



Oral Arsenic and Retinoic Acid for High-Risk Acute Promyelocytic Leukemia

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Home-based treatment is an ideal model for Cancer



Home-based treatment is an ideal model for APL

JOURNAL OF CLINICAL ONCOLOGY

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Postremission Therapy in Acute Promyelocytic Leukemia: Room for Improvement?

Jeffrey E. Lancet, H. Lee Moffitt Cancer Center, Tampa, FL

See accompanying article doi: 10.1200/JCO.2013.53.3570

The NEW ENGLAND
JOURNAL of MEDICINE

Outpatient Oral Treatment for Acute Promyelocytic Leukemia

TO THE EDITOR: Zhu and Huang (Dec. 4 issue)¹ report excellent, though preliminary, outcome results in 20 patients with non-high-risk acute promyelocytic leukemia (APL) treated with oral arsenic and all-trans retinoic acid (ATRA) in a “largely home-based treatment protocol.” Once regarded as a rapidly fatal disease, APL is now curable in most cases with the use of targeted treatment alone and without chemotherapy.² However, population-based studies of APL have shown rates of early death of up to 29% in developed countries such as Sweden and the United

New Strategies in Acute Promyelocytic Leukemia: Moving to an Entirely Oral, Chemotherapy-Free Upfront Management Approach

Amer M. Zeidan and Steven D. Gore

Clin Cancer Res 2014;20:4985-4993.

Cancer



[Explore this journal >](#)

Review Article

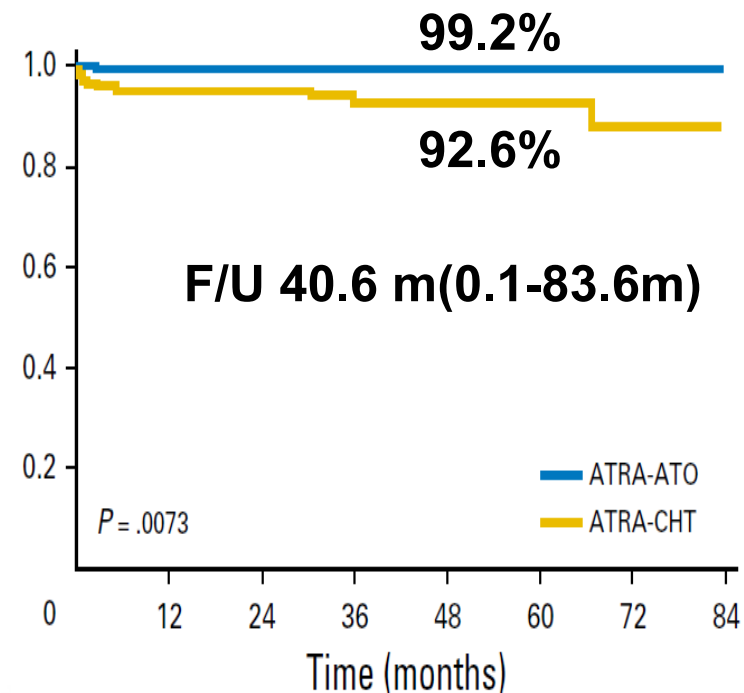
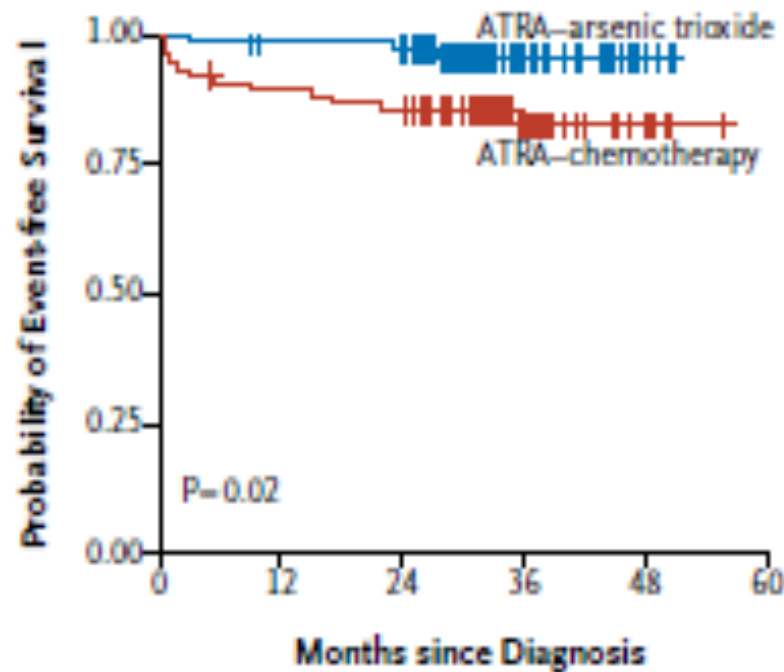
The evolution of arsenic in the treatment of acute promyelocytic leukemia and other myeloid neoplasms: Moving toward an effective oral, outpatient therapy

Lorenzo Falchi MD, Srdan Verstovsek MD, PhD, Farhad Ravandi-Kashani MD, Hagop M. Kantarjian MD ✉

