EARLY DEATH RATE IN ACUTE PROMYELOCYTIC LEUKEMIA : A single community centre experience in South India

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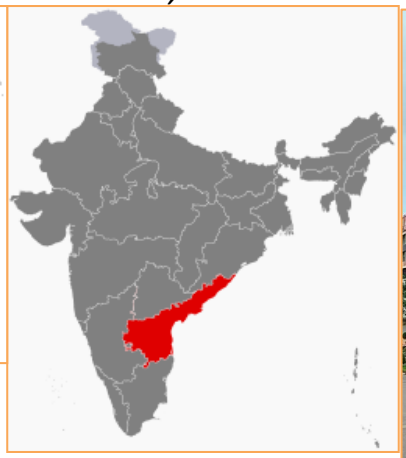


Objectives

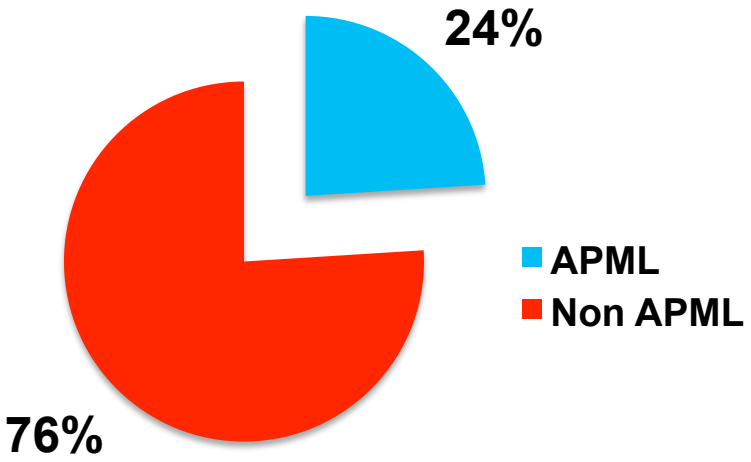
- To review the **clinical course** and **treatment outcome** of **APL** patients treated at our centre

Methodology

- Retrospective study
- Consecutive APL patients from **Jan 2013 to June 2017** included
- *Diagnosis was made based on CBP, bone marrow studies and PML/RAR α*
- Fibrinogen & counts done twice daily during first week

Results

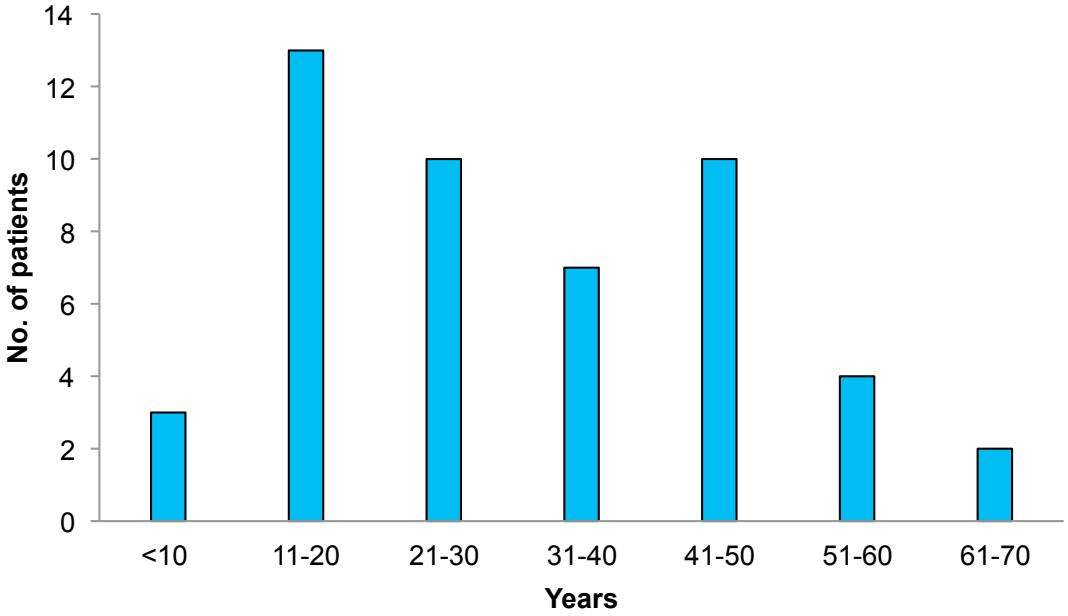
- Total AML – 204
- APML – 49 (**24%**)



