Chronic Histiocytic Intervillositis (CHI): Current treatments and perinatal outcomes, a systematic review and a meta-analysis

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Objective
Chronic histiocytic intervillositis (CHI) is a rare placental lesion with a high recurrence rate and poor perinatal outcomes. There are currently limited guidelines regarding the treatment of this condition. OBJECTIVE: The primary objective of this systematic review and meta-analysis was to determine the perinatal outcomes of pregnancies affected by chronic histiocytic intervillositis and to what extent they can be improved with treatment. The secondary objective was to assess the relationship between CHI lesion severity and pregnancy loss.

Methods
A systematic search of Ovid Embase, Web of Science, Science Direct, PubMed, Ovid Medline, Google Scholar and CINAHL was carried out. Case reports, cohort, case-control and randomised controlled trials (RCT) detailing the perinatal outcomes of CHI pregnancies, both treated and untreated, were included.

Results
No RCTs were identified. However, in a review population of 659 pregnancies, with additional 7 in case reports, CHI treatments included aspirin, prednisone, prednisolone, low molecular weight heparin (LMWH), hydroxychloroquine and adalimumab. A descriptive synthesis of data found mixed results for treatments in relation to live birth, miscarriage and fetal growth restriction outcomes. Furthermore, quantitative synthesis of 38 pregnancies revealed a non-significant improvement in live birth rate with CHI targeted treatment (OR 1.79 [95% CI 0.33-9.61] [p=0.50]), while meta-analysis of CHI severity in line with pregnancy loss, in a sample of 231 pregnancies, revealed lower odds of pregnancy loss with less severe lesions (OR: 0.17 [0.03-0.80], p=0.03).

Conclusion
This systematic review and meta-analysis reinforce notions surrounding the insufficient evidence for CHI treatment. It also strengthens previous conclusions detailing the positive association between CHI lesion severity and odds of pregnancy loss. Aspirin, LMWH, prednisolone, hydroxychloroquine and adalimumab are candidates with varying levels of weak to moderate evidence supporting their use. More prospective research is required to obtain robust evidence pertaining to treatment safety and efficacy and optimal drug combinations.