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OCULAR PATHOLOGIES EMERGING IN PREGNANCY.

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ABSTRACT… Objectives: To determine ocular pathologies that appear in pregnant women with no history of ocular or systemic disease prior to conception. **Study Design:** Cross-sectional study. **Setting:** Department of Ophthalmology in association with Department of Gynecology, Pak Red Crescent Medical and Dental College Dina Nath District Kasur. **Period:** January 2018 to April 2018. **Materials and Methods:** One hundred and twenty pregnant females with no history of previous ocular or systemic co morbidity were included in study. After obtaining informed consent detailed ocular and medical history was taken and complete ocular examination was done. **Results:** Mean age of the participant female was 24.7 years (Range 19- 40 years). Four of them (3.33%) had bilateral optic disc edema, 2 of them had central serous chorioretinopathy (CSCR) and one female had unilateral macular hole. **Conclusions:** Ocular pathologies emerging in pregnancy are not uncommon and should not be overlooked. Pregnant women with ocular complaints should undergo a thorough ocular and systemic examination along with necessary investigations so that the pathological eye changes and associated systemic diseases could be managed timely and properly.

Key words: Central Serous Chorioretinopathy (CSCR), Ocular pathologies, Ocular or systemic disease.

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INTRODUCTION

Pregnancy affects multiple organ systems of human body including visual system through metabolic, hemodynamic, vascular, and immunologic changes.[1,2] Ocular changes in pregnancy are both physiological and pathological. Physiological changes include pigmentation of cheeks, ptosis, and changes in refraction and decrease in intraocular pressure.[3,4] These changes are transient and disappear after delivery. Pathological changes are of two types. First type are the existing ocular pathologies which are modified by pregnancy like diabetic retinopathy, thyroid eye disease and pituitary adenomas.[5,6,7,8] The second type of changes are ocular pathologies emerging for the first time during pregnancy. These changes are secondary to systemic diseases. These are either pregnancy specific diseases such as pre-eclampsia and eclampsia[9] or diseases that occur more frequently during pregnancy such as idiopathic intracranial hypertension (IIH)[10] and cerebral venous sinus thrombosis.[11] This study was conducted to determine ocular pathologies that appear in pregnant women with no history of ocular or systemic disease prior to conception.

MATERIALS AND METHODS

This cross-sectional study was conducted at Department of Ophthalmology in association with Department of Gynecology, Pak Red Crescent Medical and Dental College Dina Nath District Kasur from January 2018 to April 2018. One hundred and twenty pregnant women of age between 19 – 40 years were recruited for study. After taking informed consent detailed ocular and medical history was taken. Women with previous history of any systemic disease like diabetes, hypertension and ocular disease like cataract, glaucoma, uveitis, retinal and optic nerve disorders were excluded. Eye examination was done which included unaided and best corrected visual acuity, refraction, pupil reaction, extraocular movements, muscle balance with Hirschberg and

cover tests, intraocular pressure with Goldmann Applanation tonometer, anterior segment examination with slit lamp biomicroscope and dilated fundus examination with 90D lens.

RESULTS

Mean age of the participant female was 24.7 years (Range 19- 40 years). Ninety of them were in third trimester of pregnancy, 18 were in second trimester and 12 were in first trimester. Table-I) Four of them (3.33%) had bilateral optic disc edema, 2 of them had central serous chorioretinopathy (CSCR) and one female had macular hole. None of them was found to have ophthalmoplegia, retinal detachment or occlusive retinal vascular disease Table-II.

	No	Percentage
First trimester	12	10%
Second trimester	18	15%
Third trimester	90	75%

Table-I. Gestational age of participants

Ocular Pathology	Frequency	Percentage
Bilateral optic disc edema	04	3.33%
Unilateral optic disc edema	00	0%
Central serous chorioretinopathy	02	1.67%
Macular hole	01	0.83%
Ophthalmoplegia	00	0%
Retinal detachment	00	0%
Occlusive retinal vascular disease	00	0%

Table-II. Ocular pathologies

DISCUSSION

Bilateral optic disc edema was the most common finding in current study. Optic disc edema when bilateral is usually associated with rise in intracranial pressure and is called as papilledema.[12] The raised intracranial pressure impedes the axoplasmic flow of optic nerve fibres at lamina cribrosa. The axoplasm cannot traverse the blockage and accumulates to cause enlargement of each individual axon on retinal side of the optic nerve. The optic disc edema produced in this way i.e. papilledema is a medical emergency.[12] It is very important to investigate cause of papilledema and timely implement appropriate management if it is found to be associated with life threatening conditions. The first consideration in a pregnant woman with papilledema is pre eclampsia and eclampsia. Preeclampsia afflicts 3-5% of pregnant females and is a leading cause of maternal mortality in developing countries.[13] It is defined as new onset of hypertension and proteinurea after 20th week of gestation. The diagnosis of preeclampsia requires blood pressure more than 140/90 mm of Hg on two occasions and urinary proteins more than 300 mg per day.[14] Eclampsia is acute and life threatening complication of pregnancy which is characterized by appearance of tonic and clonic seizures in patients with preeclamsia. Two other common causes of papilledema in pregnancy are idiopathic intracranial hypertension and cerebral venous thrombosis.[12] Idiopathic intracranial hypertension is defined as a syndrome of increased intracranial pressure without mass lesion or hydrocephalus. Cerebral venous thrombosis is a life threatening condition. Idiopathic intracranial hypertension has good prognosis if the disease is timely diagnosed, appropriately monitored and properly treated. Rests of the causes for papilledema in a pregnant female are same as those in non pregnant female. There are many other causes of optic disc edema which are not secondary to raised intracranial pressure like papillitis, neuroretinitis, ischemic optic neuropathy etc. The second important finding was central serous chorioretinopathy (CSCR). This condition involves separation of neurosensory retina from the pigment epithelium. Pregnancy is a known risk factor for CSCR.[15] It occurs in 1% patients with severe pre eclampsia and 10% of patients with eclampsia.[16,17] Raised blood pressure in pre eclampsia causes ischaemia of choroid which then causes CSCR.[18] It mostly appears in third trimester. However it can occur in any stage of pregnancy. It resolves spontaneously at the end of pregnancy or after delivery. However recurrence can occur in subsequent pregnancies.[19,20] One of the patients had partial thickness macular hole. Female gender and increase in fibrinogen level has been reported as risk factors for macular holes.[21] Since serum fibrinogen level rises in pregnancy and especially in preeclampsia[22,23], this

macular hole could be a sequele of pregnancy. Several researchers have reported isolated sixth nerve palsy in association with pregnancy.[24] However none of participants in our study had ophthalmoplegia or any nerve palsy. Similarly none of them had exudative retinal detachment and occlusive retinal vascular disease.

CONCLUSIONS

Ocular pathologies emerging in pregnancy are not uncommon and should not be overlooked. These pathologies can result in lifelong visual impairment on one hand and can be associated with life threatening systemic diseases on the other hand. Pregnant women with ocular complaints should undergo a thorough ocular and systemic examination along with necessary investigations so that the pathological eye changes and associated systemic diseases could be managed timely and properly.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Arif Hussain	Article writing.	
2	Kishwar Naheed	Data collection.	
3	Nasir Mahmood	Data collection.	