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Hypertensive Retinopathy Associated with Preeclampsia: About a case

A. Hanafi[1], Z. Bousaada[1], F. El miski[1], I.Hanafi[2], A. Lamrissi[1], K. Fichtali[1], S. Bouhya[1]

1 : Maternity Service El Harouchi, CHU Ibn Rochd, Casablanca, Morocco.
2 : Pediatric ophthalmology service, hospital august 20, 1953, CHU Ibn Rochd, Casablanca, Morocco

Résumé : *Hypertension gravidique est définie par une hypertension artérielle isolée (tension artérielle systolique supérieure ou égale à 140 mm Hg et / ou pression artérielle diastolique supérieure à 90 mm Hg) apparaissant après 20 semaines d'aménorrhée et disparaissant avant la fin de la sixième semaine post-partum ; pré éclampsie est l'association d'une protéinurie supérieure à 0,3 g par 24 heures. Dans ce travail, nous avons montré que la pré éclampsie pouvait provoquer des altérations du tissu rétinien suggérant une lésion. La rétinopathie induite par la PE n'est pas fréquemment diagnostiquée ni rapportée, probablement due à sa faible incidence.*
La prise en charge de la pré-éclampsie / éclampsie ne trouve pas de traitement ophtalmologique spécifique même chez le patient présentant des lésions oculaires. La rétinopathie liée à la pré éclampsie / éclampsie disparaît généralement peu après l'accouchement et aucun traitement spécifique n'est nécessaire.

Abstract : *Pregnant or gestational hypertension, which is defined by isolated high blood pressure (systolic blood pressure greater than or equal to 140 mmHg and/or pressure diastolic blood pressure greater than 90 mmHg) that appears after 20 weeks of amenorrhea and disappearing before the end of the sixth week postpartum ; preeclampsia, which is the association of significant proteinuria (greater than 0.3 g per 24 hours. In this work, we showed that preeclampsia could cause alterations in retinal tissue that suggest a damage. PE-induced retinopathy is not frequently diagnosed nor reported, probably due to its low incidence. . The management of pre-eclampsia/eclampsia does not finds no specific ophthalmologic treatment even in the patient with eye damage. Multidisciplinary, Preeclampsia/eclampsia related retinopathy generally resolves soon after delivery and no specific treatment is required.*
Key words: *preeclampsia , ophthalmologic, retinopathy, Fundus,*

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I. Introduction :

Hypertension during pregnancy is common. One in 10 women will have high blood pressure at some time before delivery, and preeclampsia complicates between 2% to 8% of all pregnancies worldwide [2]. Hypertensive disorders of pregnancy, particularly pre-eclampsia , constitute important causes of severe acute morbidity, long-term disability and death among mothers and babies [3] . Pregnant or gestational hypertension, which is defined by isolated high blood pressure (systolic blood pressure greater than or equal to 140 mmHg and/or pressure diastolic blood pressure greater than 90 mmHg) that appears after 20 weeks of amenorrhea and disappearing before the end of the sixth week postpartum ; - preeclampsia, which is the association of significant proteinuria (greater than 0.3 g per 24 hours or greater than or equal to two crosses) and pregnant high blood pressure [3] One of the most important pathologies accompanying pregnancy is the preeclampsia/eclampsia syndrome. The syndrome is a multisystem disorder that can include cardiovascular changes, hematologic abnormalities, hepatic and renal impairment, and neurologic or cerebral manifestations. [7, 8] It also can affect the visual pathways, from the anterior segment to the visual cortex. A rare case but serious manifestations: cortical blindness, optic neuropathy and retinal serous detachment. We report a case of Hypertensive unilateral Retinopathy to severe preeclampsia in the maternity gynecology bstetrics department of the Ibn Rochd hospital of Casablanca.

II. A Case Report :

A 30-year-old woman, Primipare, was hospitalized for management of severe preeclampsia. This patient had a history of uterine fibroma, admitted for Caesarean delivery for maternal-fetal salvage on an estimated 8 month pregnancy with high blood pressure 230/110 mmHg and protenuria 447 mg/24 h. the patient developed a profound drop in visual acuity at first day postoperatively, without other clinical signs.

