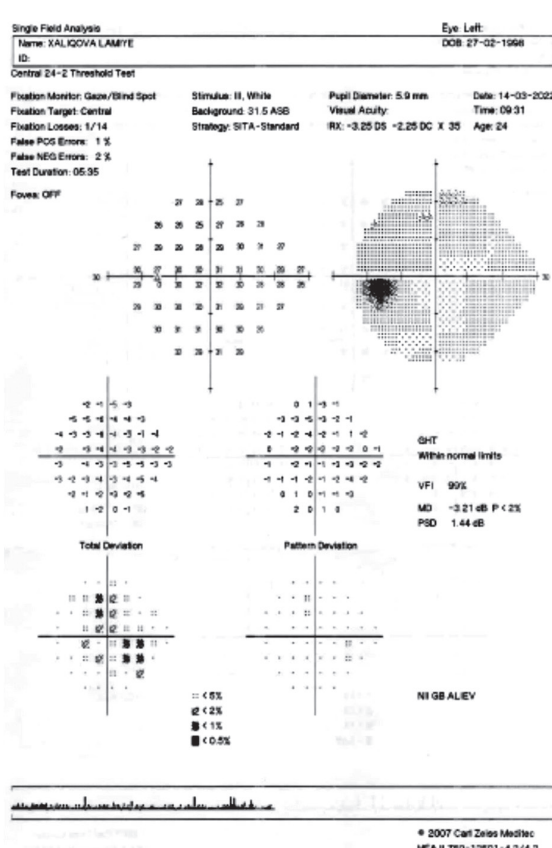
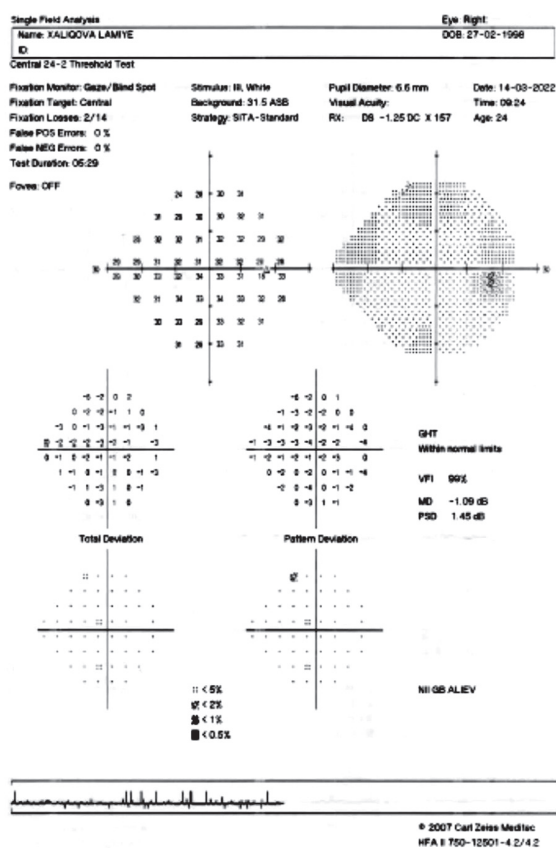
Discussion

According to the literature, there are few ophthalmologists who can share their personal experience of having a pregnant woman with high IOP in their practice [4, 12]. There are also

no clinical studies on the effect of widely used antiglaucoma drugs on the fetus, and it is unlikely that such trials will be carried out due to ethical and legal restrictions.

OD

OS



Pic. 3. Field analysis – 2022

The observations over healthy women compared to those with ocular hypertension have shown that a statistically significant decrease in IOP occurs as the pregnancy progresses, from the first to the third trimester, significantly at the 24th week [8, 14, 15]. There is an opinion that during pregnancy there is a decrease in IOP and the increased level of female sex hormones such as estrogen, progesterone and relaxin increase the outflow rate of intraocular fluid leading to such a hypotensive effect [16, 17] and changes in IOP return to pre-pregnancy levels several months after delivery [16], which we observation In both cases. But despite the so-called theoretical hormonal protective factor a small number (about 10%) experience an increased IOP or disease progression, which cannot but alarm. Given the fact that the highest risk of fetal injury falls on the first trimester when women themselves often do not know

it whether they are pregnant or not it is very important to inform the patients treated with antiglaucoma drugs about unplanned pregnancies. And if possible, it is highly recommended to discuss a treatment plan with women of childbearing age before they get pregnant in order to discuss treatment options and possible risks [4, 5, 8, 12, 16], which we did in both cases.

