A rare case of uneventful pregnancy in a woman with Cogan's syndrome

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Summary

Cogan's syndrome is a rare multisystem disorder of unknown etiology which is characterized by nonsyphilitic interstitial keratitis, vestibuloauditory dysfunction and systemic vasculitis. We present the clinical manifestations and the follow-up of a 39-year-old pregnant woman with Cogan's syndrome. The treatment and especially the histologic findings of the placenta are discussed.

Key words: Cogan's syndrome; Placental choriangiosis.

Introduction

Cogan's syndrome was first described by Morgan and Baumgartner in 1934 [1]. Later on, the clinical entity was also described in five cases by Cogan [2]. In 1963, the atypical form of Cogan's syndrome was first described by Bennett [3].

The disease is characterized by nonsyphilitic interstitial keratitis associated with vestibuloauditory dysfunction which resembles Meniere's disease and may lead to complete bilateral hearing loss within two years [4, 5]. The interval between ocular and ear involvement could range from three months in the typical syndrome up to 11 years in the atypical syndrome. However, Cogan's syndrome is considered to be a multisystem disease with a wide clinical spectrum [4-6]. Approximately 12% to 15% of patients develop vasculitis involving vessels of all sizes in various organ systems [7]. Ten percent of cases are complicated with aortic insufficiency which can be life threatening [8]. Polyarthralgias or arthritis can also accompany the disease. Neurologic findings, such as epilepsy or encephalitis may also be found.

The syndrome is classified in two forms:

i) Typical form (according to Cogan's criteria) [2]: 1. Ocular symptoms, typically an isolated non-syphilitic interstitial keratitis that could be associated with conjunctivitis, conjunctival or subconjunctival bleeding, or iritis; 2. Audiovestibular symptoms similar to those of Meniere's syndrome usually progressing to deafness in one to three months; 3. An interval between the onset of ocular and audiovestibular manifestations of less than two years.

ii) Atypical form (according to Haynes criteria) [5]: 1. Inflammatory ocular manifestations, including episcleritis, scleritis, retinal artery occlusion, choroiditis, retinal hemorrhage, papilloedema, exophthalmos or tendonitis, with or without interstitial keratitis. Patients with isolated conjunctivitis, subconjunctival hemorrhage or iritis are also classified as having atypical Cogan's syndrome if these inflammatory ocular manifestations are associated with Meniere-like episodes within an interval of two years; 2. Typical ocular manifestations associated, within two years, with audiovestibular symptoms different from Meniere-like episodes; 3. A delay of more than two years between the onset of typical ocular and audiovestibular manifestations.

It is a rare disease which primarily affects young adults with an age range of 2.5-60 years [9]. It should be noted that it is not a hereditary condition. Although the disease was thought to be caused by infection, today it is believed to be an autoimmune disorder [4, 5]. However, an upper respiratory infection is present in onset of 20% of cases. Anterior uveitis, detected in some cases, may suggest a possible immune mechanism. Cogan's syndrome has been detected in patients with antiphospholipid antibodies or Crohn's disease [10, 11].

There is no report about the histology of the placenta in women with Cogan's syndrome in the literature and so the presentation of Cogan's syndrome during pregnancy, its manifestations, follow-up and the placental findings are discussed in our case report.

Case Report

This is the case of a 39-year-old woman (para 1, gravida 1) who presented at eight weeks of gestation to our department. The personal history revealed Cogan's syndrome (with pain in the right ear and the ipsilateral eye) known for five years which was treated with the use of systematic administration of prednisone (1 mg/kg) per day and prednisolone acetate ophthalmic solution (1%). Symptoms progressively improved, and one year after the onset of the disease, only hearing loss and tinnitus remained. No recurrence was mentioned the following four years.

At the 12th week of gestation, the patient complained of pain, photophobia and bilateral lacrimation in her eyes. The ophthalmic examination revealed extensive peripheral interstitial keratitis. Audiometry was stable. Topically used steroids were recommended for the ocular symptoms. Her pregnancy was uneventful and she had a vaginal delivery at 38 weeks of gestation. One year post-labor no sign of the disease was discovered. The pathological examination of the placenta showed a mature placenta, measuring 18 x 14.5 cm, 1.5 cm thick, and weighing

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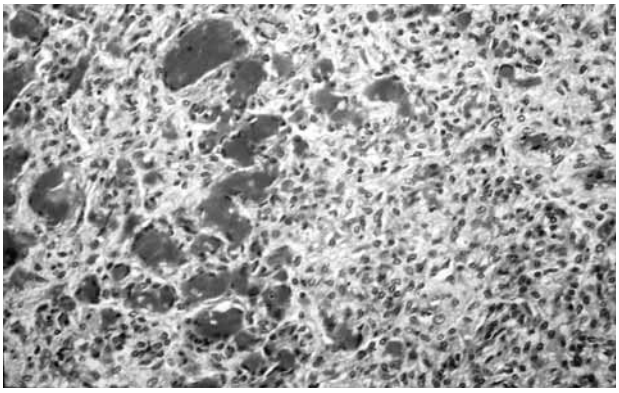

Figure 1. — Histological section of placenta with chorioangioma (hematoxylin-eosin x 200).

650 g. The multiple sections of the placenta showed whitish areas (more than 10), 0.2-1.5 cm in diameter. The histological examination revealed a mature placenta with multiple infarcts, old and new, and extensive calcification. Many foci of chorioangiosis were observed as well as a chorroangioma measuring 2 cm in the greatest diameter (Figure 1). No inflammatory changes of the placenta were observed.

Discussion

Ischii *et al.* described that the ligamentum spirale cochlea is infiltrated with plasma cells and lymphocytes in Cogan's syndrome; endolymphatic hydrops in the cochlea, collapse of the saccule and fibrosis in the posterior semicircular canal are also some of the characteristic findings [12].

As indicated in the literature, the symptoms could be correlated with a generalized vascular illness [13] such as aortic insufficiency and vasculitis (12-15%) [4, 7]. The median interval between the syndrome's diagnosis and vasculitis onset is seven months (range 3 weeks to 8 years) [7]. Vasculitis could affect the skin, kidneys, subcutaneous nodules, distal coronary arteries, and muscles. Pathologic reports reveal vasculitis in the dura, brain, gastrointestinal system, kidneys, spleen, aorta and the coronary arteries [7, 14, 15]. Characteristic findings are acute vasculitis and fibrosis in any artery or vein. Generalized dilatation and narrowing of the coronary ostia in the region of the aortic valve may be found [16]. Inflammation, necrosis and fibrosis were noted in the vessels during microscopic examination with the characteristic neutrophils, mononuclear cells, plasma cells, eosinophils and giant cells [14-16].

In our case, a remarkable feature was the presence of chorioangiosis of the placenta. Chorioangiosis of the placenta is a rare change of unknown etiology [17] believed to result from long-standing placental hypoperfusion or low-grade tissue hypoxemia. It is reported in preeclampsia, diabetes mellitus, drug ingestion and various placental and umbilical cord anomalies. In our case, the exact cause of chorioangiosis could not be determined but the chronic illness of the mother and the drug use may be responsible.

The treatment of the syndrome includes administration of systematic and local corticosteroids and/or immunosuppressive treatment in order to prevent progression of inner ear deafness. An initial dose of one to two mg/kg per day of oral prednisone is usually recommended. If corticosteroids are not effective, immunosuppressive drugs such as azathioprine, cyclophosphamide and cyclosporine are commonly used [4, 10, 18, 19]. However, the best results seem to have been obtained with methotrexate use [19].

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