



Prevalence of adverse maternal and foetal outcomes during pregnancy in patients with Takayasu's arteritis : a systematic review and meta-analysis



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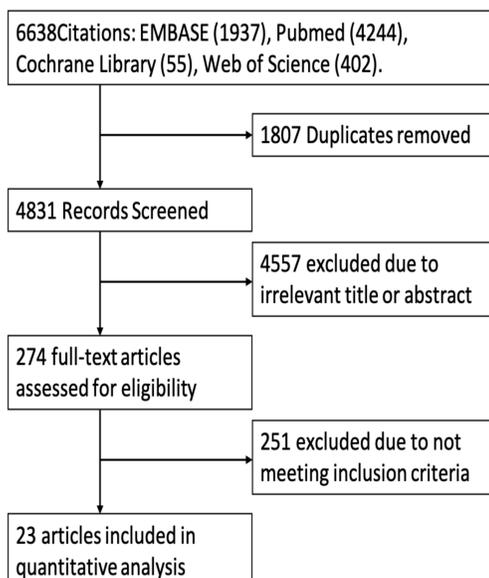
Background

Takayasu's arteritis is a systemic autoimmune disease characterised by large vessel vasculitis. It usually affects women of childbearing age, with 90% of patients diagnosed < 30 years of age, and previous studies suggest it is associated with adverse pregnancy outcomes. There is a vast discrepancy within the literature; some studies suggest preeclampsia occurring in 4.5% of patients, while others suggest a rate of 61%. The purpose of our work was to determine the prevalence of both maternal and fetal outcomes in patients with Takayasu's arteritis through a systematic review and meta-analysis.

Methods

We performed a systematic review of the literature using Medline, Web of Science, and the Cochrane library from their inception until March 26, 2021, to identify studies that reported pregnancy outcomes in patients with Takayasu's arteritis. Demographic information, maternal outcomes, foetal outcomes, prednisolone use, and information on disease activity were extracted from studies. Two authors independently selected the studies, extracted the data and assessed for risk of bias.

Flow Diagram of Search Results



Results

Our systematic review identified 6638 abstracts, of which 23 articles were included. The miscarriage rate was 11 [7-16] % and an intrauterine death rate of 1[0-3] %. Preeclampsia was reported in 10[7-12] % of patients (**Figure 1**). Preterm delivery occurred in 15[12-19] %. New hypertension in pregnancy was reported in 12[8-16] %. Intrauterine growth restriction occurred in 16[10-21] % of pregnancies. The prevalence of caesarean sections among Takayasu patients was 28 [22-28] % (**Figure 2**). In terms of fetal outcomes, low birth weight was associated with 16[10-21] % of live births (**Figure 3**). Flares of vasculitis occurred in 11[8-15] % of patients. The rates of caesarean section, preterm birth and preeclampsia have increased over time (**Figure 4**).

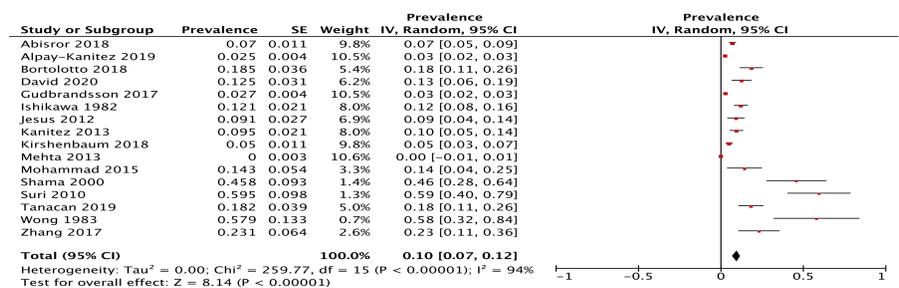


Figure 1: Prevalence of preeclampsia in Takayasu's arteritis patients

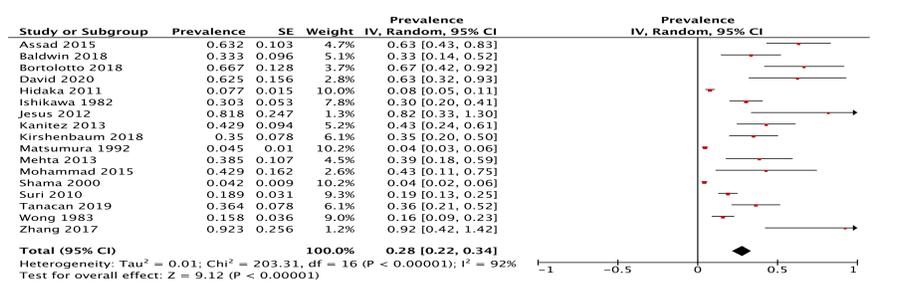


Figure 2: Prevalence of caesarean section with Takayasu patients

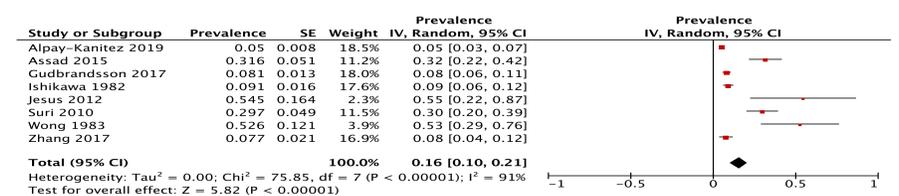


Figure 3: Prevalence of low birth weight

category	r ²	p
c section	0.289	0.025
preterm birth	0.294	0.016
intrauterine death	0.0166	0.761
miscarriage	0.04	0.483
pre-eclampsia	0.261	0.04
HTN	0.12	0.25
IUGR	0.343	0.058
low birth weight	0.083	0.488
Flare	0.041	0.661

Figure 4: Linear regression p<0.05 correlates with increase prevalence over time

Conclusion

There is a high prevalence of both maternal and fetal adverse outcomes in pregnant patients with Takayasu's arteritis, who require careful management by a multidisciplinary team during pregnancy.

References

- Bortolotto et al., 'The Impact of Arterial Hypertension in Maternal and Perinatal Outcomes in Pregnancies With Takayasu Arteritis.'
- Alpay-Kanitez et al., 'Pregnancy Outcome in Patients with Takayasu Arteritis: The Results of Turkish Takayasu Study Group.'
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