N ENGL J MED 372:9 NEJM.ORG FEBRUARY 26, 2015

The New England Journal of Medicine

ATRA+ATO without Chemo for non-high-risk APL



Lo-Coco F, et al. N Engl J Med 2013; 369:111

Platzbecker U, et al. JCO 35:605

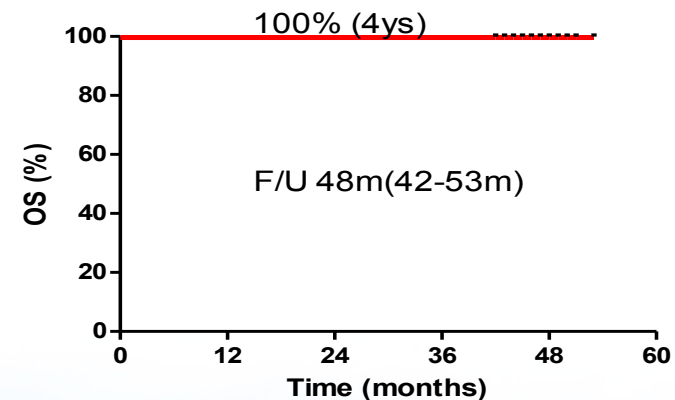
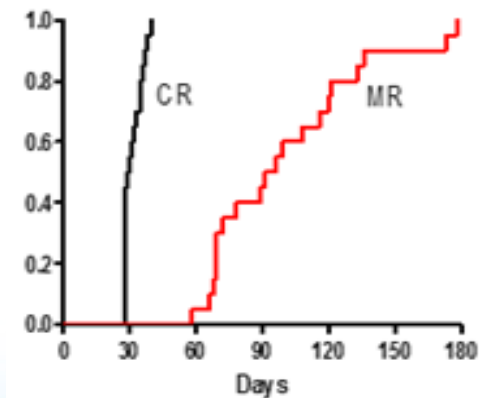
Home-based treatment become reality in non-high-risk APL (Beijing Protocol)

