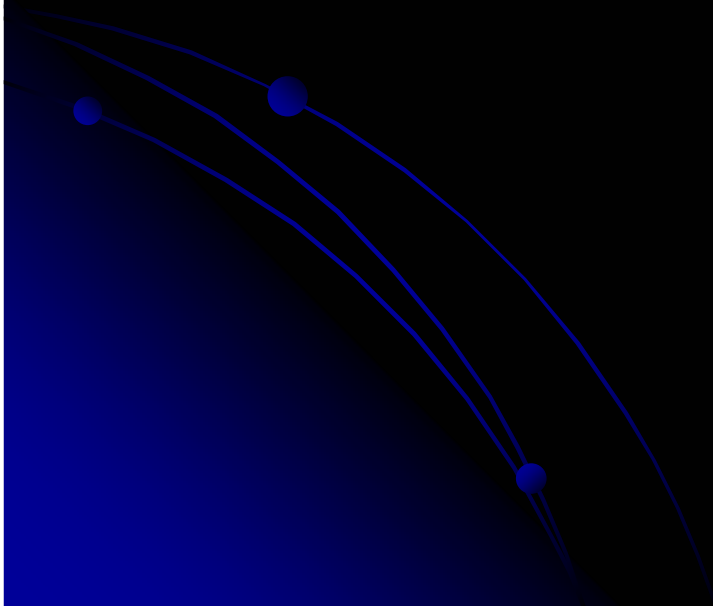


ACUTE PROMYELOCYTIC LEUKEMIA



Acute promyelocytic leukemia

- Incidence 8-30% of pediatric AML
- M3 FAB or AML with recurrent genetic abnormalities
- no organomegaly
- low TLC
- Low incidence of CNS disease
- High incidence of coagulopathies

ACUTE PROMYELOCYTIC LEUKEMIA

- The most curative with 70-80% disease-free survival
- Associated with unique translocation (t15:17)
- Insights into the mechanism of leukemogenesis
- Treatment with ATRA

Pathogenesis

- Translocation (15-17)
- PML-RAR α fusion gene
- Formation of a nuclear repressor protein complex
- Increased affinity to histone deacetylase
- Alteration of chromatin confirmation & transcription
- Maturation arrest
- (Tallman MS blood 2003)

Induction therapy

- **The choice of anthracyclines**
- Decreased expression of mdr
- No clear superiority among different drugs
- The dose given
- **The role of cytarabine**
- Anthracyclines = Anthracyclines + Cytarabine
- (Tallman et al blood 2002)

Induction therapy

- **Role of ATRA**
- **Monotherapy** high CR & high relapse rate

Concomitant CR 94% EFS = 86%

Sequential CR 95% EFS = 75% p<.04

(Fenaux et al blood 1999)

Consolidation therapy

- Mandatory
- No role for Cytarabine
- Number of cycles ??
- complete molecular remission (90%)
 - (Tallman et al blood 2002)

Maintenance therapy

● MAINTENANCE	RELAPSE RATE
● Follow up	32%
● ATRA	20%
● ATRA + low dose CT	9%
● (Older age & high initial count)	
● (Tallman MS blood 2003)	

Retinoic acid syndrome

- Incidence 10-25%
- Clinical picture
 - fever
 - respiratory distress
 - cardio-pleural effusion
 - high TLC
 - weight gain
- Treatment
 - Dexamethasone
 - chemotherapy
- (Tallman et al blood 2000)

APL In Children

- Difficult to swallow the capsules
- (liposomal form)
- Higher incidence of headaches and pseudotumor cereberi
- (Regular ophthalmic examination-acetazolamide-dexamethasone)
- Maximum dose of anthracyclines = 400mg

Minimal residual disease detection

- Positive RT PCR for RAR α /PML
 - High dose ara-c or allogeneic transplant
 - -
 - Negative RT PCR for RAR α /PML
 - Long term remission
-
- RT PCR / 3 month in the first 2 years
 - / 6 month then after
 - (Tallman M S blood 2003)

Treatment of relapse

- **Arsenic trioxide**

- High CR 85%

- High molecular remission 78%

- **Autologous transplant** -ve RT PCR

- **Allogeneic transplant** +ve RT PCR

- (Tallman MS blood 2003)

PROGNOSIS

- High TLC >10,000
 - CD 56 expression
 - Gender (females are better)
 - ?? Secondary cytogenetic abnormalities
- 