

ACUTE LEUKAEMIA IN PREGNANCY

(Report of Two Cases)

by

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Acute leukaemia in pregnancy is a very rare disease and since we came across two cases, one of acute aleukemic lymphoid leukaemia and second of acute myeloid leukaemia, we feel it is worth while reporting them. The number of cases, as reported by McGoldrick and Lapp, was 34 before 1943. Yahia, Hyman, Philips (1958) reported 2 cases in 74,986 deliveries in the years 1932-56. Hoover and Schumacher, in 1966, reported a case of acute lymphoblastic leukaemia and reviewed 59 cases of acute leukaemia from 1954 to 1964. The mean age of mothers was 28 years and the mean parity 2.7. As reported by Hoover and Schumacher and others the commonest type was acute granulocytic leukaemia, 46 per cent; the incidence of other types being acute monocytic leukaemia, 25 per cent and acute myeloid 20 per cent, stem cell or plastic 5 per cent and mixed erythrocytic 2 per cent. Leukaemia was discovered more often in the second

trimester than at any other time of pregnancy.

Case 1

S. T., aged 28 years, gravida two was admitted at Cama and Alless Hospitals on 21-12-1966, with a history of amenorrhoea of four months, generalised pain in the body, weakness and loss of appetite of two months' duration. She had one full-term normal delivery, living, 5 years ago.

General examination revealed a markedly anaemic woman. Pulse rate was 100/mt. and blood pressure 110/70 Hg.

Abdominal examination revealed pregnancy of sixteen weeks' duration. The right and left lobes of liver were palpable extending up to the level of the umbilicus. Spleen was not palpable. No free fluid was present in the abdomen. Lymphadenopathy present on both sides in supra-clavicular, submandibular and inguinal regions. Other systems were normal.

Haemogram: Suggested microcytic hypochromic anaemia. The white blood cell count, which was 7,000/cmm on admission, dropped to 4000/cmm on the 6th day of admission. Red blood cells count 3.9 — 2 millions/cm. Hb 34%. P.C.V. 14 mm%, M.C.V. 70 c.u., M.C.H. 24 μ gm., M.C.H.C. 35%. The peripheral blood smear showed 85% mononuclear cells with large single nuclei, majority of them being lymphocytes. Bone marrow study revealed that 90% cells were monocytes, the predominant cells being lymphoblasts. Myeloid/erythroid ratio was 10:1. The blood

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picture suggested the diagnosis of acute aleukemic, lymphoid leukaemia, E.S.R. was 81 mm/hr. (Wintrobe method). Kahn test was negative. The liver function tests showed icteric index 40 units, S.G.O.T. 280 units, S.G.P.T. 40 units, Serum bilirubin 3.9 mg%, thymol turbidity 15 units. Urine examination revealed albuminuria and plenty of red blood cells, but bile pigments, salts and urobilinogen were absent. She was treated by supportive therapy. No steroids were used.

On the 8th day of admission, the patient suddenly became dyspnoeic and expired. Postmortem examination was refused.

Case 2

V. R., aged 20 years, 2nd gravida; 1st full-term normal delivery, one year ago was admitted to Cama and Albless hospitals on 1-3-1967 with profuse bleeding per vaginam following an incomplete abortion of four months. The patient was in a condition of shock, temperature 99°F, pulse rate 100/mt. blood pressure 90/70 mm. Hg. On abdominal examination the uterus was about 16 weeks' size and vaginally bits of products of conception were felt high up through the open internal os; bleeding was slight. Haemoglobin was 50%, blood group AB, Rh positive, Urine nil abnormal. She was drowsy on admission and complained of severe backache. Blood transfusion of 350 c.c. and antibiotics were given. On 2-3-67 digital evacuation of products was done. On the same day her temperature increased to 102°F, and she became breathless. Another blood transfusion was given as haemoglobin dropped to 36%. Now it was noted that patient was developing ecchymosis at all puncture sites and bleeding time increased from 3 minutes on previous day to 22 minutes and clotting time was 15 minutes. Haemogram on 3-3-67, haemoglobin 4.1 gms. red blood cells 1.2 millions/cmm., white blood cells count, 42,000/cmm., platelet count 40,000/cmm. Peripheral smear showed many cells of mature myelocytes, metamyelocytes, including undifferentiated blast cells, plenty of normoblasts suggestive of acute myeloid leukemia. The patient received fresh blood transfusion of 950 ml., concentrated plasma of 500 ml. along with vitamins and calcium-

gluconate. On 3rd March 1967 a mild purpuric rash appeared and she became unconscious, eye balls were bulging and she expired the same day. As the smear report was received rather late no corticosteroids were used.

Comments

These two cases are reported as these are the only cases observed in this hospital where the average number of deliveries is over five thousand per year. Leukaemia is a disease which occurs in its acute form between the ages of 20 to 30 years, whereas chronic leukaemia occurs in older age groups. Hoover and Schumacher mention that this disease was discovered more often in the second trimester of pregnancy and occasionally cases may be discovered in the postpartum period. Maternal outcome may depend on the course of the disease. The untreated cases are invariably fatal due to progressive anaemia, haemorrhage or intercurrent infection. But after the introduction of corticosteroids and antimetabolites, the mortality rate is considerably reduced. Hoover and Schumacher state that out of 59 cases only 4 died in 1954-1964 as compared to 6 out of 24 patients in the 1943-56 series, and 10 out of 24 in cases recorded before 1943. Supportive measures like blood transfusions and antibiotics are beneficial to the patient. The dosage of steroids recommended is 25 to 50 mg. per day. However, if used in large doses during the first trimester of pregnancy, abortions and foetal abnormalities, like cleft palate, may occur.

Antimetabolites, like 6-mercaptopurines 2.5 mgm. per kgm. of body weight per day are found useful in

the management of all cases of leukaemia but should be used with caution during pregnancy. Because of their known abortifacient effects these products should be avoided in the first trimester. In mid and last trimester it is the only drug which may result in the birth of a viable foetus.

Foetal mortality, as reported by Yohia, Hyman, has declined from 60 to 38.7 per cent after the use of modern drugs. The placenta acts as a barrier and infants, if born viable in these patients, are like normal infants. Only one infant born to a leukaemic mother developed acute lymphatic leukaemia nine months after birth as reported by Hoover and Schumacher. Vaginal delivery is the method of choice and surgery should be avoided. As reported by Sheehay, therapeutic abortion is not indicated and the outlook for mother and baby has improved after the advent of recent therapy. The aetiology of leukaemia is still obscure, and besides genetic, chromosome deficiencies, exposure to radiation, chemical agents, cell mutations and hormonal factors, oncogenic virus is considered as a possible factor.

As seen from the case records, specific therapy could not be administered as diagnosis was established late. Hence, in order to obtain better maternal and foetal salvage, along with routine haemogram, bone-marrow smears and fibrinogen estimations may help to establish the diagnosis quickly. Purpura may be due to other factors like blood coagula-

tion disorders, blood dyscrasias, acute infectious fevers, like haemorrhagic small-pox, and these should be carefully diagnosed.

Summary

Two cases of acute aleukaemic lymphoid leukaemia and acute myeloid leukaemia are reported, being the only 2 cases recorded in Cama and Albless Hospitals.

The maternal outcome was fatal in both these cases.

An attempt is made to review the literature and drugs like corticosteroids, and antimetabolites are reported to reduce maternal and foetal mortality.

We thank the Superintendent of Cama and Albless Hospitals for allowing us to publish these cases.

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