ATRA
Oral arsenic

15 days
in hospital

8 months
treatment

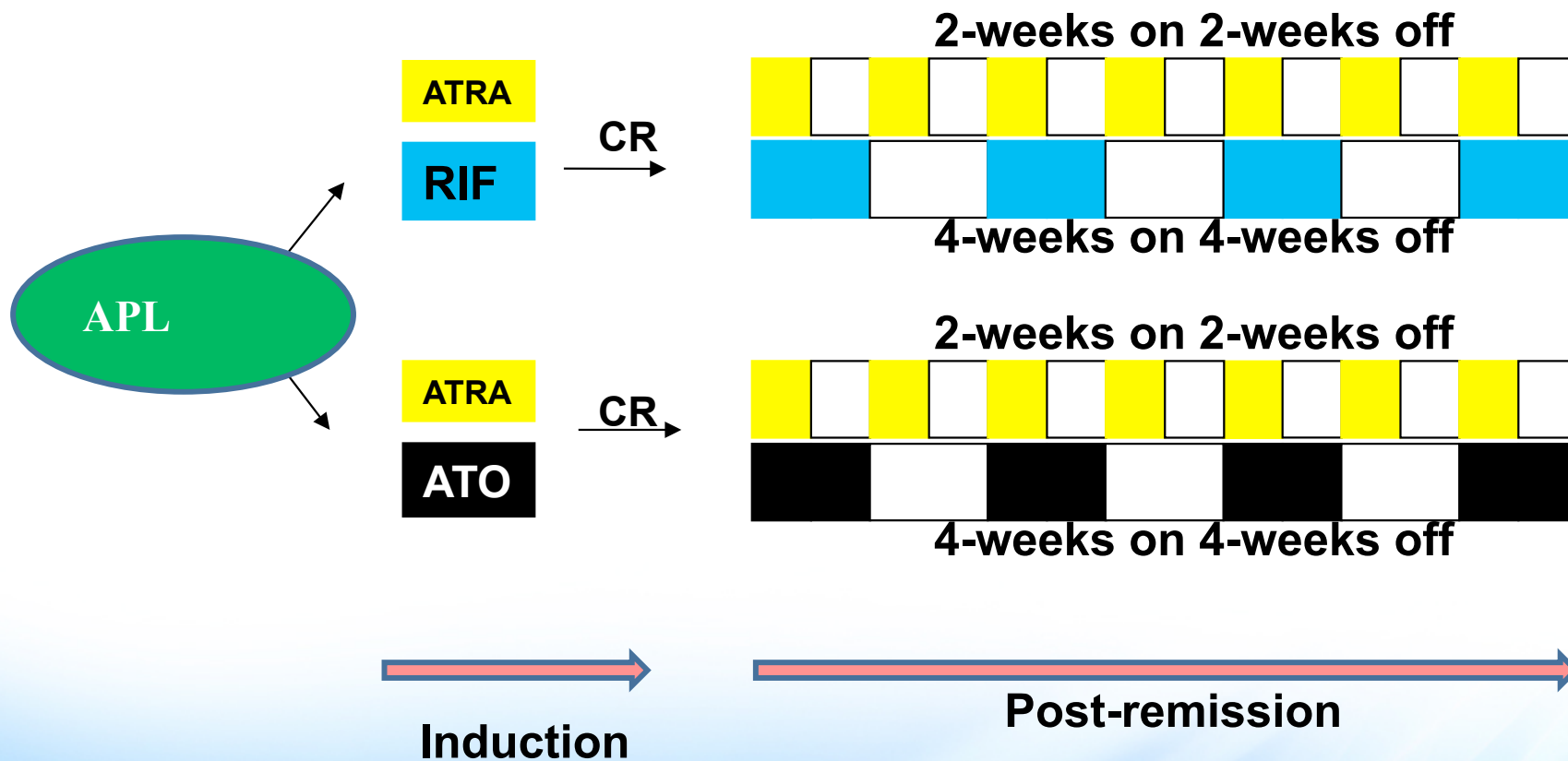
4,675\$
Medical cost

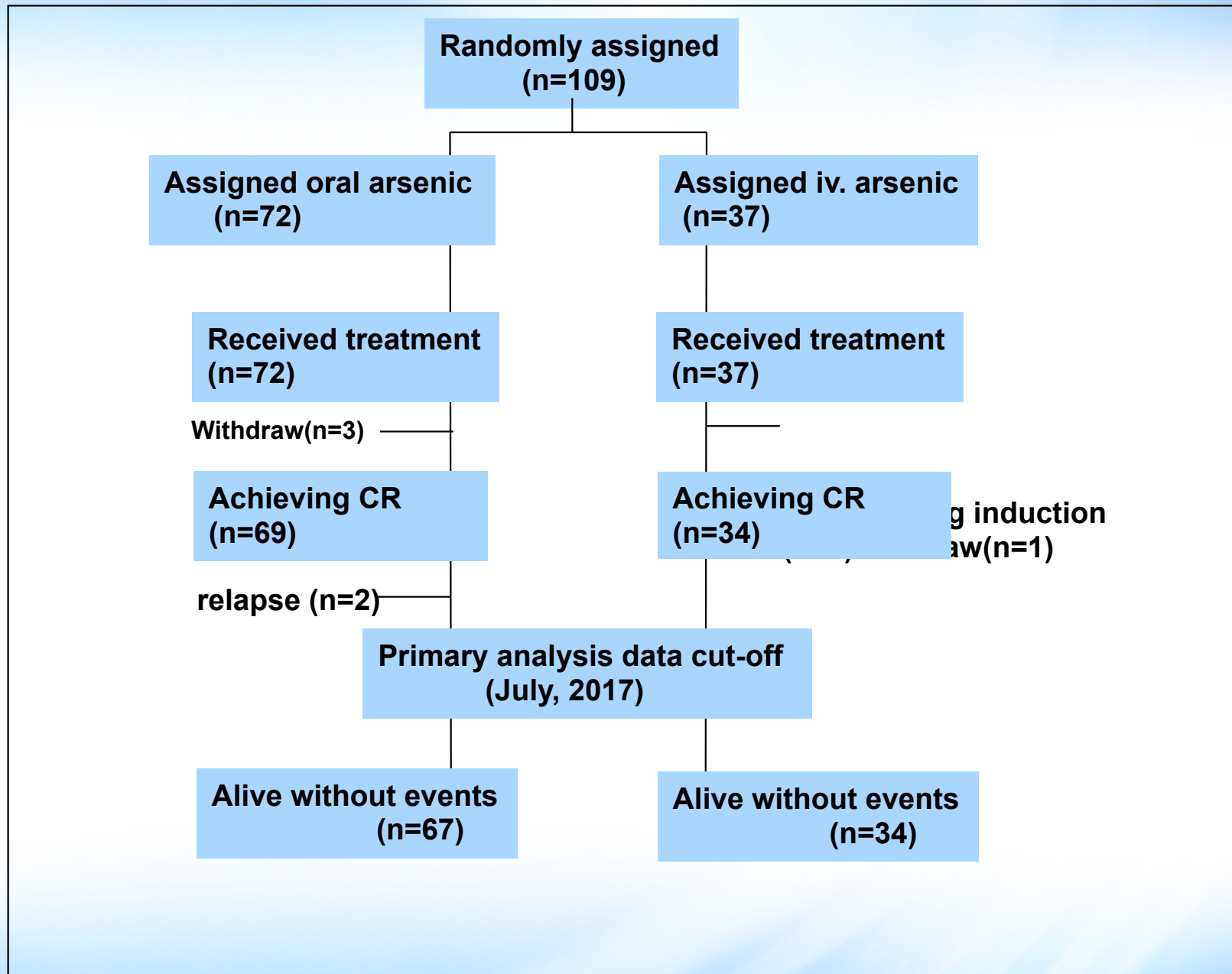