Ophthalmological Examination:

Retinography for 2 eyes [Figure 1]:

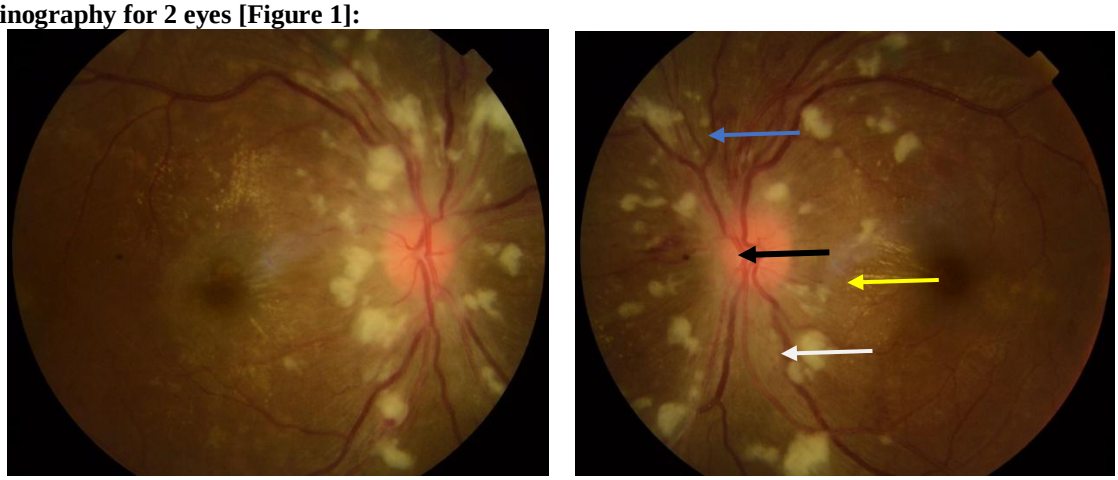

Figure1: Retinography of both eyes on initial examination showing hemorrhages in flames (blue arrow), Cottony nodules (white arrow), stellar exudates (yellow arrow), and papilloedema (black arrow).

Macular OCT [Figure 2] :

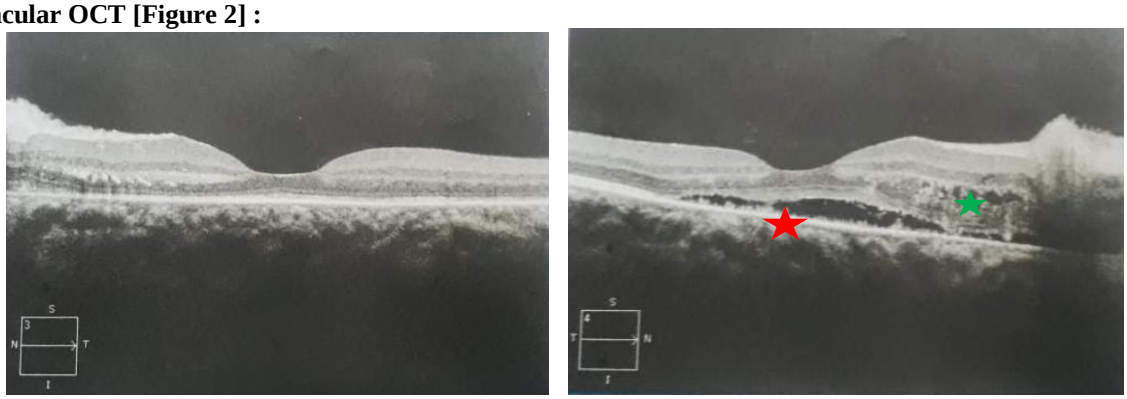

Figure 2 : Macular OCT of both eyes showing a left retinal serous detachment containing hyper-reflective spots (red star) associated with intra-retinal cystic stalls (yellow star).

With biological examination without abnormality, the patient has been managed in intensive care under antihypertensive treatment :

– Nicardipine 20 mg : 1cp x 3/day
– Methyldopa 500 mg : 1cp x 3/day
– Nicardipine at self-pushing syringe if Blood pressure > 160/110 mmHg

The patient's blood pressure has progressed well under treatment ; Complete regression of hypertensive retinopathy and retinal serous detachment at 2 months later Figure 3 and figure 4.

Retinography and Macular OCT after 2 month :

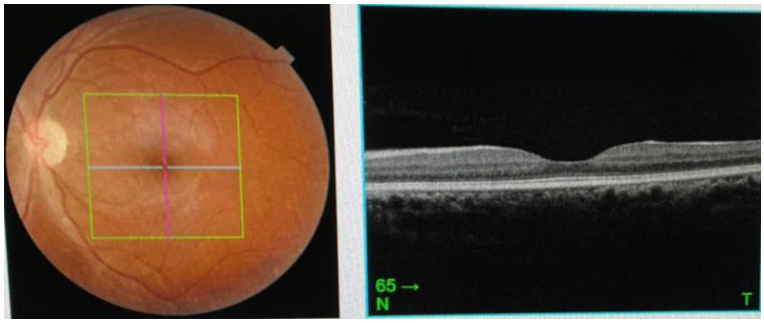

Figure 3 : Complete regression of hypertensive retinopathy and retinal serous detachment in the left eye

