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Fetal Red Cell in Thai Thalassemia Trait Patients

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The presence of fetal red cells (F cells) in the maternal circulation is an indicator of a fetomaternal hemorrhage which may subsequently lead to hemolytic disease of the newborn [1]. However, a small amount of F cells were found in some normal adults [4] whereas the increase in hemoglobin F production might be increased in various conditions as thalassemia trait, unstable B chain variant and pregnancy [4]. In Thailand, thalassemia hemoglobin E-trait, β -trait and α -trait were commonly found [2, 3]. The incidence of E-trait is 13% on average in the central region, 40% in the northeast, 8% in the north and 12% in the south [2]. The incidence of β -trait is 3–9% and of α -trait is 20–30% [3]. So, the study for the percentage of F cells among these groups of subjects may be able to differentiate the false positive results of fetomaternal hemorrhage from F cells found in some normal persons and subjects with the thalassemia trait. F cells could be demonstrated in the maternal circulation by acid elution techniques. Our study revealed the presence of F cells in each group by the Saquan-sermsri acid elution technique as follows. The air-dried blood smear of not over 24 h was fixed in 80% ethanol for 3 min, then immersed in acid/alcohol/ami-do black solution for 3 min at room temperature (100 mg amido black B CI No. 20470, Merck's Reagenzien, FRG, in 100 ml of 80% ethanol, pH adjusted to 2 with HCl). The smear was washed with tap water for 15 s and air dried. The stained smear was examined under an oil immersion microscope. The percentage of F cells ($X \pm SD$) in 30 normal persons, 30 with E-trait, 30 with β -trait and 30 with α -trait were 0.14 ± 0.18 , 0.92 ± 0.78 , 2.3 ± 1.87 , and 0.5 ± 0.45 , respectively. So, more investigations to exclude these conditions were needed before diagnosing fetomaternal hemorrhage. Thus, the diagnosis of fetomaternal hemorrhage is only valid in the presence of F cells in the maternal circulation if there are no such hemoglobinopathies in the mother.

References

- Fanaroff AA, Martin RJ, Merleatz IR: Behrman's Neonatal Perinatal Medicine, Disease of the Fetus and Infant, ed 3. St. Louis, Mosby, 1983.
- Na-Nakorn S, Minnich V, Chernoff A: Studies on hemoglobin E. II. The incidence of hemoglobin E in Thailand. J Lab Clin Med 1965;47:490.
- Wasi P, Na-Nakorn S, Pootrakul S, Sookanek M, Disthasong-chan P, Pornpatkul M, Panich V: Alpha and beta thalassemia in Thailand. Ann NY Acad Sci 1969;165:60.

Weatherall DJ, Clegg JB: The Thalassemia Syndromes, ed 3. Oxford, Blackwell, 1981.