ADDENDUM

For General Practitioners :

II. ACUTE LEUKEMIA IN CHILDHOOD*

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Urinary symptoms : Hematuria or symptoms of ureteric colic are occasionally the first evidence of the disease. The kidneys are markedly enlarged due to extensive parenchymal infiltrates. Infiltration into the kidney leads to haemorrhage and renal failure. Renal failure is the mode of death in quite a good number of cases of acute leukemia.

Diagnosis

Diagnosis of leukemia must be certain before it is pinned on to any one. When a child presents with one of the above mentioned syndromes involving different systems which suggests or even raises a suspicion of malignancy, he should be subjected to all the tests necessary to diagnose or exclude the possibility of such a fatal disease process. Occasionally, a physician in private practice may be ill-equipped and facilities for investigations are often few and expensive, causing inordinate delay in diagnosis. It is suggested that a case suspected to have leukemia should be

referred immediately to a hospital where adequate facilities are present. Essential investigations are outlined below,

1. *Haemoglobin and P. C. V :* Both lowered. There is moderate to severe-normocytic normochromic anemia.

2. *Platelets :* Severe degree of thrombocytopenia is present in these cases resulting in a prolongation of bleeding time.

2. *White blood cells :* Total leucocyte count may be normal, reduced or increased. In 65% of cases leukopenia is present initially. An increased number of immature white cells in the peripheral smear is usually seen.

4. *Bone marrow :* It shows overgrowth of leukopoietic tissue with abundance of blast or stem cells. Megakaryocytes are decreased in number.

5. *X-ray of long bones :* It may show areas of rarefaction, sclerosis or subperiosteal new bone formation and an area of transverse density traversing the metaphyseal bone.

6. *X-ray of chest :* It may show mediastinal lymphadenopathy, pleural effusion or pneumonitis.

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Prognosis

Duration of life in cases of acute leukemia without any treatment is four to five months. With blood transfusions and antibiotics, life expectancy is eight months and with steroids and antimetabolites, it is about one year. In general it can be said that survival is more prolonged in cases with leukopenia than in those with a substantial elevation of count.

Treatment

Since leukemia cannot yet be cured, the principal aim of therapy is to provide the child with as long and normal a life as possible during the time he has to live. Such a programme implies relief of symptoms, minimum hospitalization, maintaining family life and permitting children to attend school. A doctor who is pessimistic and who has been led to a do-nothing attitude has no place in the management of a patient with leukemia. Much can be done for this patient who has only a few months to live. The physician must be able to convey to the family a feeling of understanding of the disease process and appreciation of their reaction to such a disease. Vigorous supportive therapy regardless of how heroic it may seem to be should be available to all children with leukemia at all stages of disease. This implies blood transfusion, analgesics to relieve

pain and judicious administration of antibiotics whenever indicated. Routine administration of antibiotics is not indicated.

Chemotherapy : All children with leukemia should receive a trial with one or the other form of antileukemic drugs. Steroids are the first drug of choice, as they exert their effect quickly in patients with severe pallor or marked bleeding manifestations. Steroids produce clinical remission in all and hematologic remission in 50% of cases. They are usually given for a period of six weeks. Then 6-mercapto-purine is given until such time as clinical remission occurs or for a period of eight weeks. These drugs are usually given in the hospital but when a patient is discharged from the hospital he is usually on maintenance therapy with purine analogues. In follow up, the physician has to take care of the general nutritional status of the patient and look for any evidence of toxicity. A peripheral smear should be examined weekly for any evidence of relapse of the disease process, or of depression of the bone marrow.

Life should be prolonged as long as possible, since it is possible that to-day, tomorrow or the day after, modern medicine may discover a substance which is lethal for neoplastic cells selectively by virtue of chemical specificities that distinguish them from their normal analogues.

(Concluded).