Retinal artery occlusion in a pregnant patient

Retinal artery occlusions are rare in people younger than 30 years, and the great number of them has detectable etiological disorder. Visual acuity disturbances in pregnant women were documented infrequently and in the simultaneous presence of toxemia during pregnancy or with some hematological or heart disorders.

A 26-year old woman-primigravida at 31 weeks’ gestation presented with sudden decreased vision in her right eye early in the morning. Fundus examination indicated for retinal arterial spasm. Complete blood examination, obstetric and internal examination must be performed in such cases.

We can conclude that this case is preliminary experience and that we can expect retinal arterial occlusion in pregnant patients with hypotension, disturbed lipid profile and mild anemia. Early effective treatment can be useful in the struggle for vision gain.

Keywords: pregnancy; retinal artery; spasm.

Okluzija retinalne arterije kod trudnice

Okluzija retinalne arterije je vrlo retka kod osoba mladih od 30 godina, posebno ukoliko imaju prisustvo predisponirajućih faktora. Smanjenje vidne oštrine je vrlo retko kod trudnica, a češće se sreće u stanju eklampsije ili nekih hematoloških i kardioloških poremećaja.


Možemo da zaključimo da ovakva stanja su vrlo retka i da mogu da se očekuju kod trudnica sa hipotenzijom, poremećenim lipinim statusom i blagom anemijom. Rani terapijski tretman može da bude koristan u borbi za poboljšanje vidne oštrine.

Ključne reči: trudnoća; retinalna arterija; spazam.

Keywords: pregnancy; retinal artery; spasm.
INTRODUCTION

Retinal artery occlusions are rare in people younger than 30 years, and the great number of them has detectable etiological disorder. Generally, retinal artery occlusion is a disease of the old age associated with atherosclerotic plaques. Visual acuity disturbances in pregnant women were documented infrequently and in the simultaneous presence of toxemia during pregnancy or with some hematological or cardiological disorders.

CASE REPORT

A 26-year-old woman - primigravida at 31 weeks' gestation was referred to our Clinic with sudden decreased vision in the right eye early in the morning, one day before the hospitalization. She had no history of ocular disease. Her only history of systemic disease was regular. She had no problems associated with her pregnancy. Visual acuity on the right eye was loss of light perception with presented afferent pupilar defect, and on the left eye it was quite normal. Intraocular pressure measurements were 8mmHg in the right eye and 14 mmHg in the left eye. The anterior segments and lenses of both eyes were unremarkable. Fundus examination of the right eye showed a pale retina along the infratemporal vascular arcade associated with diffuse macular edema, with infratemporal branch of retinal artery as thin red fade line (Fig.1.a). The pigmented scare in infratemporal region was nearby the spasm localization. The scare was old retinal change; probably of toxoplasmatic etiology. Fundus of the left eye had no changes (Fig.1.b). OCT findings indicated for ischemic macular edema with no active satellite nearby the scare.

Patients blood pressure was 100/60 mmHg and the weight gain was 8kg. Obstetrics and internal medicine consultations were also obtained. Laboratory studies included a complete blood count, erythrocyte sedimentation rate, platelet count, prothrombin time, activated prothrombin time, bleeding time, lipid profile, plasma fibrinogen, C-reactive protein and some immunological examinations - antinuclear antibody, levels of immunoglobulins (IgG, IgM and IgA for Toxoplasmosis gondii), antimitochondrial antibody.

Laboratory workup was regular, except for erythrocyte sedimentation rate, fibrinogen, and disturbed lipid profile, increased C-reactive protein and mildly exposed anemia. Quantitative immunoglobulins were within normal limits.

We performed treatment with consultation of gynecologist with hyperosmotic solutions (sol. Manitol 250ml 20%, i.v., per 12 hours for three days) and digital massage of the eyeball with ocular beta-blocker usage. Next morning visual acuity of our patient improved to 0.5/60 m. After three days visual acuity was 0.2 - 0.3.

DISCUSSION

Blindness in most cases originates from retinal abnormalities, vascular lesions and detachment. Occlusion of the retinal artery with vasospasm is accompanied with delayed painless and deep blindness with premonitory signs of visual disturbances. But, occlusion of retinal artery attributed to embolism is associated by sudden blindness. An embolus like occlusion reason is less common than thrombus; the latter is being the result of disorder such as endarteritis or atherosclerosis.

Brown et al., reported two pregnant patients with retinal artery occlusion and with history of migraine and one with increased factor VIII activity. Only two cases of preg-
nant patients with branch retinal occlusion were report-
ed and associated with amniotic fluid embolism during
abortion or induction of delivery. Retinal artery occlusion
is accompanied by atherosclerosis, hypertension, diabe-
tes mellitus, and vascular spasm as in migraines, hyperco-
agulable states, glaucoma or trauma.2

In 1995, Cunningham et al., experienced blindness in almost 15% of eclamptic women. He presented 13
women with pure cortical blindness and two of them had retinal detachment. In each case, visual acuity returned in
four hours to eight days.3

Retinal artery occlusion is very rare at young ages. The
mean age of the patients with retinal artery occlusion is
58.5.4

Preeclampsia can be characterized by severe general-
ized or segmental spasm of retinal arteriolas.5 The areas
of nonperfusion of arterial and venous occlusive may
also develop.6 Our patient did not have hypertension, proteinuria or generalized body edema. So, preeclampsia
was not the reason for impaired vision.

Peripartum cardiomiopathy can be the main reason
for vision loss in pregnant patients.7

Vascular retinal occlusions can be reported in relation
with thrombophilia with increased hematocrit, elevated
levels of lipoprotein and erythrocyte aggregation rate.
Malignancy, pregnancy, oestrogen therapy and paroxys-
mal nocturnal therapy have all been associated with reti-
nal vascular disease.8

According to references, visual prognosis may rein-
state with embolus dislocation or spasm’s relief within
one hour. Lasting time, localization and percentage of
obstruction are important for visual prognosis. In patient
with retinal artery obstruction whole retina is affected,
but in patients with cilioretinal branch occlusion macula
and optic nerve head are functional.9

Sudden vision loss can be associated with retinal de-
tachment in pregnancy- induced hypertension, but full
spontaneous resolution has been achieved without se-
quel at all patients.10

Concerning the primary mechanism in obstruction in
our case, arterial spasm was the main reason for visual
loss. Patients with hypotension, lipid profile disturbances
and mildly exposed anemia have risk factor for arterial
spasm.

Treatment of these patients is very complicated be-
cause of pregnancy. In most cases the urgent therapy
give poor vision gain. Early diagnosis can lead to a more
effective treatment and limit the extent of the disturbanc-
es of vision.

We conclude that this case is preliminary experience
and that we can expect retinal arterial occlusion in preg-
nant patients with hypotension, disturbed lipid profile
and mild anemia. Early effective treatment can be useful
in the struggle for vision gain.

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