Conclusion

To treat ocular hypertension during pregnancy is kind of a unique challenge in balancing between the risk of losing mother’s vision and potential harm to the fetus or newborn. Whether to prescribe drugs or not during pregnancy is a very complicated and responsible step for a doctor. But in each case, we must take a balanced approach to the issue of therapy keeping in mind that lives of more than one person depend on us...

REFERENCES:

1. European Glaucoma Society // Terminology and guidelines for glaucoma, 5-th edition, Part II, II.1.3 – II.1.4, – 2014. – p.16-17 and 2.2.6, – p.88-89 and 3.3.8, – p.153-156.
2. European Glaucoma Society // Terminology and guidelines for glaucoma, 4-th edition, Part I, 1.7.1.2 – 1.7.1.3, – 2020. – p.37-39 and II.2.2.1.3, – p.100-110 and II.3.7, – p.150-153.

3. Kass, M.A. The Ocular Hypertension Treatment Study // Landmark Studies, Glaucoma Today, Early summer, – 2011. – p.23-27.
4. Razeghinejad, M.R. Glaucoma medications in pregnancy // Oman J. Ophthalmol., – 2018. Sep-Dec; 11(3), – p.195-199.
5. Киселева, О.А. Влияние гипотензивных препаратов на течение беременности у пациенток с глаукомой: данные экспериментальных и клинических наблюдений. Эффективная Фармакотерапия / О.А.Киселева, Л.В.Якубова, С.М.Косакян [и др.] // Офтальм., – 2018. 3(28), – с.10-16.
6. Егоров, Е.А. Межнациональное руководство по глаукоме. In: Межнациональный экспертный совет по проблемам глаукомы: Россия, Азербайджан, Армения, Беларусь, Грузия, Казахстан, Кыргызстан, Молдова, Таджикистан, Туркменистан, Узбекистан, Украина. Том 2. Клиника глаукомы 1.6. Приложение. глаукома и сочетанная патология 1.6.5. Глаукома при беременности // Изд-во «Офтальмология», – М.: – 2016. – с.162-170.
7. Kiuchi, Y. The Japan Glaucoma Society guidelines for glaucoma 5th edition // Jpn. J. Ophthalmol., – 2023. 67, – p.189-254.
8. Sethi, H.S. Management of glaucoma in pregnancy: risks and choices, a dilemma? / H.S.Sethi, M.Naik, V.S.Gupta // Int. J. Ophthalmol., – 2016. 9(11), – p.1684-1690.
9. Ravinder, P.S. Central Corneal Thickness, Tonometry, and Ocular Dimensions in Glaucoma and Ocular Hypertension / P.S.Ravinder, I.Goldberg, S.L.Graham [et al.] // J. Glaucoma, – 2001. 10(3), – p.206-210.
10. Copt, R.P. Corneal thickness in ocular hypertension, primary open-angle glaucoma, and normal tension glaucoma / R.P.Copt, R.Thomas, A.Mermoud // Arch. Ophthalmol., – 1999. Jan; 117(1), – p.14-16.
11. Mandal, A. Glaucoma Management During Pregnancy and Lactation / A.Mandal, A.Mammel, H.P.Kaur [et al.] // Delhi J. Ophthalmol., – 2020. 31(3), – p.9-12.
12. Camejo, L. Five pointers on glaucoma in pregnancy // Glaucoma Today, – 2019. Jul.-Aug.; – p.40-42.
13. Razeghinejad, M.R. Anti-glaucoma medication exposure in pregnancy: an observational study and literature review / M.R.Razeghinejad, M.H.Nowroozzadeh // Clin. Exp. Optom., – 2010. 93(6), – p.458-465.
14. Qureshi, I.A. Intraocular pressure and pregnancy: a comparison between normal and ocular hypertensive subjects // Arch. Med. Res., – 1997. Autumn; 28(3), – p.397-400.
15. Brauner, S.C. The Course of glaucoma during pregnancy / S.C.Brauner, T.C.Chen, B.Th. Hutchinson [et al.] // Arch. Ophthalmol., – 2006. 124, – p.1089-1094.
16. Чернякова, Т.В. Особенности течения и лечения глаукомы в период беременности / Т.В.Чернякова, А.Ю.Брежнев, И.Р.Газизова [и др.] // Клин. мед., – 2020. 98(3), – p.178-184.
17. Naderan, M. Ocular changes during pregnancy // J. Curr. Ophthalmol., – 2018. 30, – p.202-210.

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