Peds tumors

① Leukemia
- ALL 75%
- AML 20%
- CML 3%

② Brain tumors (1st MC Solid tumor)

Ag :- Flow cytometry.
- Multipotent hematopoietic cell → CD 34
- B cell ⇒ CD 19, 20, 21, 22 / HLA D
- T cell ⇒ CD 1, 2, 3, 4, 5, 7, 8

Neuroblastoma ⇒ MC tumor in infant
MC extracranial solid tum

<46 hypoplod
46 diplod
⇐ poor prognosis ⇒ t(9,11), t(9,22)

CML (VS) JMML

CML (+ve) ← Philadelphia Ch → JMML (-ve)

CML: t(9:22)
- ↑ BCR-ABL Tk
- √ imatinib.
- Thrombocytosis.

JMML: √ B.M Transplant

Hyperplod (>46 ch) ⇐ Good prognosis ⇒ t(12:21)
- age 1-10
- WBC < 50k.
- B cell ALL.
- No CNS
- -ve MRD (early response to chemotherapy)

Tumor lysis syndrome
- ↓ Ca, ↓ Na
- ↑ K, ↑ PO4
- ↑ uric acid.
- high anion gap M.A

Leukemia

75% ← → 20%

MC ped. malignancy

ALL

B-cell 1-9 yea
good prognosis.

Blast >5% of total BM cells.

peak 2-5 years
♂ > ♀

T-cell >10 years peak
♂ : ♀
4 : 1
Testicular
Mediastinal
CNS

Infantile
poor prognosis ㅠ
t (4, 11)
↑WBC
massive H.S megally.

Philadelphia ch +ve. ✓ TKI imatinib
✓ HSCT.

① Induction of remession

B.M aplasion = elimination of leukemic cells
[predinisone ... + cytotoxic agents]
4-5 weeks

② consolidation
8-10 ws
↑MTX.

② Maintainance
MTX 6 Mercaptopurine
prevent test. recurr. 2.5 - 3 years.

#Clinical feature#

General [Fever Fatigue pallor]

- anemia ← CHF
- recurrent infections
- thrombocytopenia <10 k → ICH
- neutropenia

] B.M infiltration

more in Tcell ALL ← mediastinal
- LAP → SVC synd.
- splenomegaly
- hepatomegaly

] L.N infiltration

more in Tcell ALL
uncommon <5% CNS
- ↑ICP
- vomiting
- headache
- nuchal rigidity

] CNS poor prognostic factor

Cytology:
- I: no lymphoblast
- II: <5 + leukemic blast
- III: ≥5 + leukemic blast + CN palsy.

rare. CN inv.

- Testicular involvement. (more in Tcell ALL)
- Bone & joint.

AML

♀ = ♂

Predisposing F:-

AML ← 2ry → ALL

- Down Good prognosis
- Fanconi anemia
- kostman synd.
- Bloom synd.
- diamond blackfan anemia.

2ry →
- . ionizing Radiation
- . myelo dysplastic / prolifer
- . drugs ⇒ cyclophosphamide Melphalan Etoposide.

SC nodule / blueberry muffin. infant.

infiltr of gingiva M5 ← CCB, cyclosporine, phenytoin

DIC M3 APL. t (15-18) ✓ ATRA

mass = Chloromas / Granulocytic sarcoma. M2
t (8:21)

M4 t (16,16) inv → Good
Down's M7

≥20% blast.

Most important chemotherapy agent in the treatment of AML is :
Anonymous Quiz
65% Cytrabine

HSCT Indications
hematopoietic stem cell Transplant:-

- Induction failure ✗
- Philadelphia +ve ALL
- Infantile ALL.
- Hypodiploidy (<44)
- Early isolated CNS relapse
- Early B.M relapse.

- For prophylaxis of CNS leukemic disease intrathecal application of MHA before, during, and after remission has to be performed.
- The addition of preventive irradiation is probably necessary in children at high risk of ALL as determined in most studies