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Original article

Cilioretinal obstruction during pregnancy☆

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ABSTRACT

Purpose: To determine the number of patients diagnosed over a 5-year period with isolated occlusion of the cilioretinal artery (CRAO) whilst pregnant, as well as to describe the outcomes and ophthalmological sequelae of this condition in pregnant woman.
Methods: A retrospective study of the medical records.
Results: From the 135 patients diagnosed with retinal arterial occlusion of all of our series, 20 (14.8%) had CRAO, and 2 (1.48%) of these were pregnant. Case 1: a 34 year-old pregnant woman with a centrocaecal scotoma and visual acuity of 20/20 in right eye. Fundus examination: a soft exudate in the papillomacular bundle with retinal edema and embolism on a cilioretinal artery branch. The exudate and edema disappeared after 5 weeks, and the scotoma was reduced. Case 2: a 30 year-old pregnant woman, with normal visual acuity in right eye, and a centrocaecal scotoma. Fundoscopy: an area of retinal interpapillomacular infarction due to cilioretinal artery occlusion. The fundus returned to normal in 4 weeks, with an improvement of the scotoma.
Conclusions: The etiology of CRAO is usually associated with carotid disease or other thromboembolic events related to hypercoagulable states and autoimmunity. Pregnancy is considered a hypercoagulable state, and it is not known if it is a risk factor for arterial embolism. Further studies are required to determine the correlation between pregnancy and CRAO.

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Obstrucción de la arteria ciliorretiniana durante el embarazo

Palabras clave:
Oclusión de la arteria ciliorretiniana
Embarazo
Oclusión arterial retiniana

RESUMEN

Objetivos: Conocer la incidencia de obstrucción aislada de la arteria ciliorretiniana (OACR) en nuestra serie, a lo largo de 5 años, y describir la incidencia, evolución y secuelas oftalmológicas de esta entidad en el embarazo.

Métodos: Estudio retrospectivo, descriptivo, observacional de serie de casos.

Resultados: De los 135 pacientes diagnosticados de oclusión arterial retiniana del total de nuestra serie, 20 (14,8%) presentaban OACR, de los cuales 2 (1,48%) eran mujeres embarazadas. Caso 1: mujer embarazada de 34 años, con escotoma centrocecal y agudeza visual de 1 en ojo derecho. Fondo de ojo: exudado algodonoso en el haz papilomacular con edema retiniano y émbolos en una de las ramas de la arteria ciliorretiniana. A las 5 semanas el exudado y el edema habían desaparecido, con reducción del escotoma. Caso 2: mujer embarazada de 30 años, que presenta de forma brusca escotoma centrocecal en el ojo derecho con agudeza visual de 1. Fondo de ojo: exudación lipídica y mancha algodonosa en haz interpapilomacular secundarias a la OACR. A las 4 semanas habían desaparecido los hallazgos en fondo de ojo, con resolución completa de la sintomatología.

Conclusiones: La etiología de la OACR suele estar relacionada con enfermedad carotídea u otros procesos tromboembólicos relacionados con estados de hipercoagulabilidad y autoinmunidad. El embarazo es considerado un estado de hipercoagulación, sin embargo, no se ha podido demostrar que se trate de un factor de riesgo *per se* para desarrollar embolia arterial. Por tanto, se necesitan estudios adicionales para conocer la correlación entre embarazo y OACR.

Introduction

The cilioretinal artery (CRA) is present in 26–49.5% of patients[1–4] and between 15 and 40.2% of eyes.[1–10] The incidence in the Chinese population is of 35%[11] and 6.9% in India.[12] Of all the retinal arterial obstructions, only 5% occur in isolation in the CRA. There are several forms of CRA obstruction, although in pregnant females it is extremely rare in the absence of other associated risk factors. In fact, there are only 2 published cases. Two cases of CRA occlusion in 2 pregnant patients without known risk factors are presented below.

Materials and methods

A retrospective study of all patients diagnosed with CRA obstruction in the workplace of the authors during the period between January 2007 and May 2012. Collected variables comprised age, reason for the consultation, visual acuity (VA), biomicroscopy, ocular fundus, angiography, optical coherence tomography (OCT), campimetry, results of systemic studies including hemogram, coagulation profile, globular sedimentation rate, electrolytes and screening for thrombophilia, carotid and cardiac eco-Doppler.

Results

In the series of the study, 135 patients had a diagnostic of retinal arterial occlusion, of whom 20 (14.8%) were CRA occlusion, and 2 of these (1.48%) were pregnant females.

The first case was a 34-year-old female with 20 weeks gestation who visited due to seeing a spot in the right eye since 3 days before, without VA reduction or other relevant antecedents. Ophthalmological exploration produced VA of one in both eyes and normal anterior pole, while ocular fundus showed a cotton-like exudate isolated in the papillomacular array having 15 mm diameter with visualization of a white funnel in one CRA branch. OCT showed intraretinal edema in the lesion and campimetry revealed a central scotoma (Fig. 1). Fluorescein angiography was not performed as this procedure was not recommended during pregnancy.[13] A comprehensive systemic study was performed (arterial pressure, hemogram, coagulation, biochemistry, globular sedimentation rate, C-reactive protein, lymphocyte subpopulation, angiotensin converting enzyme, homocysteine, rheumatoid factor, antinuclear antibodies, neutrophile anti-cytoplasmic antibodies, anticardiolipin antibodies, serology for *Rickettsia typhi*, rubeola, Epstein–Barr virus, varicella-zoster virus, cytomegalovirus and herpes simplex virus types 1 and 2 in order to discard risk factors associated to embolism, thrombophilia or vasculitic origin of the occlusion. All results were normal. Echocardiography, electrocardiogram and carotid and supra-aortic trunk echography were reported as normal. The retinal edema disappeared after 5 weeks, leaving a retinal atrophy area in the zone of the exudate, with scotoma reduction and a depression in the Bebie curve (Fig. 2). After giving birth, fluorescein angiography was performed which did not reveal any alteration, thus demonstrating the resolution of the condition (Fig. 3).

The second case was a 13-year-old female with a 16-week pregnancy, without relevant antecedents. The patient