

# SOME PARAMETERS OF ERYTHROCYTE SYSTEM IN NEWBORN TWINS

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*HbF, number of erythrocytes, Hb level, and hematocrits, were determined in mature twins, in immature twins, and in the control group. No essential differences were found in the parameters of these groups. However, in the comparison of absolute differences of values found in both MZ and DZ twins, there was a statistical significance for all the tested parameters.*

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The number of erythrocytes and the level of hemoglobin in newborn twins are the object of interest when the clinical condition of children suggests that one of them had a hemorrhage in favour of the other. The object of our examinations was the verification if the conditions of multiple pregnancy affect fetal erythropoiesis.

For this purpose the Table presents 20 full-term newborns of single pregnancy, 24 full-term twins, and 16 premature twins, in which hematocrit, percentage of Hb and of HbF examined after Singer, and number of erythrocytes, were determined. Afterwards, for all determinations in each group of children the arithmetic mean ( $M$ ), the standard deviation ( $SD$ ), and the range ( $R$ ) were calculated.

With the aid of Moor's test, the mean values of all features of both groups of twins were compared with each other and with the control group. Analysis at the 99% confidence level showed no significant difference for any of the examined features, while it was found that there were differences in the values of the examined features in twins of the same birth. To verify the significance of these differences the absolute values of all features in all pairs of twins and the mean of the absolute differences were calculated.

The statistical analysis (Student's test) showed that the differences of hematocrit values, number of erythrocytes, Hb and HbF levels, are significant even at the 99% level in twins of the same birth: full-term vs. premature, as well as MZ vs. DZ twin pairs.

## CONCLUSIONS

1. Multiple pregnancy does not affect fetal erythropoiesis.
2. In twins of the same birth there are significant differences in values of the elements of erythrocyte system. These differences are not only qualitative but also quantitative, as shown by the different values of HbF.
3. On account of the differences found in HbF values in newborn twins it may be concluded that the HbF level cannot be an index to evaluate fetal maturity.

Table. *Parameters of the Erythrocyte System in Newborn Twins*

Group of study	N		Hematocrit	Erythrocytes	Hb %	HbF %
<i>Values of Examined Features</i>						
Controls	20	<i>M</i>	55.1	5.525.0	19.3	69.2
		<i>SD</i>	6.9	642.9	2.3	3.4
		<i>R</i>	23.0	2.380.0	10.0	13.6
Full-term twins	24	<i>M</i>	60.3	5.526.7	19.9	71.2
		<i>SD</i>	8.1	1.019.7	4.4	5.7
		<i>R</i>	31.0	3.840.0	17.7	27.6
Premature twins	16	<i>M</i>	53.8	5.497.5	18.8	67.4
		<i>SD</i>	6.5	540.4	1.9	9.4
		<i>R</i>	24.0	2.200.0	10.0	34.0
<i>Difference in Values of Examined Features in Twins of the Same Birth</i>						
Full-term twin pairs	12	<i>M</i>	8.5	0.883.3	2.81	5.6
		<i>SD</i>	6.1	0.668.0	1.90	5.9
		<i>R</i>	20.0	2.420.0	6.90	18.9
Premature twin pairs	8	<i>M</i>	2.7	0.525.0	2.76	4.7
		<i>SD</i>	0.88	0.500.0	2.12	2.4
		<i>R</i>	2.0	1.360.0	3.20	12.9
MZ twin pairs	10	<i>M</i>	7.9	0.872.0	3.10	5.1
		<i>SD</i>	6.1	0.724.1	1.96	5.6
		<i>R</i>	20.0	2.420.0	6.70	18.5
DZ twin pairs	10	<i>M</i>	4.5	0.608.0	2.50	5.5
		<i>SD</i>	4.5	0.522.7	1.96	4.1
		<i>R</i>	14.6	1.360.0	5.80	14.6

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