Deteksi infeksi submikroskopis Necator americanus dan Ancylostoma duodenale dari feses anak (5-18 Tahun) di Nangapanda, Ende menggunakan real time PCR = Submicroscopic infection of Necator americanus and Ancylostoma duodenale infection from children faecal (5-18) years in Nangapanda, Ende using real time PCR

Roospita Maylasari, author

Abstrak

Infeksi Hookworm (Necator americanus atau Ancylostoma duodenale) didunia mencapai sekitar 740 juta jiwa. Infeksi cacing tambang dapat menyebabkan malnutrisi, anemia dan defisiensi zat besi. Secara konvensional, diagnosis infeksi cacing tambang berdasarkan pada deteksi telur cacing tambang dalam sampel tinja manusia secara mikroskopik. Namun, metode tersebut memiliki beberapa keterbatasan. Terutama, seringnya kegagalan dalam membedakan sampai tingkat spesies. Dengan menggunakan Real Time PCR kita mengevaluasi infeksi submikroskopis hookwom (N. americanus dan A. duodenale) dari sampel feses anak (usia 5--18 tahun) pre dan post treatment Albendazole 400 mg di Nangapanda, Ende. Pemeriksaan dilakukan di Laboratorium Helmintologi, Departemen Parasitologi FKUI pada bulan November 2012 sampai dengan Mei 2013. Dua jenis probe spesifik yang digunakan dalam Real Time PCR: FAM dan Texas Red untuk mendeteksi N. americanus dan A. duodenale. Sebanyak 5 dari 90 sampel feses acak pre dan post treatment terinfeksi N. americanus dengan kandungan DNA rendah dan tidak ditemukan sampel yang terinfeksi A. duodenale. Penelitian menunjukkan bahwa Real Time PCR dapat mendeteksi infeksi submikroskopis spesies hookworm secara spesifik. Multiplex Real Time PCR sangat berguna untuk mendeteksi infeksi submikroskopis, terutama ketika intensitas infeksi rendah.
.....Hookworm infection (Necator americanus or Ancylostoma duodenale) in the world reachs about 740 million people. The infection of hookworm can lead to malnutrition, anemia and iron deficiency. Traditionally, diagnostic of hookworm infection is based on detection of hookworm eggs in human stool samples using microscopy. However, there are several limitations of this method. Importantly, species differentiation are often failed. Using Real Time PCR we evaluated submicroscopic infection of N. americanus and A. duodenale from human faecal samples (5-18years) in Nangapanda, Ende. The stool samples were collected in two times period, before and after treatment using 400mg of Albendazole. The examination was performed at the Laboratory of Parasitology,Faculty of Medicine Department Helmintologi during November 2012-May 2013. Two specific species probes were used in Real Time PCR: FAM and Texas Red to detect N.americanus and A.duodenale respectively. Five out of 90 random faecal samples were infected by N. americanus with low load DNA and none of A.duodenale infection was found. The present study shown that Real Time PCR could detect submicroscopic infection from specific species of hookworm. Multiplex Real Time PCR is very useful for detecting submicroscopic infections, especially when the intensity of hookworm infection is low.</i>