Results

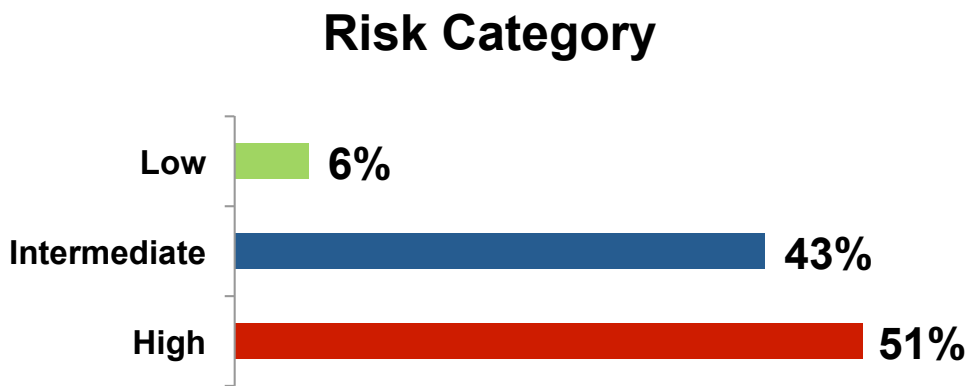
- **Patient Characteristics**

Median age	**25** (8-68) years
Males	40 (8-68) years
Females	21 (8-54) years
<30 years	14 (54%) women



<16 years	7 (14.2%)
17-50 years	**36 (73.4%)**
≥ 51 years	6 (12.2%)

Results



- Median WBC – 10,500/mm^3
  (400-1,94,500)
- Median Platelet – 23,000/mm^3
  (1000-90,000)
- Median Hb – 7.3 gm/dl
  (3.3-12.5)

Results: Upfront Clinical Presentation

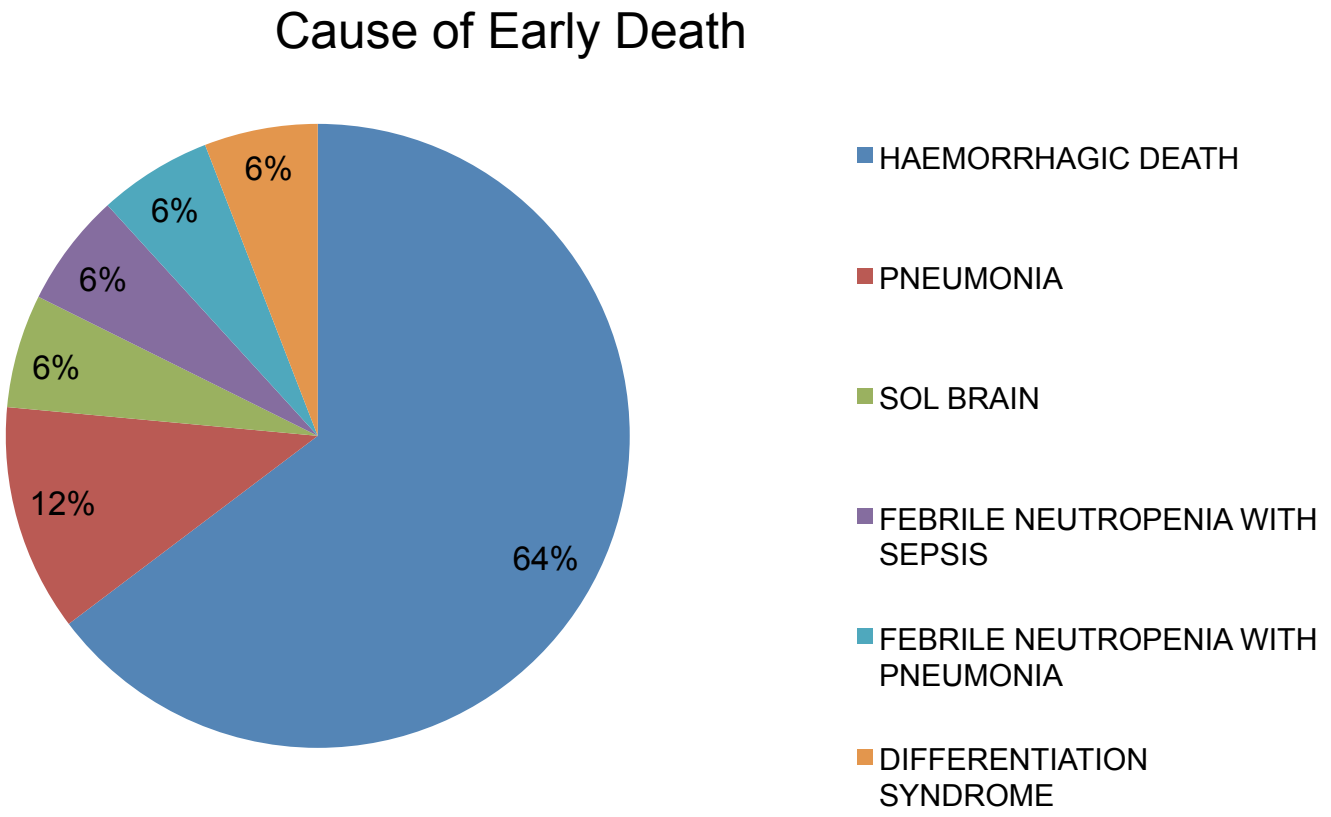
Total patients: 49; Upfront clinical presentation with complications: 15 **(30%)**