+2 ms since treatment

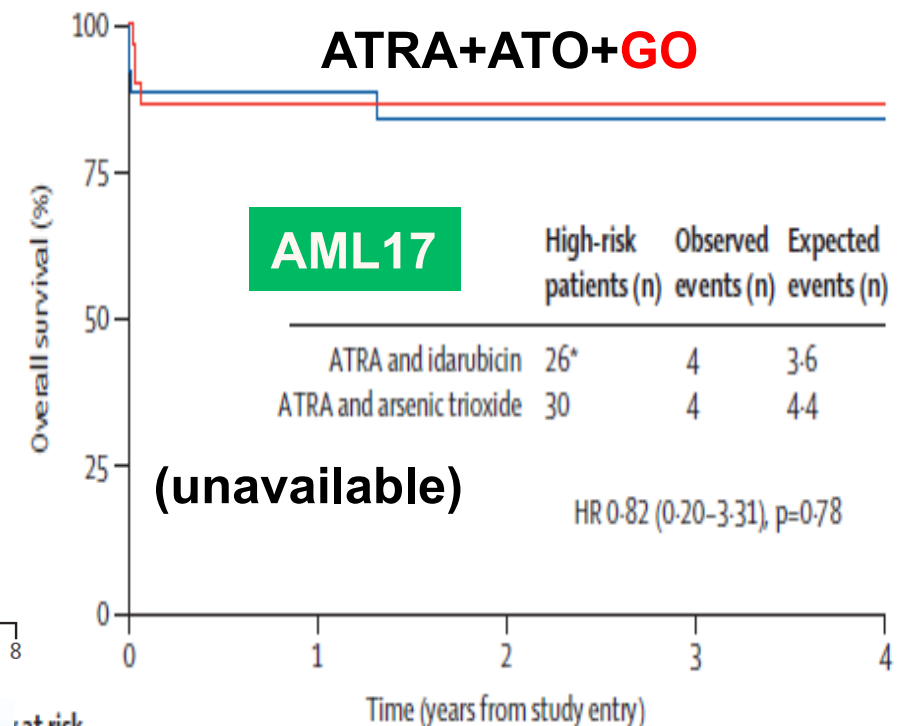
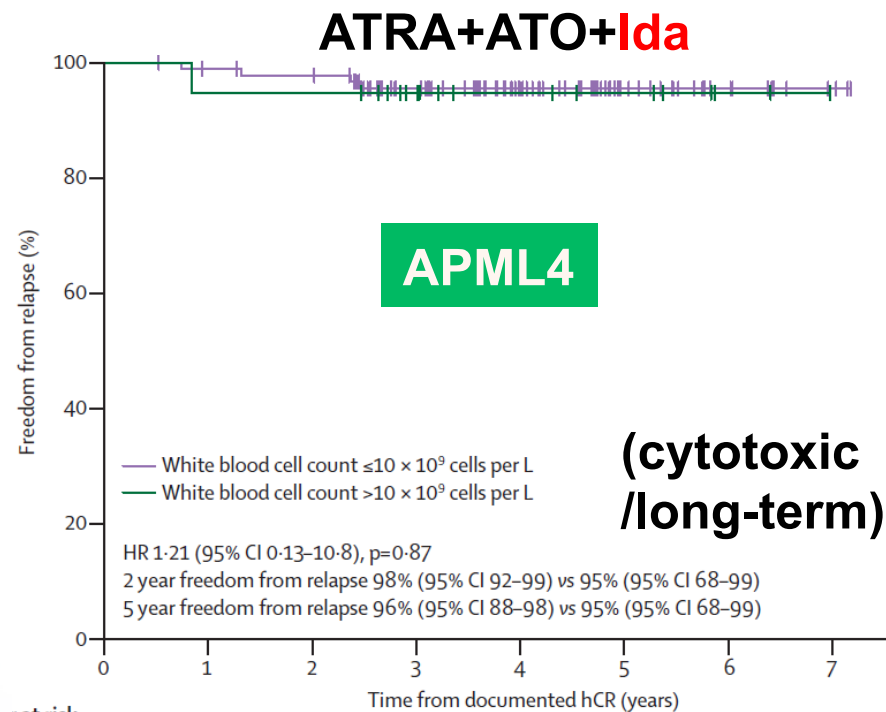
Zhu HH, et al. NEJM 2014; 371 : 2239

