

Case Report**DISCOVERING RHEUMATOID ARTHRITIS DURING PREGNANCY**

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Abstract: Rheumatoid arthritis is an autoimmune mechanism disease that preferentially affects women. Remission from rheumatoid arthritis has often been associated with pregnancy.

A 29-year-old woman presented with symmetrical inflammatory polyarthralgias of the large and small joints with morning stiffness estimated at 5 hours and the Visual Analogue Scale at 80/100 associated with joint swelling onset at the 12th week of amenorrhea. She has no medical history, third pregnancy, and no fetal loss has been reported. The physical examination of the day objectified five painful joints and two swollen joints. Disease activity was moderate. There was a biological inflammatory syndrome with a C-Reactive Protein (CRP) at 37.9 mg. Rheumatoid factor was positive at 214 IU (Standard <14 IU), anti-citrullinated peptides antibodies at 99.6 IU (Standard <17 IU).

The pregnancy revealed rheumatoid arthritis positive to rheumatoid factor and citrullinated cyclic anti-peptide antibodies.

Keywords: Rheumatoid polyarthrititis; pregnancy.

INTRODUCTION Rheumatoid arthritis is an autoimmune mechanism disease that preferentially affects women. Compared to some autoimmune diseases, the clinical spectrum of rheumatoid arthritis during pregnancy is most often very poor [1]. It is a chronic disease that progresses with inflammatory flares, causing pain, stiffness, and functional impairment. In the literature, this remission is observed by up to 75%. It is during the postpartum period that the activity disease can be important. Hormonal factors have mainly been implicated [2].

CASE PRESENTATION A twenty-nine-year-old woman presented symmetrical inflammatory polyarthralgias of the hands, wrists, elbows, shoulders, knees, feet, and ankles with swelling that appeared at the twelfth week of an evolutionary singleton pregnancy. The interphalangeal

distal were spared. Morning stiffness was estimated at 5 hours, the pain rated by the Analog Visual Scale was 80/100. The interrogation did not reveal dry syndrome, photosensitivity, and Raynaud's syndrome, or alopecia. There was no associated sign despite an unquantified weight loss and asthenia. She has no medical history, third pregnancy, and no fetal loss has been reported. The physical examination of the day objectified five painful joints and two swollen joints.

The activity of the disease was moderate (DAS28 CRP = 5.04). There was no deformation, and the cardiovascular, pulmonary, abdominal, skin-mucous examination was normal. At biology, it showed normochromic normocytic anemia (Hemoglobin at 10.2g/dL), an inflammatory syndrome with C - Reactive Protein (CRP) 7at 37.9 mg, and a hypo-albuminemia at 28.25 g. The Rheumatoid Factor (RF) was positive at 214 IU (Standard < 14 UI), anti-peptide citrullinated antibodies (ACPA) were at 99.6 IU (Standard < 17 IU). Native DNA antibodies and anti-nuclear factors were negative. The X-ray was not performed. The diagnosis of rheumatoid polyarthrititis revealed by pregnancy has been accepted. The gynecological

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assessment revealed an intrauterine singleton pregnancy of 12 weeks of amenorrhea with a normal evolution. Prednisone at a dose of 10 mg per day was started, together with hydroxychloroquine 400 mg per day, analgesic step one, iron-folic acid. The prednisone dose was reduced gradually by 2.5 mg in the following two weeks to 5 mg per day. Clinical remission of the disease was observed from the twelfth week of treatment. The patient had a normal vaginal delivery during the 39th week. No complications were found during delivery and postpartum. The newborn weighed 3 kg and was 52 cm tall. The pediatric examination found no anomalies.

DISCUSSION We report a case of rheumatoid arthritis that met the 2010 ACR/EULAR criteria [3] and which clinical signs occurred during pregnancy in a woman with no specific medical history. The occurrence of rheumatoid polyarthritis is dependent on several factors, including environmental, genetic, hormonal, and immunological. Compared to some biological markers, pregnancy would not interfere with the outcomes of antibodies diagnostic in rheumatoid arthritis [4,5]. There is a state of natural balance during pregnancy.

This physiological state is achieved through a transitory change of certain systems, including the immune system and hemostasis. The change is made through different hormonal control mechanisms generated by the fetal unit to induce its tolerance and growth. However, pregnancy has often been associated with remission of rheumatoid arthritis [6]. During pregnancy, mechanisms occur to enable fetal tolerance through the maternal immune system and effective response to environmental aggression, particularly infectious agents. Hormonal factors would play a large role in these mechanisms. At high doses, estrogens would stimulate the secretion of IL-10 and TGF- β and slow the release of TNF- α and interferons. This would explain the improvement of Th1 disease during pregnancy, and the function B is increased at the expense of adaptive T cell response. Progesterone would also decrease TNF- α synthesis, especially the response NK and uNK [7; 8]. According to Somerset, the imbalance against the cellular response is amplified by the gradual increase during pregnancy in the level of regulatory T-cells (Trég) (TCD4-CD25-high) that inhibit cellular immune responses [9]. These Tregs would play a major role in improving autoimmune diseases mediated by an autoimmune reaction of type Th1 during pregnancy [10]. The only hormonal gravida status would explain little because some observations of non-remission during pregnancy have already been reported [3].

CONCLUSION The pregnancy revealed rheumatoid arthritis positive to rheumatoid factor and citrullinated cyclic anti-peptide antibodies. A better knowledge of the pathophysiological mechanisms will allow clinical superiority.

Disclosure:

The author declares no conflicts of interest.

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