High risk:8; Intermediate risk:7

ED-11/15

Intracranial bleed **(10)**	Pulmonary haemorrhage **(2)**	Bilateral Pneumonia **(2)**	Cerebro-vascular accident **(1)**
• Intermediate risk (5) • High risk (5) • **Only 1 patient survived**	• Both High risk • **Both patients survived**	• Intermediate risk (1) • High risk (1) • **None survived**	• Intermediate risk • **Survived**

Results


Cause of Early Death
6%
6%
6%
6%
12%
64%
HAEMORRHAGIC DEATH
PNEUMONIA
SOL BRAIN
FEBRILE NEUTROPENIA WITH SEPSIS
FEBRILE NEUTROPENIA WITH PNEUMONIA
DIFFERENTIATION SYNDROME

Results

Death with in 24 hours-7/17(41%)

- Intracranial bleed-5
- Pneumonia-2

Death between 24 to 72 hours-4/17(23.5%)

- Intracranial bleed-4

Death after 72 hours-6/17(35%)

- GI bleed-2
- Sol brain-1
- Febrile neutropenia with sepsis-1
- Febrile neutropenia with pneumonia-1
- Differentiation syndrome-1

- High Risk - 11
- Intermediate Risk - 6

No treatment- 8(**47%**)
Only ATRA- 3
Protocol therapy- 6

Baseline characteristics: ED versus Non ED groups

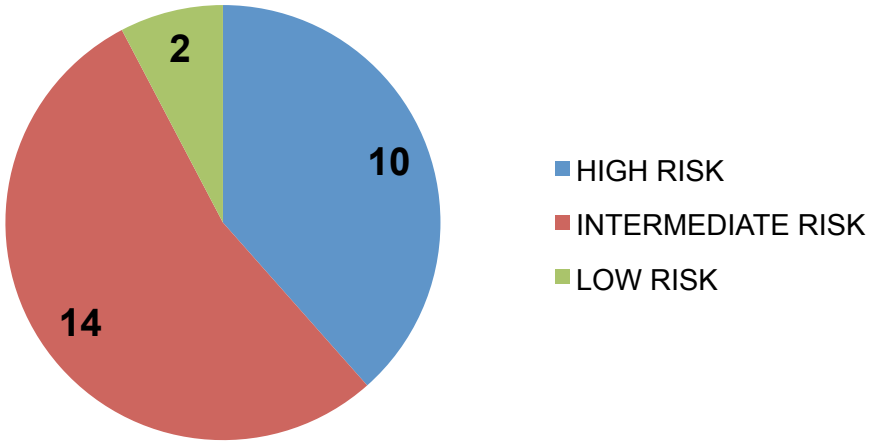
Character	ED: 17 (34.6%)	NON ED: 32 (65.3%)	P -VALUE
Age (in years) Median (IQR)	40 (8-61)	26 (14-68)	NS
Female	5 (29.4%)	13 (40.6%)	
Male	12 (70.5%)	19 (59.3%)	NS
Low risk	0 (0%)	3 (9.4%)	
Intermediate risk	6 (35.3%)	15 (46.8%)	NS
High risk	11 (64.7%)	14 (43.8%)	
WBC count (mm^3)	17500 (400 -194500)	7000 (400 - 106000)	0.09
Platelet count (mm^3)	**11,500 (1000 - 51000)**	**24000 (3000 - 90000)**	**0.03**

