Background The appropriate balance between anti-inflammatory and pro-inflammatory cytokines is necessary for protection against pregnancy-associated malaria and poor pregnancy outcomes. This study therefore aims to investigate the relationship between plasma levels of some regulatory cytokines and *P. falciparum* infection in Cameroonian women during pregnancy.

Methods Peripheral blood was collected from 131 women during pregnancy and 27 non-pregnant women living in the Mbalmayo area between May and December 2014. Parasitemia was determined by microscopy and haemoglobin level using a haematological counter. Plasma levels of IL-27 and IL-6 cytokines were measured using the Magnetic Luminex Screening Assay technique.

Results Parasitaemia associated negatively with haemoglobin level ($r_s = -0.43; p<0.001$). The plasma level of IL-6 was higher in pregnant women than in non-pregnant women ($p=0.05$). Regarding parasitaemia, plasma level of IL-27 was significantly higher in non-infected than in infected women ($p=0.028$) while that of IL-6 was significantly higher in infected women ($p<0.0001$). Moreover, parasitaemia correlated negatively with the plasma level of IL-27 ($p=0.034$) and positively with that of IL-6 ($p<0.0001$). In addition, level of IL-6 was significantly higher in anaemia-positive than in anaemia-negative women ($p=0.028$). On the other hand, level of IL-27 negatively associated with the parity ($p=0.022$) and gestation age ($p=0.014$).

Conclusion These results show that in pregnant women, *P. falciparum* malaria infection is associated with high plasma level of IL-6 and low level of IL-27, suggesting that IL-27 could have a protective effect against pregnancy-associated malaria while IL-6 seems to be a potential biomarker of the disease.