Rapid prenatal test for alpha-thalassemia

May 11 2010

Researchers from Mahidol University have developed a rapid, high-throughput screening method for prevention and control of thalassemia. The related report by Munkongdee et al, "Rapid diagnosis of α-thalassemia by melting curve analysis," appears in the May 2010 issue of The *Journal of Molecular Diagnostics*.

α-Thalassemia is a blood disease caused by a genetic defect in the production of a component of hemoglobin. This disease is more prevalent in areas that either were previously or are currently endemic for malaria, including the Mediterranean and South Asia. Carriers of mutations in α-thalassemia may have some degree of protection against malaria, but children of parents who both carry the mutation α-thalassemia-1 may develop Hb Bart's hydrops fetalis, which results in fetal death in utero or soon after birth.

Prenatal screening and genetic counseling are essential for prevention and control of α-thalassemia. The current diagnostic assay is both labor-intensive and time-consuming. Therefore, researchers led by Dr. Saovaros Svasti of Mahidol University developed a novel, rapid, and reliable assay for the diagnosis of α-thalassemias. This assay has high sensitivity and specificity, rapid turnaround time, and a decreased risk of contamination between samples.

Munkongdee et al suggest that this technique will "allow [for] high throughput screening suitable for prevention and control of thalassemia in the Southeast Asia population."

More information: Munkongdee T, Vattanaviboon P, Thummarati P, Sewamart P, Winichagoon P, Fucharoen S, Svasti S: Rapid diagnosis of α-thalassemia by melting curve analysis. J Mol Diagn 2010, 12:354-358.