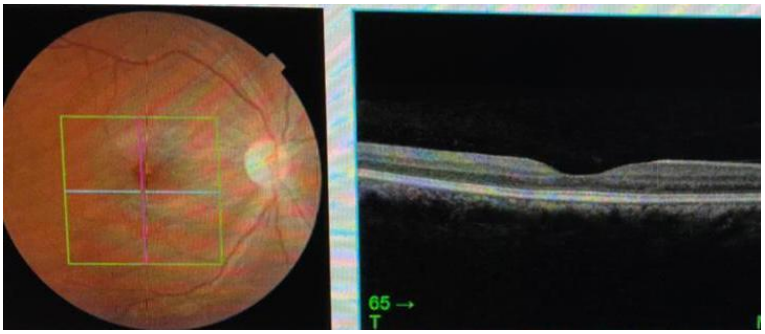

Figure 4 : Complete regression of hypertensive retinopathy in the right eye .

III. Discussion

PE is a major and growing contributor to adverse health outcomes and health care costs for women and their children in the US. In fact, recent studies have suggested that mortality and morbidity associated with maternal conditions have been growing in the US despite the fact that it has been falling in all other Organisation for Economic Co-operation and Development countries in the past two decades [4, 5]. In this work, we showed that preeclampsia could cause alterations in retinal tissue that suggest a damage. PE is a multifactorial complication in pregnancy, and is under intense study to define its possible pathophysiology; however, there is a lack of information about what happen in patients after suffering this complication. PE-induced retinopathy is not frequently diagnosed nor reported, probably due to its low incidence [6]. The eyes are rarely examined in hypertensive disorders in pregnancy unless complications like severe pre-eclampsia or eclampsia are seen.

The management of pre-eclampsia/eclampsia does not finds no specific ophthalmologic treatment even in the patient with eye damage. Multidisciplinary, it is carried out by gynecologists and obstetricians, Cardiologists or anesthesiologists who administer the appropriate treatment. Compared to others environment, the ophthalmological consultation which has its place, highlighted in the literature through the help of the the obstetrician, is not the same as the decision making often solicited in our context, that in the presence of the eyes symptoms [7]. Hypertensive retinopathy ahfected by hypertension extends to involve the vasculature of the retina, choroids and optic nerve head [10].

At the pathophysiologic level, the primary response of the retinal vasculature to systemic arterial hypertension is vascular narrowing. This response to an increased blood pressure leads to focal or diffuse vasoconstriction. In addition, extravasation of fluid to the extravascular spaces occurs as a result of increased vascular permeability. Resultant retinal changes may manifest as decreased retinal to vein ratio, cotton wool spots, hemorrhages, Elschnig spots and serous retinal detachments [10, 11].

Jaffe and Schatz, found a significant relationship between reduced arteriole to vein ratio and preeclampsia, suggesting retinal vasospasm and resistance to blood flow as a possible explanation for visual symptoms [12].

Retinal changes due to severe preeclampsia are similar to the changes of hypertensive retinopathy without the organic changes of arteriolosclerosis[10,13].

Severe arteriolar spasm is the most common fundoscopic finding, occurring in 70% of preeclampsia cases. As a result of this spasm, retinal vessels appear like a corkscrew or a beaded pearl necklace. Other fundoscopic features include arteriovenous crossings, hard and cotton-like exudates, retinalhemorrhages and optic head swelling[13,14].

Preeclampsia/eclampsia related retinopathy generally resolves soon after delivery and no specific treatment is required [10,14].

IV. Conclusion :

Pre-eclampsia/eclampsia is a serious condition for the mother and her future baby. It is accompanied by sometimes eye damage, but mostly retinal damage it is very important to be vigilant about the rare and serious conditions that may occur in pregnant women with visual complaints. It would be peremptory to say that any Pre-eclamptic/eclamptic pregnant woman admitted to the hospital will have to benefit at the entrance and at intervals regular repeated ophthalmological consultations with realization of the eye fundus each time in a way that is systematic.

Declaration of competing interest

The authors report no declarations of interest.

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Ethical approval
I declare on my honor that the ethical approval has been exempted by my etablishment.
Consent
Written informed consent for publication of their clinical details and/ or clinical images was obtained from the patient.
Author contribution
Hanafi Asmaa : Corresponding author writting the paper.

