Letter to the Editor

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Changes in Platelet Volume and Count during Pregnancy: A Longitudinal Study

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report the results of this longitudinal follow-up of platelet volume and count in normal pregnant women.

As illustrated in figure 1, the mean platelet count declined progressively during pregnancy. At the beginning of the 24th week the decline became statistically significant ($p < 0.05$). Mean platelet counts were 270.8 ± 44.7 $103/\mu\text{l}$ (12th week), 208.6 ± 29.8 $103/\mu\text{l}$ (24th week) and 195.6 ± 44.1 $103/\mu\text{l}$ (at delivery). The MPV was not different

In the literature there have been conflicting reports regarding alteration of platelet volume and counts during pregnancy. Platelet counts have been described in various studies as increasing, decreasing, or not changing substantially during pregnancy [1, 2]. Alteration of platelet volume during pregnancy has seldom been addressed in the literature. In an earlier study, I reported upon the continuing alteration in age distribution of erythrocytes towards a younger cell population that takes place substantially during the entire pregnancy [3].

In that paper [3], the study group consisted of 5 healthy pregnant women that gave their fully informed consent to participate in this study while they booked for antenatal care early in singleton pregnancy and were followed throughout the entire pregnancy. Gestational age was established by one or more ultrasound scans. The mean age of participants was 26.0 ± 4.1 years. None of the participants had a history or present evidence of hematologic disorder or any evidence of prenatal abnormality.

The blood samples were taken from each woman at 12, 16, 20, 24, 28, 32, 36 weeks gestation and during the latent phase of labor (39.04 ± 1.5 weeks). Blood samples were taken by venipuncture using 5-ml plastic syringes. Three milliliters of blood was transferred to disposable plastic test tubes containing 2.5 mg of EDTA as anticoagulant. The blood was tested within 1 h from withdrawal in the Cell-Dyn 2000 (Sequoia-Turner Co., Mountain View, Calif., USA) also for determination of mean platelet volume (MPV) and count. In this letter, I wish to

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Fig. 1. Alteration of platelet count and MPV during pregnancy in normal pregnant women. throughout the course of the pregnancy. Mean MPV were 8.8 ± 0.6 fl (12th week), 8.3 ± 0.7 fl (24th week) and 8.4 ± 0.8 (at delivery).

The findings presented in this study show a progressive tendency for the platelet count to decline with advancing gestation. Since plasma volume increases during pregnancy [4], a logical assumption would be that the decline in platelet count simply reflects a dilution effect. The finding that MPV re-

mains practically constant throughout pregnancy substantiates this assumption. The magnitude of stimulation of thrombopoiesis was shown to be the major determinant of platelet volume [5].

Thus, if the MPV remains constant, it indicates a normal platelet production.

In conclusion, the progressive decline in platelet count during pregnancy is the result of a dilution effect.

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