Baseline characteristics: ED versus Non ED groups

Character	ED (n = 17)	NON ED (n= 32)	P - VALUE
Hb (gm/dl)	7.6 (3.3-10.3)	6.8 (3.6-12.5)	NS
Fever	14 (82.3%)	26 (81.3%)	NS
Duration from symptom onset to reporting to hospital (in days) Median(IQR)	10.0 (7.0, 25.0)	10.0 (6.75, 22.0)	NS
Initiation of ATRA < 24 hours	9/11 (81.8%)	30/32 (93.8%)	NS
PS 3 OR 4	**11(64.7%)**	**3(9.3%)**	**0.01**

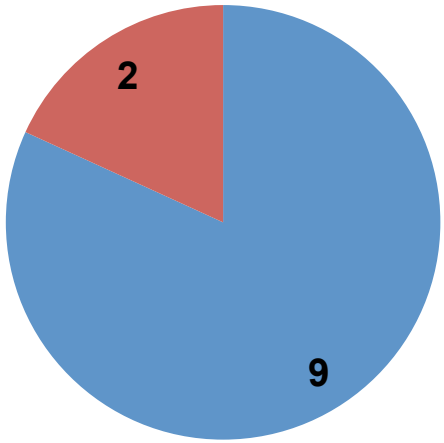
ED Rate-Treatment regimen wise

ATRA+ARSENIC TRIOXIDE



Death: 1 patient

ATRA+CHEMOTHERAPY



Death: 5 patients

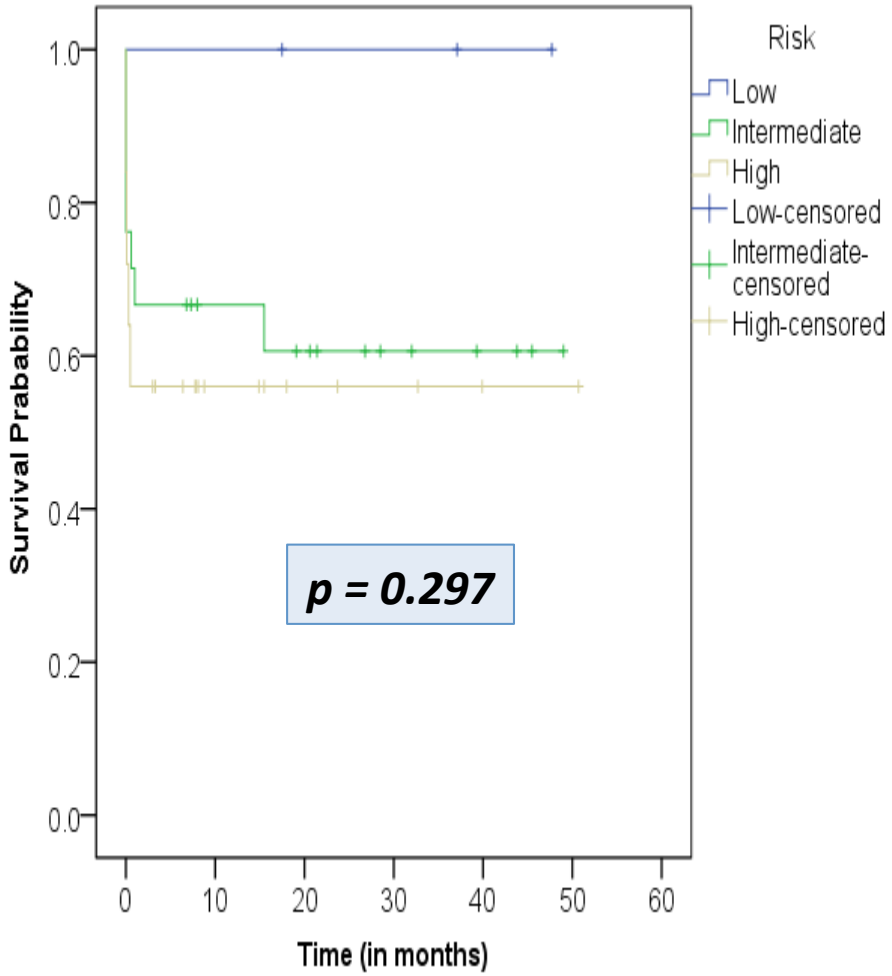
- **Non protocol ED- 11 patients**
- **Only ATRA- 3**
- **No treatment- 8**

