To the Editor.

We read with interest the recent report by Yong et al. on human macrophage colony-stimulating factor (M-CSF) levels during pregnancy and in patients with immune thrombocytopenic purpura (ITP). They found that pregnant ITP patients had high plasma M-CSF levels and suggested that this may reflect activation of the reticuloendothelial system and increased destruction of platelets. Small vesicles are found in the plasma of some ITP patients, and they appear to be mainly platelet-derived microparticles. However, the release of microparticles is not unique to platelets and has also been reported for monocytes and macrophages.

We recently measured the CD68-positive microparticles in 5 pregnant ITP patients, 25 nonpregnant ITP patients, and 20 normal healthy individuals. Microparticles were detected by flow cytometry and CD68 was detected with a monoclonal antibody (Ki-M6, Serotec). The CD68-positive microparticle level was significantly higher in pregnant ITP than in normal individuals (31.3% ± 7.9% vs...
5.8% ± 3.6%, \( P < .001 \)). The CD68-positive microparticle level was also significantly higher in nonpregnant ITP patients (25.9% ± 6.3%, \( P < .01 \)) than in normal individuals, but there was no significant difference between pregnant and nonpregnant ITP patients.

Ki-M6 specifically reacts with human monocytes and macrophages, but the epitope recognized is a lysosomal membrane-restricted antigen that is only expressed on the surface of activated cells. This change is similar to that occurring for CD62 (GMP-140) or CD63 (lysosomal integral membrane protein) in the case of platelets. CD62 or CD63 are detected on platelet-derived microparticles, but not CD68, so CD68-positive microparticles appear to be of monocyte/macrophage origin.

Our findings regarding CD68-positive microparticles are consistent with the M-CSF data obtained by Yong et al. They concluded that the increase in M-CSF associated with pregnancy could contribute to the exacerbation of latent ITP, and we agree with suggestion. However, an additional point seems to be worth mentioning. Because most microparticles have procoagulant activity, pregnant ITP patients with increased destruction of platelets may show enhancement of coagulation and hemostasis.

REFERENCES
Detection of CD68-positive microparticles in immune thrombocytopenic purpura [letter; comment]

S Nomura, M Yanabu, K Yamaguchi, H Kido, T Kawakatsu, T Fukuroi, M Suzuki and T Kokawa