



Non-invasive Prenatal Testing for Hemoglobin Bart's Hydrops Fetalis Syndrome (SEA Deletion) Using Cell-Free Fetal DNA in Maternal Plasma: Systematic Review and Meta-analysis

Wittaya Jomoui¹, Kasama Wongprachum² and Rossarin Karnpean³

¹Department of Pathology, Maha Chakri Sirindhorn Medical Center, Faculty of Medicine, Srinakharinwirot University, Ongkharak, Nakhon Nayok, Thailand

²Faculty of Public Health, Mahasarakham University, Maha Sarakham, Thailand

³College of Medicine and Public Health, Ubon Ratchathani University, Ubon Ratchathani, Thailand

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ABSTRACT Non-invasive prenatal testing (NIPT) is a current technique for prenatal diagnosis. This technique uses cell-free fetal DNA in maternal plasma for detection. The objective in this study is to estimate the effectiveness of NIPT for screening of Hb Bart's hydrops fetalis syndrome (SEA deletion). A total of 343 studies were selected and reviewed. Elimination of article was done using inclusion criteria and exclusion criteria respectively, eight articles were included for full text review in this study. The combined five studies (a total of 271 samples) show the sensitivity of ninety-nine percent (95% CIs: 94-100%) and the specificity of seventy-three percent (95% CIs: 66-79%), respectively. The current study represented that NIPT of Hb Bart's hydrops fetalis syndrome (SEA deletion) is highly accurate. The most common detection methods are quantitative of detection SEA deletion fragment and informative SNPs or microsatellite of non-deleted paternal allele. These methods could be initial screening before continuing with invasive conventional methods