INTISARI

Telah dilakukan penelitian tentang perbandingan kadar methemoglobin antara penduduk endemis malaria (Banjar Raya, Kulonprogo) dengan penduduk non endemis (Wirobrajan, Yogyakarta). Tujuan penelitian ini adalah untuk mengetahui kadar methemoglobin (sebagai marker radikal bebas) penduduk endemis malaria dan membandingkannya dengan kadar methemoglobin penduduk non endemis.

Penelitian ini merupakan penelitian cross sectional, dengan subyek penelitian laki-laki dan wanita berumur 20-50 tahun yang pernah atau sedang menderita malaria dan telah tinggal di daerah endemis selama minimal lima tahun. Sedangkan subyek kontrol adalah laki-laki dan wanita berusia 20-50 tahun yang tidak pernah menderita penyakit malaria. Jumlah sampel yang digunakan untuk subyek penelitian dan kontrol masing-masing 30 orang. Subyek diambil darahnya dan selanjutnya dilakukan analisis kadar methemoglobin menurut metode Betke, cit tietz (1986) dan kadar hemoglobin dengan metode cyanmethemoglobin.

Hasil penelitian menunjukkan bahwa persentase methemoglobin KNE (Kelompok Non Endemis) adalah (2,188 ± 0,662) % Hb dan KE (Kelompok Endemis) adalah (3,728 ± 0,492) % Hb. Jika dikelompokkan berdasarkan jenis kelaminnya, maka diperoleh persentase methemoglobin KNE laki-laki (1,993 ± 0,636) % Hb sedangkan KE adalah (3,891 ± 0,515) % Hb. Pada persentase methemoglobin KNE wanita diperoleh (2,316 ± 0,652) % Hb, sedangkan KE adalah (3,565 ± 0,424) % Hb. Hal itu menunjukkan bahwa kadar methemoglobin antara KNE dengan KE terdapat perbedaan bermakna. Jika pada masing-masing kelompok dibedakan menurut jenis kelaminnya, maka rerata presentase methemoglobin KNE laki-laki dan wanita tidak terdapat perbedaan bermakna ($p>0,05$), begitu pula dalam KE. Secara umum, kadar methemoglobin KE lebih tinggi dibandingkan KE.

Hasil penelitian kadar hemoglobin menunjukkan bahwa persentase hemoglobin KNE adalah (14, 183 ± 2,593) mg % dan KE adalah (10,376 ± 1,447) mg %. Pada pengukuran kadar hemoglobin berdasarkan jenis kelamin, maka didapatkan persentase kadar hemoglobin KNE laki-laki adalah (15,719 ± 2,661) mg % dan KE adalah (10,508 ± 1,695) mg %, sedangkan pada KNE wanita diperoleh (13,415 ± 2,246) mg % dan KE adalah (10,244 ± 1,195) mg %. Hal itu memperlihatkan adanya perbedaan signfikan antara KNE dan KE ($p<0,05$). Secara umum kadar hemoglobin KE lebih rendah dibandingkan KNE.

Kata Kunci : Malaria – Hemoglobin – Methemoglobin

ABSTRACT

The study about the concentration of methemoglobin comparation between malarian endemic people (Banjar Raya, Kulonprogo) and malarian non endemic people (Wirobrajan, Yogyakarta) had been carried out. The aims of this study were to know the concentration of methemoglobin (as a sign of free radical) in the malarian endemic people and than compare it with the concentration of methemoglobin in the malarian nonendemic people.

This study was a cross sectional experiment with men and women whose age between 20-50 years old as the subject. They have suffered from malaria or now they are suffering from malaria and they have been lived in endemic area for five years, minimally. As a control subject was men or women whose age between 20-50 years old, and they haven't suffered from malaria. The quantity of study subject were 30 samples and 30 samples for the control subject. The blood sample was collected before, and then the concentration of methemoglobin was analysed according to Tietz and hemoglobin was analysed according to cyanmethemoglobin methode.

The study result showed the average concentration of methemoglobin percentage of KNE (Kelompok Non Endemis) sample was (2,188 ± 0,662) % Hb and KE (Kelompok Endemis) sample was (3,728 ± 0,492) % Hb. If the samples are being classified based on sex, we got the average concentration of methemoglobin percentage of men KNE sample was (1,993 ± 0,636) % Hb and men KE sample was (3,891 ± 0,515) % Hb. The average concentration of methemoglobin percentage of women KNE sample was (2,316 ± 0,652) % Hb, and women KE sample (3,565 ± 0,424) % Hb. It revealed that concentration of methemoglobin KNE and KE was significantly different. If we classified KNE sample based on sex, there was not significantly between the men KNE sample and the women KNE sample ($p>0,05$), and it was also happened in KE sample. In general, the concentration of methemoglobin in KE sample was higher than KNE sample.

The average concentration of hemoglobin percentage of KNE sample was (14, 183 ± 2,593) mg % and KE sample was (10,376 ± 1,447) mg %. If the samples are being classified based on sex, we got the average concentration of hemoglobin percentage of men KNE sample was (15,719 ± 2,661) mg % and men KE sample was (10,508 ± 1,695) mg %. The average concentration of hemoglobin percentage of women KNE sample was (13,415 ± 2,246) mg % and women KE sample was (10,244 ± 1,195) mg %. It revealed that concentration of hemoglobin KNE and KE was significantly different ($p<0,05$). In general, the concentration of hemoglobin in KE sample was lower than KNE sample.

Key Words : Malaria – Hemoglobin – Methemoglobin