Compared study between RIF+ATRA and ATO+ATRA in non-high-risk APL





Attempts at minimizing chemotherapy have proven feasible in high-risk APL



Iland H, et al. Lancet Oncol 2015; 2:e357

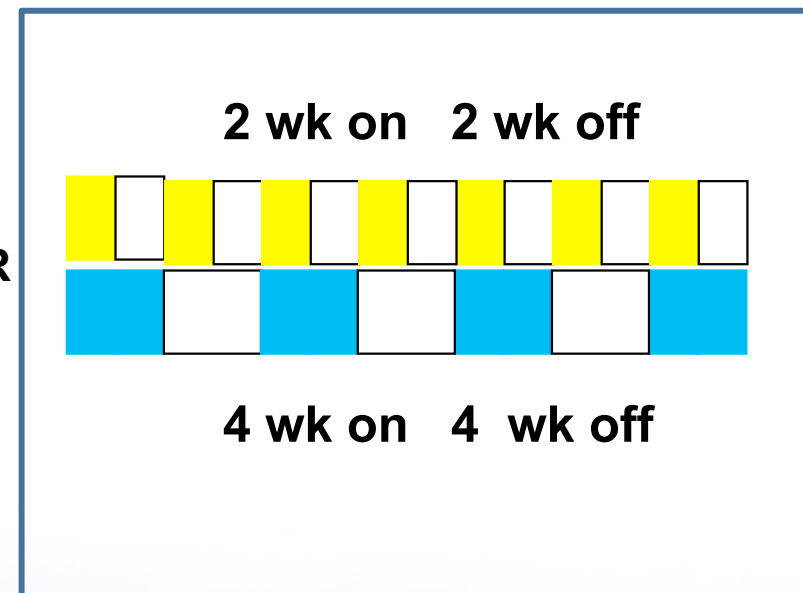
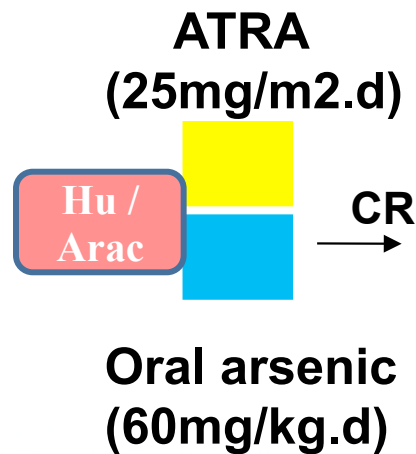
Burnett AK, et al. Lancet Oncol 2015;16:1295

Question

- Whether our Beijing Protocol in non-high-risk APL also benefit for high-risk patients

Purpose and Protocol

- To evaluate the efficacy and safety of oral arsenic and ATRA for high-risk APL patients.



oral tetra-arsenic tetra-sulphide formula (Realgar-Indigo naturalis formula, RIF)

Inclusion criteria

- Newly diagnosis of de novo APL
- 16 -65 years old;
- WBC $\geq 10 \times 10^9/\text{L}$ before treatment ;
- Adequate hepatic and renal reserve
- Performance Status (PS) score 0-2(WHO);
- provide written informed consent.

