

ANEMIA IN PREGNANCY

A FINAL REPORT ON THREE HUNDRED OBSERVED CASES

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IN THE AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY for September, 1929, I made a preliminary report on 100 pregnant women upon whom routine blood examinations had been made to determine the average hemoglobin readings and the average red blood cell counts.

This work has been continued, following the procedure as outlined in the original article, and Tables I, II, and III are based upon a study of the 300 observed cases:

TABLE I

NUMBER OF CASES	AVERAGE HG.	AVERAGE R.B.C.
300	79%	4,342,610

TABLE II

	NUMBER OF CASES	AVERAGE HG.	AVERAGE R.B.C.
Primiparae	135	79.2%	4,447,798
Multiparae	165	78.7%	4,304,086

TABLE III

Age	50 OR LESS	50-60	60-70	70-80	80-90	90 OR ABOVE
Number of cases	3	18	28	103	116	32

The major complications encountered in this series are of interest: nephritis complicating pregnancy occurred in 10 cases; preeclamptic toxemia in 2 cases; eclampsia in 1 case; pyelitis of pregnancy in 2 cases; mitral stenosis in 2 cases; acute polyhydramnios in 2 cases, and syphilis in 4 cases.

CONCLUSIONS

1. In 300 observed cases taken consecutively from my private obstetric practice the average hemoglobin reading was 79 per cent, and the average red blood cell count was 4,342,610. This is unquestionably lower than the commonly accepted average for normal, nonpregnant women.

2. The lowest average readings occurred in the group of cases having nephritis as a complication of pregnancy; the patients with syphilis showed a lower average in red blood cells than the average of the series, but with practically no change in the hemoglobin average from that of the entire series.

dermic injections, a medical consultation was held. A blood transfusion was advised and a blood study was requested. Patient was now showing signs of blood loss. Temperature, pulse, and respiration were all elevated. Spleen was palpable. Blood transfusion was given, 350 c.c. Blood examination: Hb., 35 per cent; R.B.C., 1,650,000; W.B.C., 23,100; platelets, 90,000; bleeding time over fifteen minutes; clotting time, three and one-half minutes; clot retraction, none in twenty-four hours.

Her general condition did not improve. Medical and surgical consultation held. Consensus of opinion, immediate splenectomy. Patient transferred to Surgical Service. Splenectomy performed by Dr. Wm. Linder. Spleen $2\frac{1}{2}$ times normal size, dark and congested, studded with ecchymotic areas. The peritoneum and all organs which were visible were full of petechiae. It was extremely interesting to note that no sooner were the splenic vessels ligated than all bleeding from oozing surfaces ceased at once. Patient stood operation very well. A transfusion of 500 c.c. of blood was given immediately after the operation.

On October 7 episiotomy wound was noted breaking down, two large ecchymotic pressure sores noted on either side of coccyx. Blood one day postoperative, Hb., 33 per cent; R.B.C. 2,030,000; W.B.C., 20,000; platelets, 250,000 (compared to 90,000 before operation); bleeding time, one-half minute; clotting time, four minutes; patient appears in better condition.

October 8 and 9 condition fair; patient comfortable; no new petechiae noted; lochia less profuse; bleeding from nose and gums stopped. Temperature fluctuating 100-102° F.

October 10 transfusion of 400 c.c. of blood given.

October 16 patient complaining of pain in left chest on deep respiration; temperature 103°; pulse 120; respirations 28. Few moist râles at left base.

October 17, more definite signs of fluid and consolidation at left base.

October 19, patient toxic; temperature 105°; some cyanosis; x-ray revealed diffuse opacity at left base indicating pleural reaction with fluid; aspiration performed, 50 c.c. of straw-colored fluid removed.

October 20, patient getting progressively worse; appears septic; temperature 104°; blood culture sterile; extension of pulmonary signs over right middle lobe. Slight infection of operative sight.

October 21 patient died.

Baby was discharged from hospital in good condition and up to present time has shown no signs of the disease.

Pathologic report: spleen slate-colored, hard, enlarged $2\frac{1}{2}$ times normal; several ecchymotic areas on surface. Microscopically, moderate fibrosis with areas of hemorrhage.

This case is reported not because of the purpura hemorrhagica, although that condition is in itself a rare one, as is pointed out by Rushmore* in his review of this subject, but because of the fact that this symptom complex only manifested itself on the third day of the puerperium.

This case must naturally bring up the question as to the relationship of toxemia of pregnancy to purpura hemorrhagica complicating pregnancy and the purperium. In the majority of cases reported, this condition was associated with some signs of toxemia. The case reported here is probably a case of latent purpura which was aggravated by the change in the metabolic processes or the toxins produced by the impending toxemia. As to the rationale of the treatment, I am of the opinion that this patient would have recovered from the splenectomy were it not for the complicating pulmonic infection which set in and caused her death.

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*AM. J. OBST. & GYNEC. 10: 553, 1925.

3. No wide variation exists between multiparae and primiparae in either hemoglobin readings or red blood cell counts in this series.

4. Excluding all cases of gross pathology, fully 50 per cent of the patients of this series showed a reduction in hemoglobin readings and red blood cell counts sufficient to place them in need of therapeutic measures to combat the secondary anemia.

I am again indebted to Mrs. Helen G. Korstad, laboratory technician, for the hemoglobin determinations and red blood cell counts on the patients in this series.

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