



RAMA
UNIVERSITY

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FACULTY OF NURSING



Leukemia



Definition

It is a most common type of cancer in children and teens, is a cancer of the WBC. Abnormal WBC form in the bone marrow. They quickly travel through the bloodstream and crowd out healthy cells. This raises body's chances of infection and other problems.

Causes and Risk Factors

- Unknown
- Genetic disorder like Down syndrome
- Chromosomal abnormality
- Smoke
- Are exposed to a lot of radiation or certain chemicals
- Had radiation therapy or chemotherapy to treat cancer
- Have a family history of leukemia
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Types of Childhood Leukemia

- Types of childhood leukemia include:
- ***Acute lymphoblastic leukemia*** (ALL), also called acute lymphocytic leukemia. ALL accounts for 3 out of every 4 cases of childhood leukemia.
- ***Acute myelogenous leukemia*** (AML). AML is the next most common type of childhood leukemia.
- ***Hybrid or mixed lineage leukemia***. This is a rare leukemia with features of both ALL and AML.

- ***Chronic myelogenous leukemia (CML)***. CML is rare in children.
- ***Chronic lymphocytic leukemia (CLL)***. CLL is very rare in children.
- ***Juvenile myelomonocytic leukemia (JMML)***. This is a rare type that is neither chronic nor acute and happens most often in children under age 4

Symptoms

Common symptoms include:

- Fatigue or pale skin
- Infections and fever
- Easy bleeding or bruising
- Extreme fatigue or weakness
- Shortness of breath
- Coughing

Other symptoms may include:

- Bone or joint pain
- Swelling in the abdomen, face, arms, underarms, sides of neck, or groin
- Swelling above the collarbone
- Loss of appetite or weight loss

- Headaches, seizures, balance problems, or abnormal vision
- Vomiting
- Rashes
- Gum problems

Diagnostic evaluation

➤ Blood test

➤ Bone marrow aspiration

➤ Biopsy

Treatment

➤ Chemotherapy drugs

Treatment of ALL Induction 1

cycle	chemotherapy	Dose and schedule
Induction	Prednisolon or vincristine	1mg/kg p.o days 1-28 days
	doxorubicin	1.5mg/m ² i.v weekly once x 4 weeks
	L-Asparaginase	30mg/m ² i.v weekly once x 4 weeks
		1,00,000 u/m ² (total dose) in divided doses of 10,000 u daily for 10 days
CNS Proph.	methotrexate	12mg IT days 1,8,15,22

Reassess

- After 4 weeks of phase 1 induction assess marrow for remission.
- If there is remission taper prednisolone and after 1 week, start phase 2 induction,
- If there is no remission give 2 more weekly doses of vincristine and doxo and then assess, if still no remission go for alternate regimen.

Induction 2

Induction2	drugs	Dose and schedule
	Cyclophosphamide Cytosine arabinoside	650mg/m ² i.v days 1 and 15 75mg/m ² i.v x 4 days a weeks for 4 week
	methotrexate	12mg/m ² IT days 1,8,15,22
	Cranial radiation	200 cGy x 9days

Maintenance phase duration- upto 2 years

mainten ance	drug	Dose and schedule
1 st month	methotrexate	12.5mg i.t on day 1
	vincristine	1.4mg/m ² .v day 1
	prednisolone	1mg/kg p.o daily day 1-7
	6 mercaptopurine	60mg/m ² p.o. daily for next 3 weeks
	methotrexate	15mg/m ² p.o. once a week for 3 weeks.
2 nd month	6 MCP and T.Methotxerate for 4 weeks.	

Supportive care

Treat metabolic complications

hyperuricemia - hydration, rasburicase

hyperphosphatemia - po4 binders

hypocalcemia - Ca supplements

Hyperleukocytosis - leukopheresis

Infection control-broad spectrum
antibiotics

Hematologic support

Follow up

If the patient completes chemotherapy for 2 years without relapse-stop chemo and follow up.

No relapse within 5 years-can be declared as cured.

THANK YOU