Endpoints

- **Primary endpoint:**
Complete molecular remission (CMR) rate
at 6 months
- **Secondary endpoints:**
CR ; EFS; Safety;
Hospitalized days; Medical costs

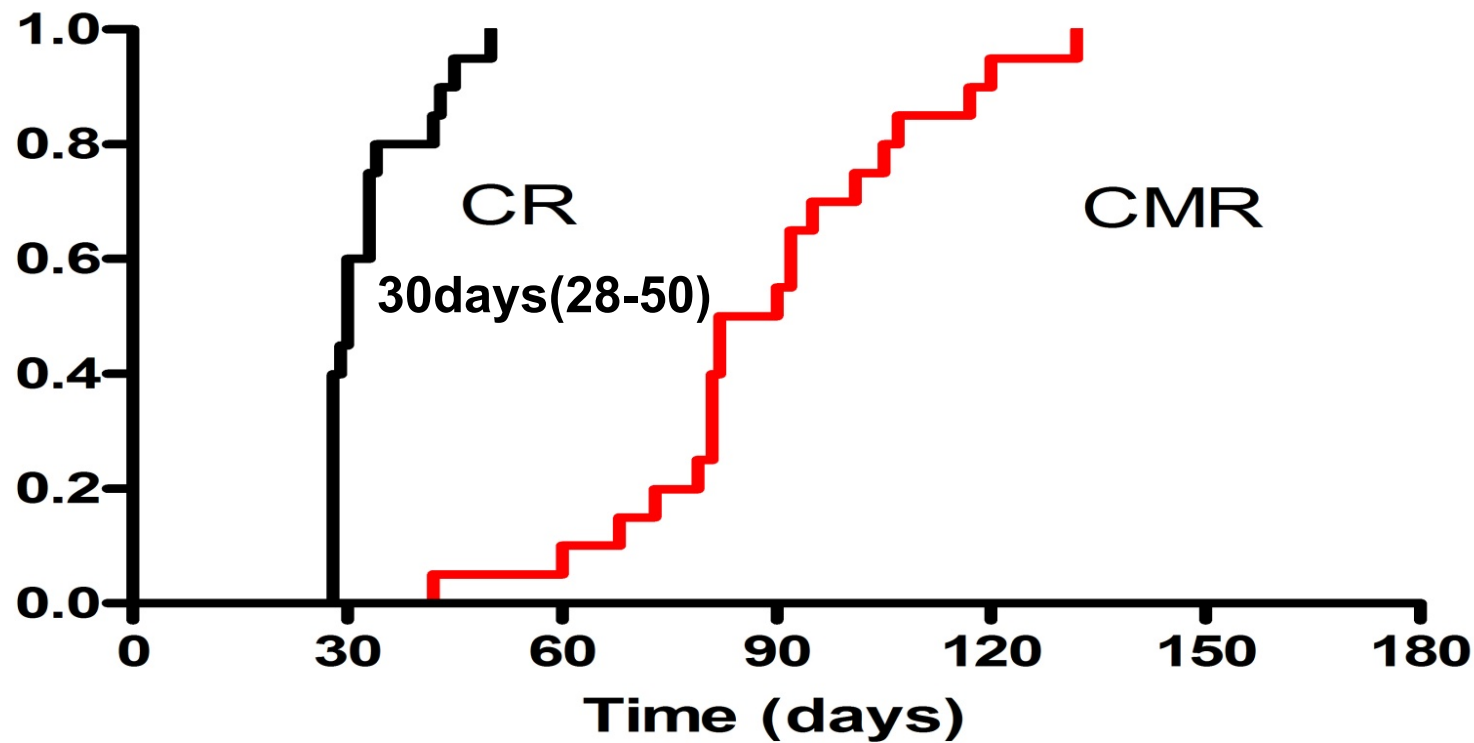
Results

- Enrollment time: 2014.4-2016.9
- Numbers of patients: 20

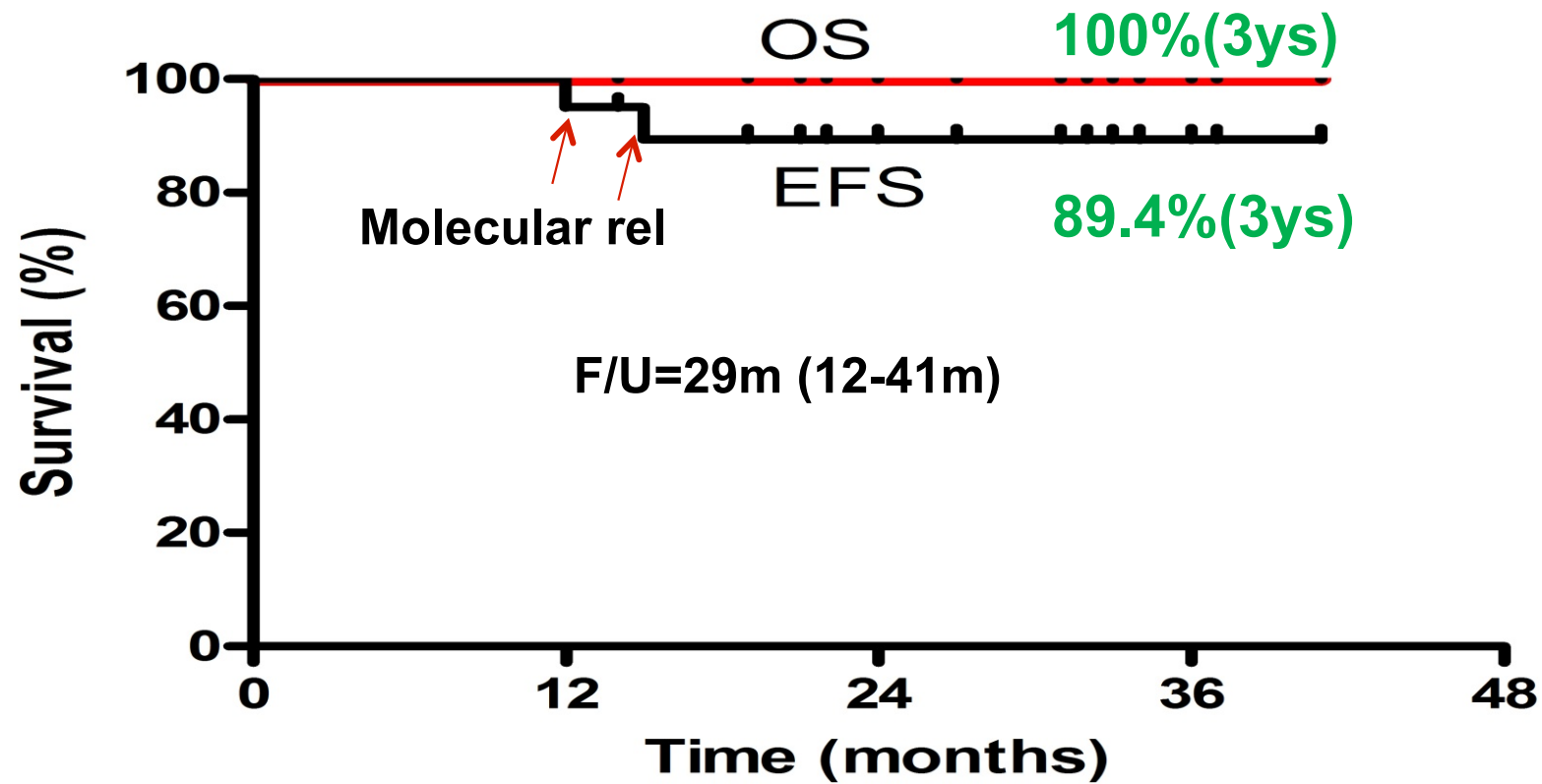
Characteristics of 20 Patients

Characteristic	Value
Age — yr	35.5 (16-61)
Male sex -no. (%)	9(45)
WBC ($\times 10^9/L$)	32.9 (10.6-140.8)
PLT ($\times 10^9/L$)	32.5 (5-74)
Blasts of BM (%)	90 (34-97.5)
PML-RARA/ABL (%)	37.6 (20.1-92.4)
Type of transcript (L/S/V)	10/7/3
Cytogenetics-no.(%)	
solo t(15;17)	15(75)
others	5 (25)
Fibrinogen	163 (60-429)
D-dimer	9296 (2570- >20000)

