

**Title:** Diagnostic validity of the proposed NICHD criteria for intrauterine inflammation or infection.

Samsiya Ona MD,<sup>1,2</sup> Sarah Rae Easter MD,<sup>1</sup> Malavika Prabhu MD,<sup>2</sup> Gianna Wilkie MD,<sup>1,2</sup> Ruth E Tuomala MD,<sup>1,2</sup> Laura E Riley MD,<sup>2</sup> Khady Diouf MD<sup>1</sup>

<sup>1</sup>Brigham and Women's Hospital, Department of Obstetrics and Gynecology, Harvard Medical School, Boston, MA. <sup>2</sup>Massachusetts General Hospital, Department of Obstetrics and Gynecology, Harvard Medical School, Boston, MA.

## **Abstract**

---

**Objective:** To investigate the test characteristics of the diagnostic criteria for intrauterine inflammation or infection or both (Triple I) in a cohort of febrile intrapartum women.

**Method:** Our retrospective cohort study included women  $\geq 24$  weeks gestation from a single tertiary care hospital between 6/2015 and 9/2017, with a temperature  $\geq 100.4^{\circ}\text{F}$  during labor or within one hour postpartum, all of whom had blood cultures sent. Women previously on antibiotics, with a fetal demise, expectantly managed preterm premature rupture of membranes, or non-obstetrical infectious diagnosis were excluded. We defined three analysis groups: the control group, included women with no documented fever; the isolated maternal fever group, included women with documented fever without other clinical signs of infection; and the suspected Triple I group, included women with documented fever with other clinical signs of infection. We assessed test characteristics of clinical criteria for Triple I in predicting confirmed Triple I, or an adverse infectious clinical outcome as the gold standard diagnoses.

**Results:** 339 women who met inclusion criteria were analyzed, 84 in the control group, 43 in the isolated fever group and 212 in the suspected Triple I group. Baseline demographic and obstetric characteristics were similar between groups. The sensitivity and specificity of the suspected Triple I diagnostic criteria to predict pathologic chorioamnionitis (confirmed Triple I) were 86.0% (95% CI 80.2%-90.7%) and 21.5% (95% CI 14.14%-30.49%), and to predict adverse infectious clinical outcome were 67.6% (95% CI 50.2%- 81.9%) and 38.1% (95% CI 32.6%-43.8%), respectively.

**Conclusion:** The proposed criteria to diagnose intraamniotic infection during labor are neither sensitive nor specific enough in this cohort to guide clinical diagnosis and management of chorioamnionitis.