

Abstract:

Clinical signs and symptoms of cerebral malaria in children are nonspecific and are seen in other common encephalopathies in malaria-endemic areas. This makes accurate diagnosis difficult in resource-poor settings. Novel malaria-specific diagnostic and prognostic methods are needed. We have used 2 proteomic strategies to identify differentially expressed proteins in plasma and cerebrospinal fluid from children with a diagnosis of cerebral malaria, compared with those with a diagnosis of malaria-slide-negative acute bacterial meningitis and other nonspecific encephalopathies. Here we report the presence of differentially expressed proteins in cerebral malaria in both plasma and cerebrospinal fluid that could be used to better understand pathogenesis and help develop more-specific diagnostic methods. In particular, we report the expression of 2 spectrin proteins that have known *Plasmodium falciparum*-binding partners involved in the stability of the infected red blood cell, suppressing further invasion and possibly enhancing the red blood cell's ability to sequester in microvasculature.