

LEUKEMIA ASSOCIATED WITH PREGNANCY.

By James W. Markoe, M. D., Attending Surgeon.

Leukemia and pernicious anemia are among the blood diseases which may have their origin in pregnancy, or if already present, they may be sufficiently aggravated to necessitate interference with the further course of gestation. The following interesting case has been under observation recently in the wards of the hospital.

A. F., primiparae, was admitted to the hospital on February 17th, 1905, with a diagnosis of threatened eclampsia.

The family history was negative. The patient herself had always been perfectly well. At the age of eight she fell from a tree, broke several ribs,

and injured her back, so that she was compelled to remain in bed for several months. Otherwise there is nothing noteworthy in her past history. She menstruated last in July and her pregnancy seemed to run a normal course. She experienced no inconvenience whatever until December, when a swelling of one of her legs was observed. Two weeks before admission her appetite began to fail and then she vomited almost everything she might eat. At about this time she also became troubled with severe headaches. The edema of the legs grew worse and the vulva also became involved. The woman stated that she seemed to pass less urine than formerly and was also very constipated. As

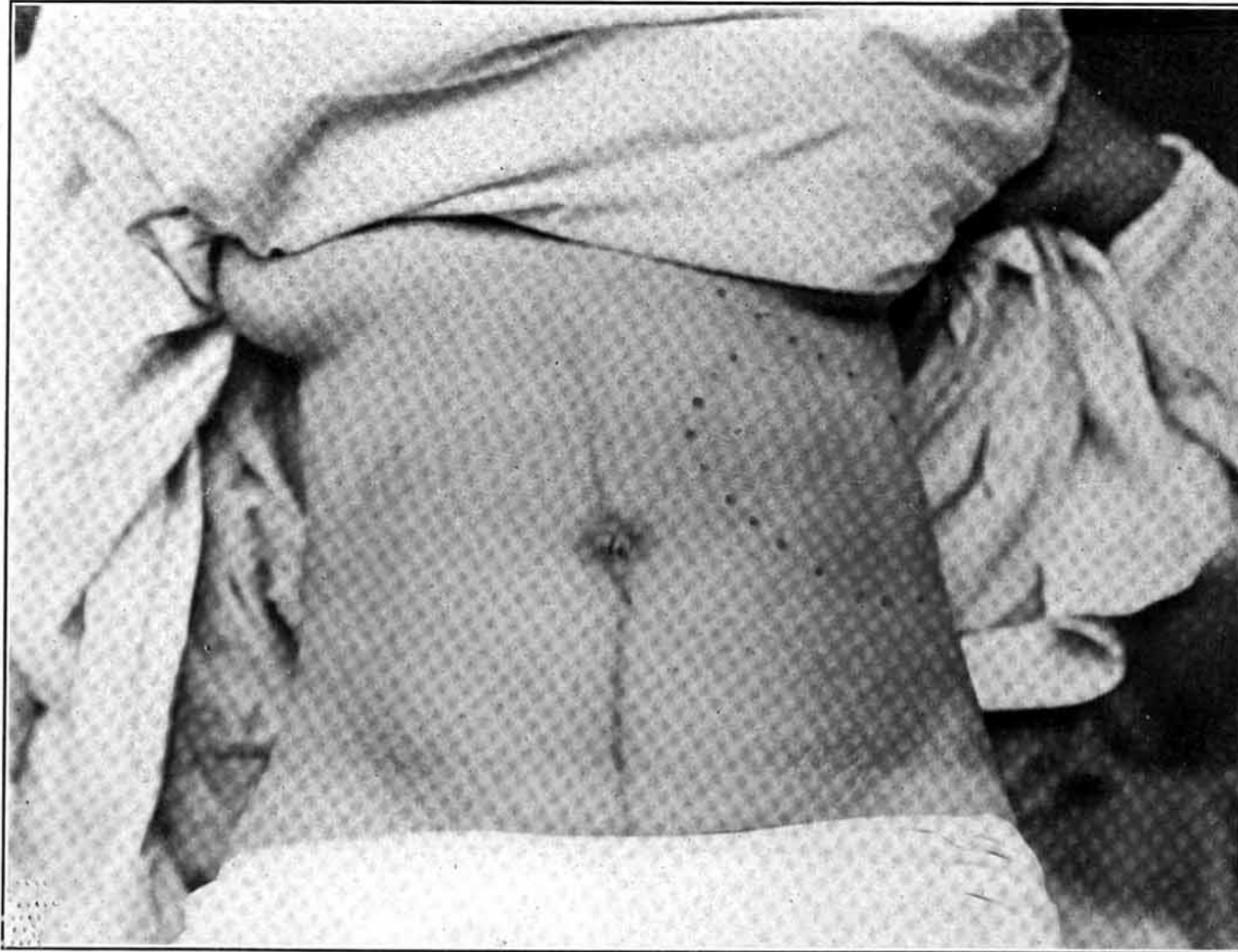


PLATE III.

her condition did not improve, she was brought to the hospital. The urine showed a trace of albumin.

