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Plasmodium knowlesi malaria in humans is widely distributed and potentially life threatening.

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BACKGROUND: Until recently, Plasmodium knowlesi malaria in humans was misdiagnosed as Plasmodium malariae malaria. The objectives of the present study were to determine the geographic distribution of P. knowlesi malaria in the human population in Malaysia and to investigate 4 suspected fatal cases. METHODS: Sensitive and specific nested polymerase chain reaction was used to identify all Plasmodium species present in (1) blood samples obtained from 960 patients with malaria who were hospitalized in Sarawak, Malaysian Borneo, during 2001-2006; (2) 54 P. malariae archival blood films from 15 districts in Sabah, Malaysian Borneo (during 2003-2005), and 4 districts in Pahang, Peninsular Malaysia (during 2004-2005); and (3) 4 patients whose suspected cause of death was P. knowlesi malaria. For the 4 latter cases, available clinical and laboratory data were reviewed. RESULTS: P. knowlesi DNA was detected in 266 (27.7%) of 960 of the samples from Sarawak hospitals, 41 (83.7%) of 49 from Sabah, and all 5 from Pahang. Only P. knowlesi DNA was detected in archival blood films from the 4 patients who died. All were hyperparasitemic and developed marked hepatorenal dysfunction. CONCLUSIONS: Human infection with P. knowlesi, commonly misidentified as the more benign P. malariae, are widely distributed across Malaysian Borneo and extend to Peninsular Malaysia. Because P. knowlesi replicates every 24 h, rapid diagnosis and prompt effective treatment are essential. In the absence of a specific routine diagnostic test for P. knowlesi malaria, we recommend that patients who reside in or have traveled to Southeast Asia and who have received a "P. malariae" hyperparasitemia diagnosis by microscopy receive intensive management as appropriate for severe falciparum malaria.

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