Vasculitis and Pregnancy

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KEYWORDS

• Vasculitis • Pregnancy • Prednisone • TNF-Inhibitor • ANCA-associated vasculitis • Behçet disease • Takayasu arteritis

KEY POINTS

- There are limited data to guide the management of vasculitis during pregnancy.
- Pregnancies that occur when vasculitis is well controlled and on medications considered low risk will result in the best opportunity for success.
- Although cyclophosphamide, methotrexate, and mycophenolate mofetil are known to cause pregnancy loss and congenital anomalies, the other medications that are typically used for vasculitis are largely considered low risk.

INTRODUCTION

Vasculitis is more often a disease affecting women beyond their reproductive years, making the challenges of pregnancy management difficult to study. Improved diagnostic capabilities and treatment options have both prolonged patient survival and led to earlier age of diagnosis, which in turn has increased the number of pregnancies in this population. Because of the earlier median age of onset in Behçet disease (BD) and Takayasu arteritis (TA), most of the literature focuses on pregnancies in women with these diseases; however, cases of pregnancy during antineutrophil cytoplasmic antibody (ANCA)–associated vasculitis have also been reported in the literature.[1] The various physiologic changes of pregnancy may have both positive and negative impacts on maternal vasculitis. Hormonal and endocrine changes during pregnancy may alter cytokines favoring the Th2-cytokine polarization, allowing a worsening of Th2-cytokine–mediated diseases, such as ANCA-associated vasculitis, and improving Th1-cytokine–mediated disorders, such as BD and TA.[2] However, when carefully timed and managed, most pregnancies in patients with systemic vasculitis can be successful with minimal antepartum complications and minimal impact on disease process.

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ANTINEUTROPHIL CYTOPLASMIC ANTIBODY–ASSOCIATED VASCULITIS, INCLUDING GRANULOMATOSIS WITH POLYANGIITIS, MICROSCOPIC POLYANGIITIS, AND EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS

ANCA-associated vasculitis includes granulomatosis with polyangiitis (GPA, formerly Wegener granulomatosis), microscopic polyangiitis (MPA), and eosinophilic granulomatosis with polyangiitis (EGPA, formerly Churg Strauss). Although the prevalence of these diseases is relatively low in women of childbearing age because the mean age of onset is later in life, there are documented cases of pregnancies for each of these forms of ANCA-associated vasculitis.

Effect of Antineutrophil Cytoplasmic Antibody–Associated Vasculitis on Pregnancy

GPA is a necrotizing vasculitis that typically affects the upper respiratory tract, lungs, and kidney with a peak age of onset after 40 years.[2] MPA is a small vessel, necrotizing, pauci-immune vasculitis with complications, including severe renal disease and pulmonary hemorrhage.[3] Preterm delivery is a common complication of GPA with rates as high as 35%, particularly when the disease is active during pregnancy.[4,5] Preeclampsia, premature rupture of membranes, spontaneous abortion, prepartum hemorrhage, and retroplacental hematoma have all been reported.[6,7] Poorer outcomes are associated with women who conceived with active disease or who had onset of GPA during pregnancy.[8] There are limited data on the effects of MPA on pregnancy and vice versa, primarily consisting of case reports. In the few cases that have been reported, complications included maternal death,[9] low birth weight,[10] prematurity, and the occurrence of an MPA-like syndrome in the newborn.[11]

EGPA is characterized by extravascular necrotizing granulomas rich in eosinophils, peripheral blood eosinophilia, and pulmonary and small vessel vasculitis occurring in patients with asthma and allergic rhinitis.[3] The mean age of disease onset is approximately 48 years. As with GPA, preterm birth was the most common complication of pregnancy; however, fetal loss, intrauterine growth restriction (IUGR), and cesarean delivery were also observed.[12]

Effect of Pregnancy on Antineutrophil Cytoplasmic Antibody–Associated Vasculitis

With all forms of systemic vasculitis, complications are most severe and outcomes most devastating if pregnancy occurs during a disease flare.[6] This point holds true for ANCA-associated vasculitis: high levels of disease activity persisted throughout pregnancy in most women who became pregnant with active disease; however, only 40% of those who conceived while in remission developed a disease flare.[3] GPA flares during pregnancy mostly consisted of respiratory complications, subglottic stenosis, skin lesions, arthritis, and renal deterioration. However, it can be difficult to differentiate renal impairment from GPA flare or preeclampsia.[13,14]

Vasculitis complications were also seen in cases of EGPA with complications as severe as maternal death.[15,16] Complications were reported in patients with MPA also, with most symptoms involving rash, joint swelling, pain, and fever.[12] The frequency of these complications is difficult to extrapolate to the general population considering the scarce data available.

Although the numbers are limited, ANCA-associated vasculitis seems to be more frequently reported to start during pregnancy than most other rheumatic diseases.[3] Based on the available data, it is not possible to assess whether established ANCA-associated vasculitis flares more often during pregnancy than other autoimmune