A physical examination made on admission disclosed the following features. The face was edematous and the mucus membranes pale. A few moist rales were scattered over both lungs and the heart was moderately hypertrophied. The uterus was about eight months pregnant. A vaginal examination was found to be impossible on account of the extreme degree of edema of the labia minora. The feet and legs up to the knees were also very edematous. The patient was at once given diuretics, nitroglycerin and chloral. A few days later an examination of the patient's blood revealed the fact that she was suffering from a myelogenous leukemia, and then a more careful inspection of the abdomen showed an enlarged spleen, although the free border could not be determined on account of the abdominal distension. (*Plate III.*)

The patient was now put on increasing doses of Fowler's solution, but on recommendation of Dr. Elliot, this was changed to arsenite of soda, five grains t. i. d. During her first week in the hospital the patient suffered from shortness of breath and had several attacks of dyspnoea which were only relieved by the administration of oxygen. At the end of ten days, the edema of the vulva had subsided sufficiently to permit the patient's sitting up, and she was kept in the solarium or the open air as much as possible. When in the ward she developed headache, dizziness, and dyspnoea, so that she was permitted to be up on the roof about eight hours or more daily. The effect of this was excellent and seemed to do her as much good as internal medication. Her general condition improved, though the blood condition remained unchanged and the size of the spleen diminished.

On March 30th the woman was delivered uneventfully of a normal child, weighing 3,075 grams. The baby appeared perfectly healthy and was allowed to nurse from its mother. After four days it developed a rise of temperature, nursed poorly and began to lose weight rapidly. It was tried on several wet nurses without success, and finally died on the fourteenth day.

The mother ran an irregular temperature for ten

days, with an evening rise to 102 degrees, and a pulse averaging 110. It then dropped to normal where it remained up to the day of discharge, April 20th. The spleen seemed somewhat smaller than before labor, but no further diminution in size occurred. At the time of her discharge, the blood was about the same as on admission. Examination of her breast milk showed it to be normal and of good quality.

The details of the blood examinations are briefly as follows: Feb. 27th—red cells, 2,930,000; hemoglobin, 50 per cent; leucocytes, 219,000; myelocytes, eosinophils, myelocytes and nucleated red cells being present. March 6th—red cells, 2,900,000; leucocytes, 235,000, with a few normoblasts and megaloblasts present, and the ratio between the red and white cells being about 12-3. March 18th—the red cells, 2,930,000; the leucocytes, 260,000. March 30th, just before delivery—leucocytes, 250,000, the poly-morpho-neutrophiles being increased to 57.6 per cent. The white cells seemed to be broken down and degenerated. The red cells were unchanged. At the time of discharge, there were no qualitative changes in the cells. Examination of the baby's blood disclosed the following features. On March 30th, the day of birth, the leucocytes numbered 16,000, the differential count being as follows: small lymphocytes, 46.8 per cent.; large lymphocytes, 12.4 per cent.; polymorph. neutrophils, 37.2 per cent.; mast cells, 0.2 per cent.; myelocytes, 1.4 per cent. On March 31st, the leucocytes numbered 17,000, the red cells 4,620,000 the hemoglobin was 100 per cent. and the color index, 1.08; small lymphocytes, 10.6 per cent.; large lymphocytes, 9.2 per cent.; polymorph. neutrophils, 79.2 per cent. On April 17th, the leucocytes numbered 15,000; small lymphocytes, 43 per cent.; large lymphocytes, 15 per cent.; polymorpho. neutrophils, 41.8 per cent.

At the autopsy on the child, examination of the head showed the tissues congested, likewise the brain and its membranes. The heart was dilated. The lungs showed slight congestion, and microscopically many of the air spaces were seen to be filled with serum containing desquamated epithelial cells and leucocytes, and in numerous instances their walls were ruptured. The peritoneal

cavity contained a large amount of straw-colored fluid. The spleen was slightly enlarged, and under the microscope showed general engorgement with red cells, constituting hemorrhages in places. There was extensive hemolysis and pigmentation. Histological examination of the liver disclosed a marked general congestion, the capillaries being widely dilated. Many of the capillary spaces are occupied by coagulated serum, but the majority are filled with red cells and an occasional leucocyte. The parenchyma cells are compressed and mostly of an oblong or flat shape. The cells throughout have a granular appearance, and in places the protoplasm contains a large amount of fat in the form of small discreet globules. The pancreas in section under the

microscope showed a cloudy granular appearance, the connective tissues being oedematous and containing a few leucocytes. The supra-renals showed congestion and also disintegration of their medullary cells. Microscopically, the kidneys showed marked congestion in the glomeruli, subcapsular veins, medulla, and in many parts of the cortex. The renal epithelium was swollen and granular, but showed little disintegration. There was no exudate in the interstitial tissue or the capsule of Bowmann. In the gastro-intestinal tract there were evidences of extensive desquamation and the mucosa of the stomach was densely gorged. The remaining portion of the canal showed only slight hyperemia.