Outcomes

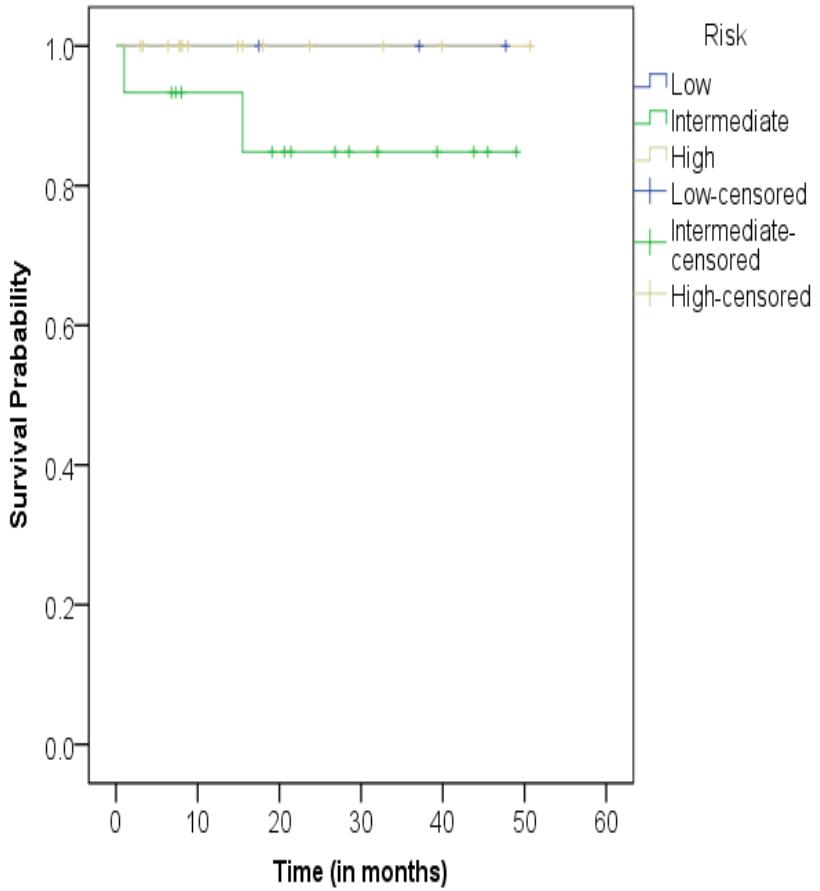
- Total evaluable patients- **38**
- Haematological remission achieved - **32(84.2%)**
- Death after 72 hours after admission- **6(15.7%)**
- One patient lost to follow up
- One patient- relapse

Survival data

All patients



Non ED pts



Comparison with other studies

	Our study	Brazil	Stanford	Sweden	Canada
NO OF PATIENTS	49	157	70	105	300
MEDIAN AGE YEARS	25(8-68)	36(5-79)	50(19-93)	54 (18-86)	47.9(7-85)
FEMALE/MALE(%)	37/63	55/45	63/37	65/40	49/51
HIGH RISK(%)	51	36.9	35	41	20.6
INTERMEDIATE RISK(%)	43	44.6	47	35	50.4
LOW RISK(%)	6	18.5	19	23	26
EARLY DEATH RATE(%)	34.6	26.4	26	29	21.8
HEMORRHAGIC DEATH(%)	64.7	60.5	54	41	
NO ANTILEUKEMIC RX AMONG ED(%)	47		16.6	21	

Lehmann S,Leukemia. 2011 Jul 1;25(7):1128.**McClellan JS**,Haematologica. 2012 Jan 1;97(1): 133-6.**Jácomo RH**,Haematologica. 2007 Oct 1;92(10):1431-2.**Paulson K**,**British journal of haematology.** 2014 Sep 1;166(5):660-6.

Conclusions

- ED during the treatment of APL remains a major challenge despite improved treatment options and supportive measures
- A **younger age at diagnosis**, presence of high proportion of **high risk patients** and lower number of low risk patients as contributors to ED needs to be investigated
- Increasing awareness among primary health care physicians about the diagnosis of APL, and ensuring quick referral to a tertiary centre with expertise in the treatment of this uncommon yet curable malignancy will go a long way in achieving better outcomes

Thank you