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Hormone Iodine in Mother's and Umbilical Cord Blood.*

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The view has been expressed that the thyroid hormone passes through the placenta but since thyroglobulin has a molecular weight of 700,000 and thyroxine is practically insoluble in water, we thought more evidence on this question desirable. We have, therefore, determined thyroid hormone iodine in mother's blood at the time of delivery and in infant's blood taken from the umbilical cord.

TABLE I.
Hormone Iodine, Micrograms per 5 cc of Blood.

Case	Mother's blood	Umbilical cord blood
1	.25	.16
2	.11	.15
3	.26	.17
4	.30	.14
4	.34	.13
5	.26	.20
6	.10	.19
7	.10	.10
8	.24	.11
9*	.34	.13
9	—	.13
10	.20	.17
11	.15	.12
12	.12	.15

* Mother has been taking desiccated thyroid for 4 months.

Table I indicates that mother's blood may be more variable in thyroid hormone than is new-born infant's blood. We do not intend this table to show the limits of variation but we believe that these values cast doubt upon the assumption that thyroid hormone passes freely through the placenta. If it passes through the placenta we think it passes very slowly and that no equilibrium is established. Perhaps the fetus derives its thyroid hormone from its own thyroid.

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