

**Clinical study on the
pharmacokinetic changes in
plasma and cerebrospinal fluid
drug level during high-dose
cytosine arabinoside treatment
for childhood ALL and NHL**

Xiaotian Xie, Yaoping Wang

Tongji Hospital, Tongji University

Shanghai, China

BACKGROUND

HD-AraC is very effective for AL and NHL

Advantages:

- Elevate drug level in plasma
- Elevate drug level in CSF
- Reach high level of Ara-U

BACKGROUND

MCP-841 for Childhood HR-ALL / IV NHL
in Pediatrics, Tongji Hospital, Shanghai

- Cases: 82 (61 ALL, 21 NHL)
- Sex: male 58, female 24
- Age: 2.5 – 16 yr (median 8.7 yr)
- 6 yr DFS: 79.05%

BACKGROUND

Modified MCP-841 for Childhood HR-ALL / IV NHL

- Induction 1 (I₁): VDLP
- Induction 2 A (I₂A): HD-AraC, CTX, 6MP (×3)
Induction 2 (I₂): Cranial radiation, CTX, 6MP
- Induction 1 (I₁): VDLP
- Consolidation (C): COAT
- Maintenance (M): VP / MT
- Regular intensive: VDLP、 COAT、 HD-MTX

Material and Methods

HPLC for Ara-C level determination

- Ara-C: 2g/m² + 5%GS 250ml, 2 hours
- Blood samples obtained 1 ml at :
IV. infusion: 0, 15, 30, 60, 90, 120 min.
And after infusion: 5, 10, 30, 120 min.
Control: at Ara-C 75mg/m², 60 min. H.
- CSF samples obtained: IV 120 min.

Results

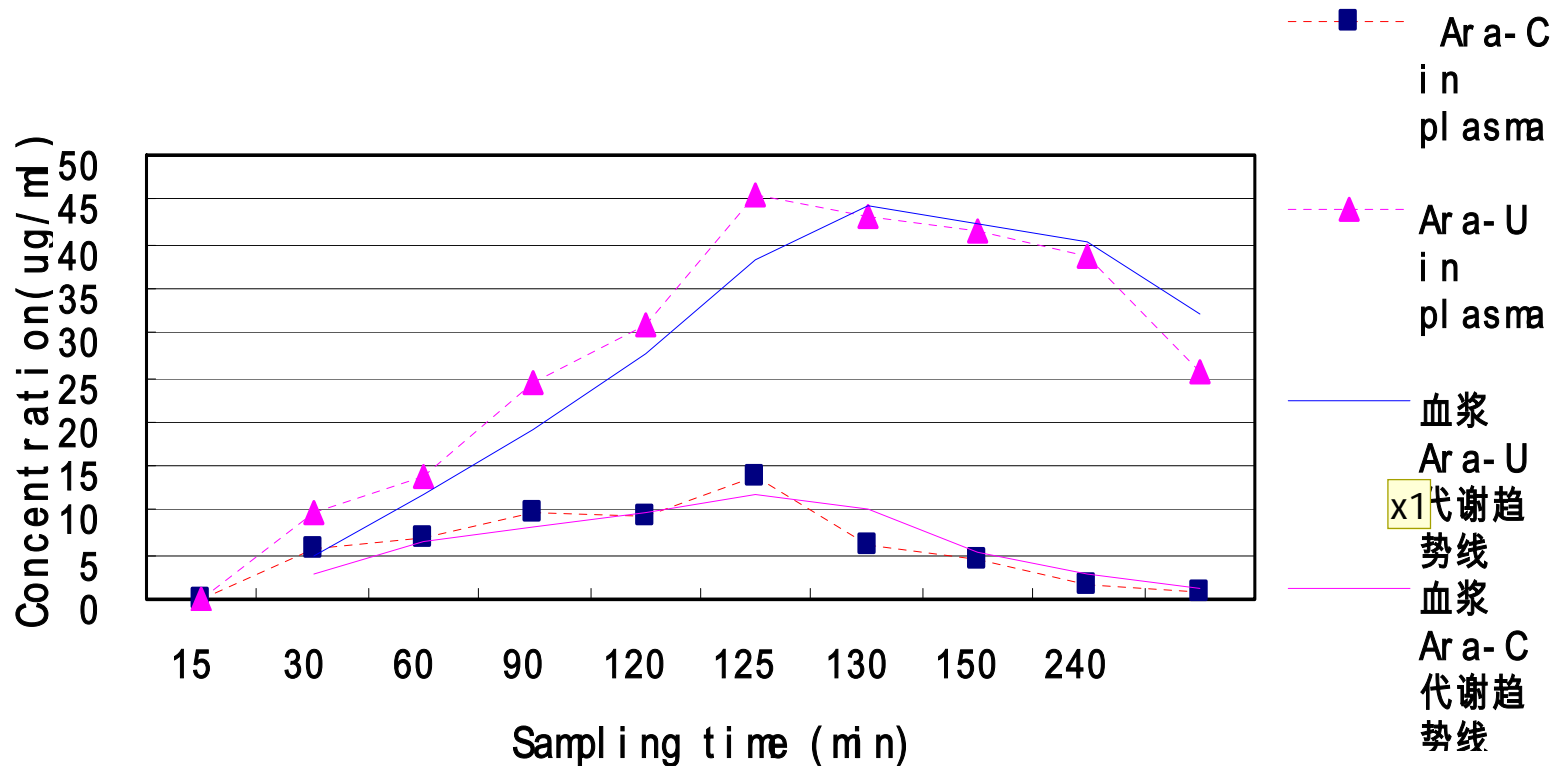
HPLC for Ara-C level determination (n=18)

	Ara-C ($\mu\text{mol/L}$)	Ara-U ($\mu\text{mol/L}$)
Plasma		
HD-A	49.94 \pm 26.03	162.10 \pm 108.06
SD-A	1.07 \pm 0.24	6.81 \pm 1.92
CSF		
HD-A	5.93 \pm 4.01	20.98 \pm 10.41

Results

Metabolism curves of HD-AraC

Metabolism curves of Ara-C and Ara-U in plasma



x1

请将 " 代谢趋势线 " 改为 : trended metabolism curve

xzhao01; 22/02/2007

CONCLUSION

- Advantage of HD-AraC :
 - Elevate drug level in plasma
 - Elevate drug level in CSF
 - Reach high level of Ara-U
- Varied individualized AraC metabolism
- Next study :
 - Relationship between CDA/dCK, drug level and outcomes

Thanks