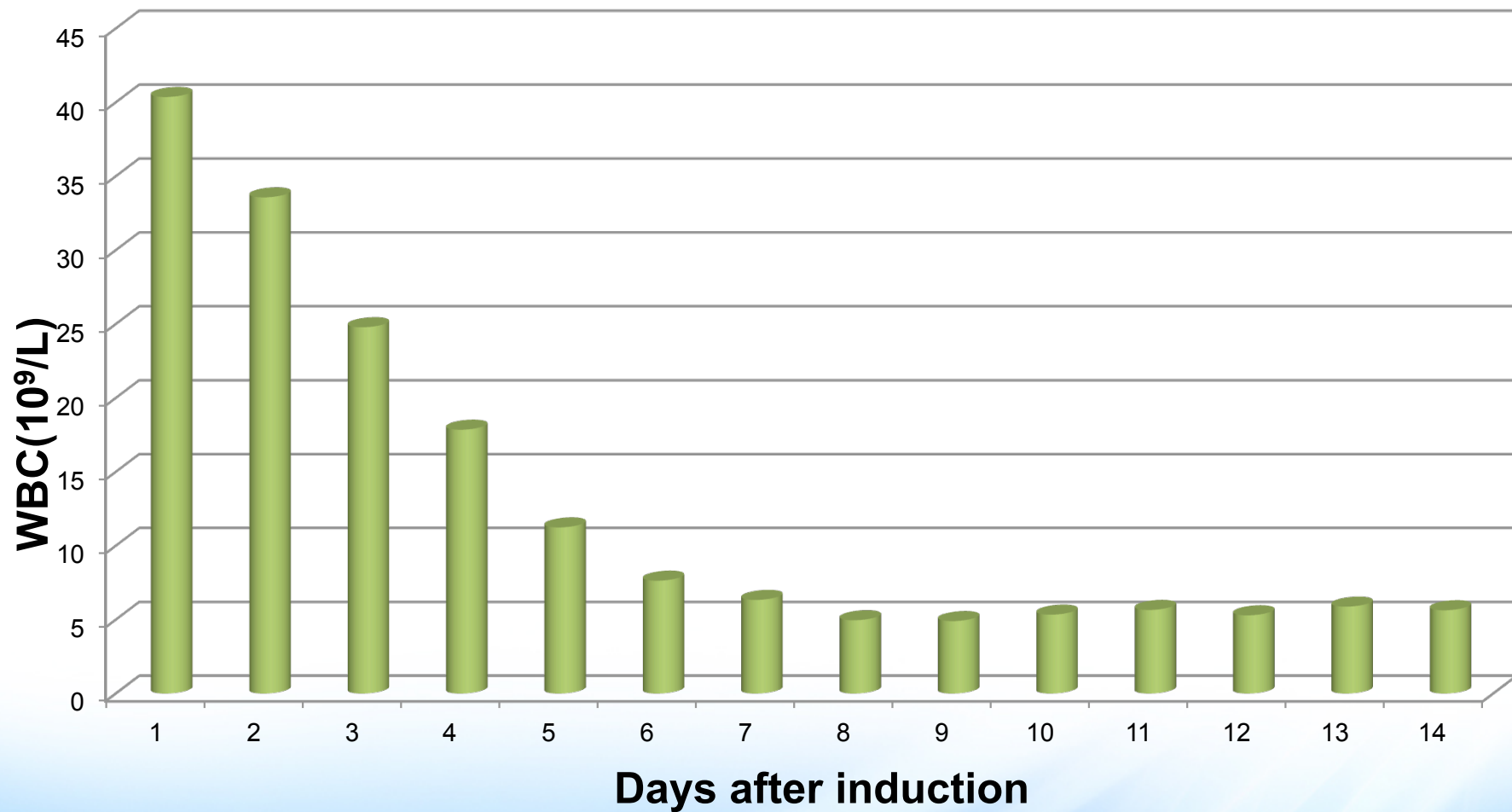
Hematological and molecular remission



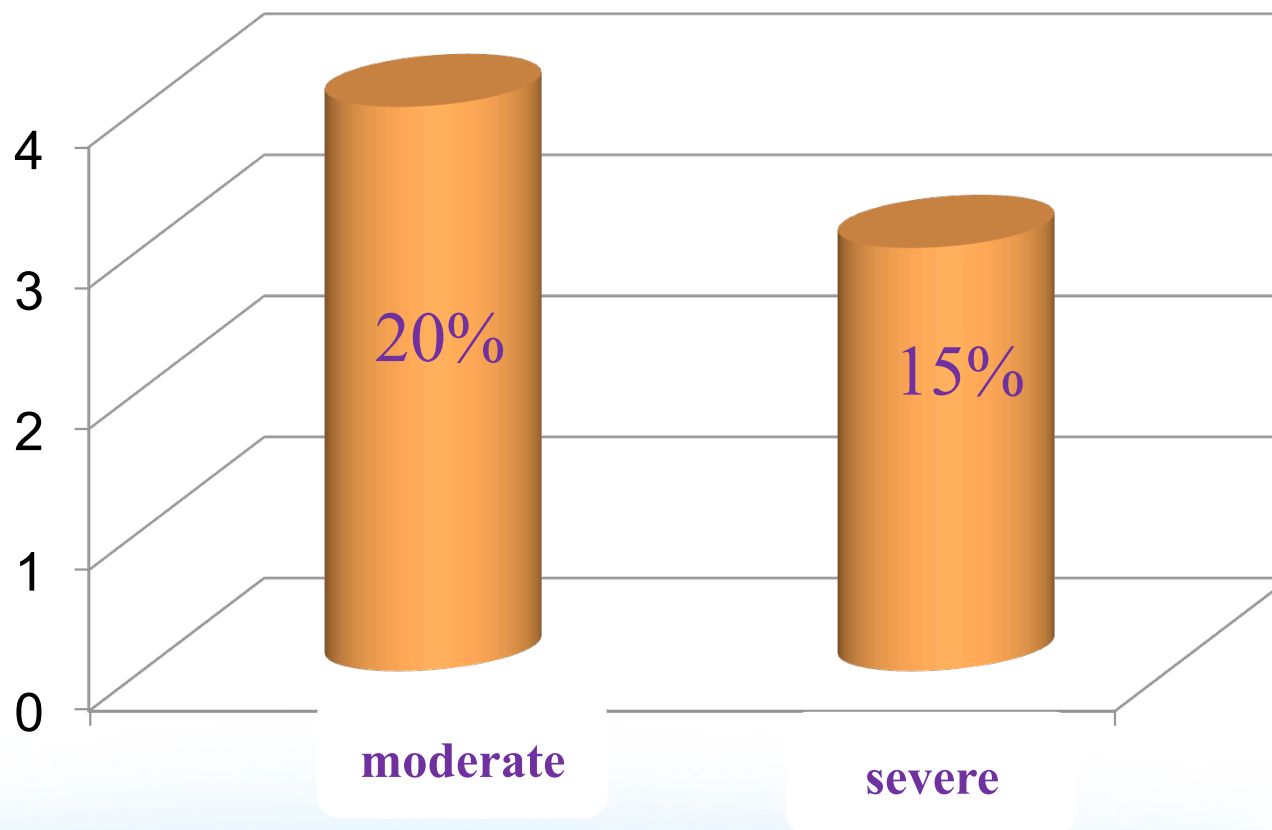
Os and EFS



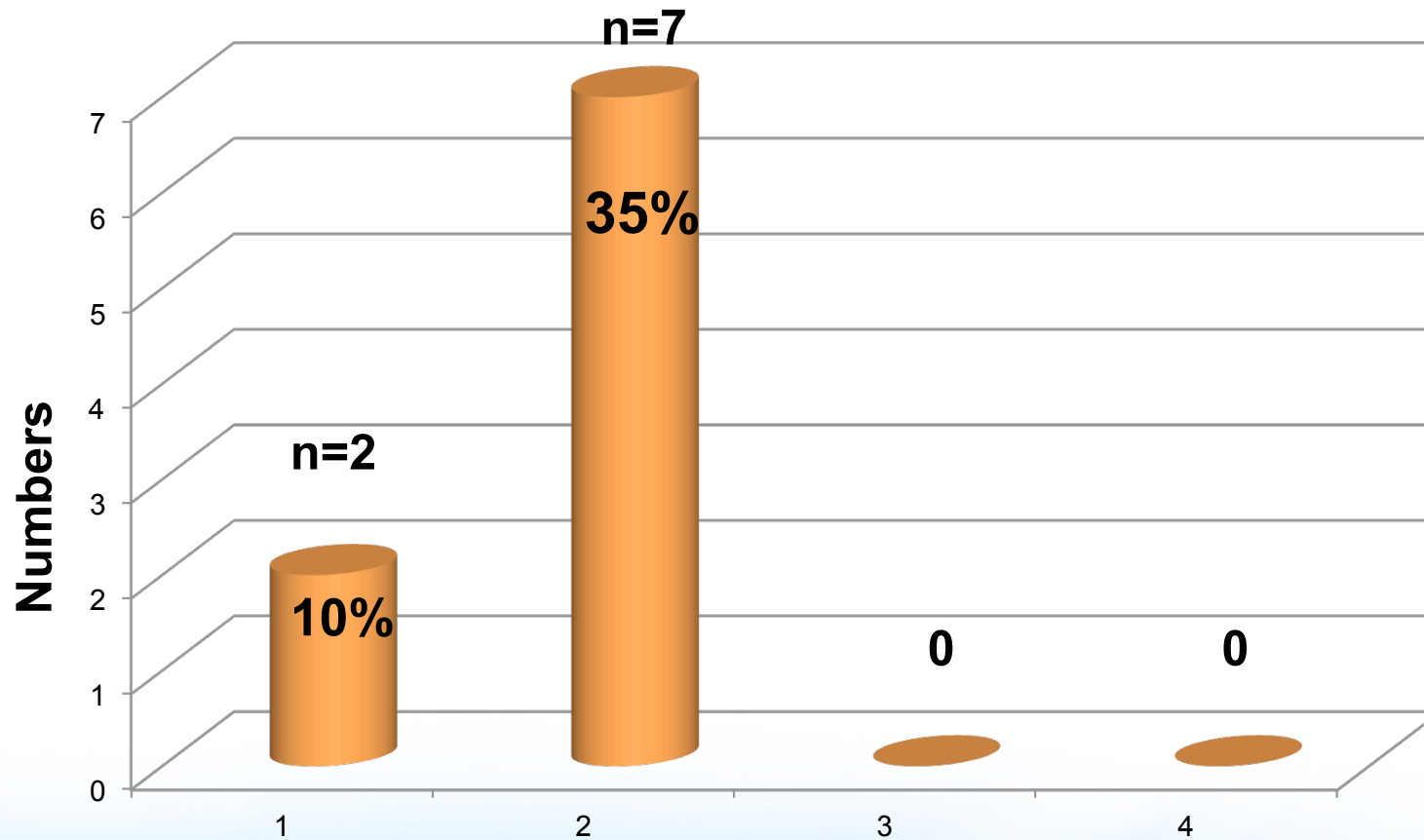
WBC kinetics during induction



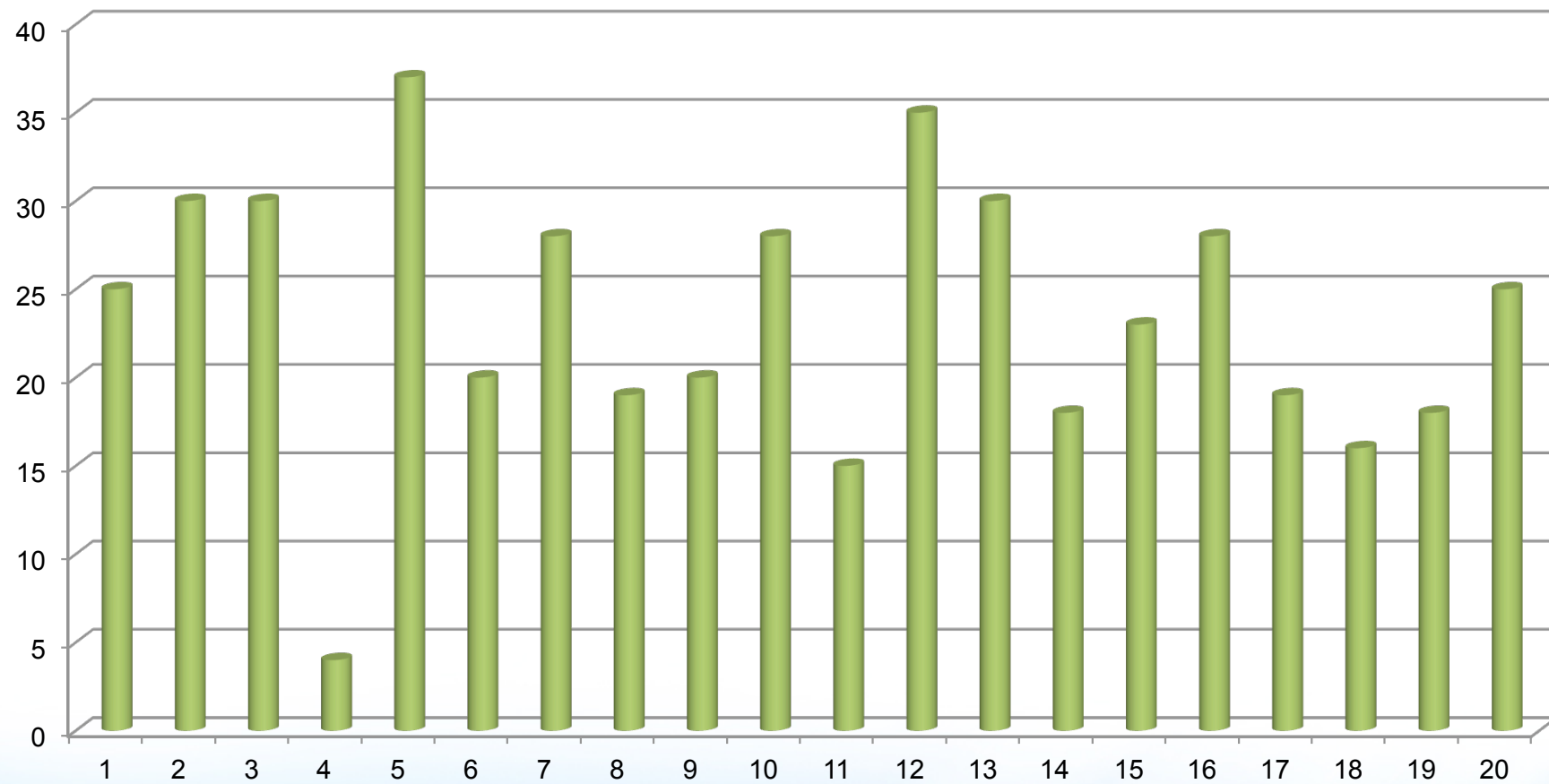
DS during induction



Liver damage during induction



Hospital days during whole treatment course



Conclusions

- Oral arsenic and ATRA , with minimal cytoreductive chemo during induction, proved to be effective, safety, convenient.
- Employed an outpatient post-remission treatment protocol is feasible and needs to be confirmed in more high-risk APL patients

Acknowledgements

- All the patients involved in this study
- My colleagues
- Prof. Lo-Coco F





Thanks for your attention