Références :

[1]. ABALOS_E, CUESTA_C, GROSSO_AL, CHOU_D, SAY_L. GLOBAL AND REGIONAL ESTIMATES OF PREECLAMPSIA AND ECLAMPSIA: A SYSTEMATIC REVIEW. EUROPEAN JOURNAL OF OBSTETRICS, GYNECOLOGY, AND REPRODUCTIVE BIOLOGY 2013;170(1):1-7.
[2]. ABALOS_E, CUESTA_C, CARROLI_G, QURESHI_Z, WIDMER_M, VOGEL_JP, ET AL. ON BEHALF OF THE WHO MULTICOUNTRY SURVEY ON MATERNALAND NEWBORN HEALTH RESEARCH NETWORK. PRE-ECLAMPSIA, ECLAMPSIA AND ADVERSE MATERNAL AND PERINATAL OUTCOMES: A SECONDARY ANALYSIS OF THE WORLD HEALTHORGANIZATION MULTICOUNTRY SURVEY ON MATERNAL AND NEWBORN HEALTH. BJOG: AN INTERNATIONAL JOURNAL OF OBSTETRICS AND GYNAECOLOGY 2014;121(SUPPL 1):14-24.
[3]. AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, TASK FORCE ON HYPERTENSION IN PREGNANCY. HYPERTENSION IN PREGNANCY. REPORT OF THE AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS' TASK FORCE ON HYPERTENSION IN PREGNANCY. OBSTETRICS AND GYNECOLOGY 2013;122(5):1122-31.
[4]. KASSEBAUM NJ, BERTOZZI-VILLA A, COGGESHALL MS, ET AL. GLOBAL, REGIONAL, AND NATIONAL LEVELS AND CAUSES OF MATERNAL MORTALITY DURING 1990-2013: A SYSTEMATIC ANALYSIS FOR THE GLOBAL BURDEN OF DISEASE STUDY 2013. LANCET 2014;384(9947):980–1004.
[5]. THE ECONOMIST. MATERNAL MORTALITY: EXCEPTIONALLY DEADLY. DEATH FROM CHILDBIRTH IS UNUSUALLY COMMON IN AMERICA. AVAILABLE AT: HTTP://WWW.ECONOMIST.COM/NEWS/UNITED-STATES/21657819- DEATH-CHILDBIRTH-UNUSUALLY-COMMON-AMERICA-EXCEPTIONALLYDEADLY. ACCESSED JULY 18, 2015.
[6]. COLEMAN, A.L., OLSEN, T.W., LUM, F., PARKE, D.W., 2017. PREECLAMPSIA AND LONG-TERM RISK OF MATERNAL RETINAL DISORDERS. OBSTET. GYNECOL. 129, 946–947.
[7]. RETINAL LESIONS DURING PREECLAMPSIA/ECLAMPSIA AND THEIR PREDICTIVE VALUES ON THE OUTCOME OF PREGNANCY NGWANOU NANA A1, KOKI G1, 2, ÉPÉE E1, ESIENE A1, MBU R1, BELLA A L FACULTÉ DE MÉDECINE ET DE SCIENCES BIOMÉDICALES, UNIVERSITÉ DE YAOUNDÉ I, CAMEROUN 2 SERVICE SPÉCIALISÉ D'OPHTALMOLOGIE DE L'HÔPITAL MILITAIRE DE RÉGION N° I DE YAOUNDÉ, CAMEROUN HEALTH SCI. DIS: VOL 16 (2) APRIL MAY JUNE 2015.
[8]. ACOG PRACTICE BULLETIN COMMITTEE. DIAGNOSIS AND MANAGEMENT OF PREECLAMPSIA AND ECLAMPSIA. OBSTET GYNECOL 2002;99:159–67.
[9]. DRIFE JO, MAGOWAN, EDITORS. CLINICAL OBSTETRICS AND GYNAECOLOGY. P. 367–70 [CHAP. 39].
[10]. GUPTA A, KALIAPERUMAL S, SETIA S, SUCHI ST, RAO VA. RETINOPATHY IN PREECLAMPSIA: ASSOCIATION WITH BIRTH WEIGHT AND URIC ACID LEVEL. RETINA2008;2:1104–10.
[11]. RODRÍGUEZ NA, ZURUTUZA A. OPHTHALMOLOGICAL MANIFESTATIONS OF ARTERIAL HYPERTENSION. AN SIST SANIT NAVAR 2008;31:13–22.
[12]. JAFFE G, SCHATZ H. OCULAR MANIFESTATIONS OF PREECLAMPSIA. AM J OPHTHALMOL 1987;103:309–15.
[13]. SAITO Y, TANO Y. RETINAL PIGMENT EPITHELIAL LESIONS ASSOCIATED WITH CHOROIDAL ISCHEMIA IN PREECLAMPSIA. RETINA 1998;18:103–8.
[14]. RYAN SJ, SUNNESS JP. PREGNANCY AND RETINAL DISEASE. IN: RYAN SJ, EDITOR. RETINA. VOL. 2; 1994. P. 1393–403.
[15]. ABU SAMRA K. THE EYE AND VISUAL SYSTEM IN THE PREECLAMPSIA/ECLAMPSIA SYNDROME: WHAT TO EXPECT? SAUDI J OPHTHALMOL. JANV 2013;27(1):51- 3.

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