

Supplementary Materials: Phase I Radiation Dose-Escalation Study to Investigate the Dose-Limiting Toxicity of Concurrent Intra-Arterial Chemotherapy for Unresectable Hepatocellular Carcinoma

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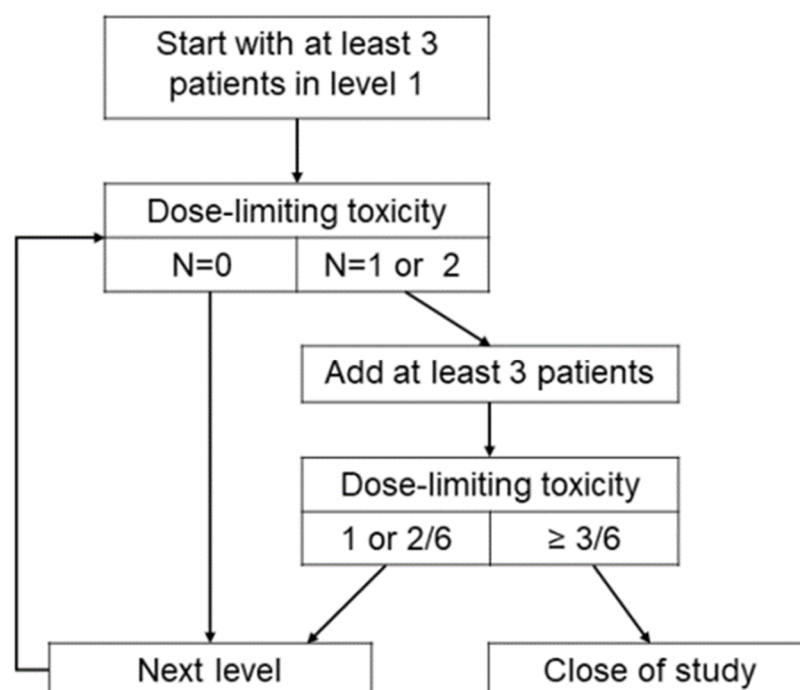


Figure S1. Protocol scheme for the current Phase I study.

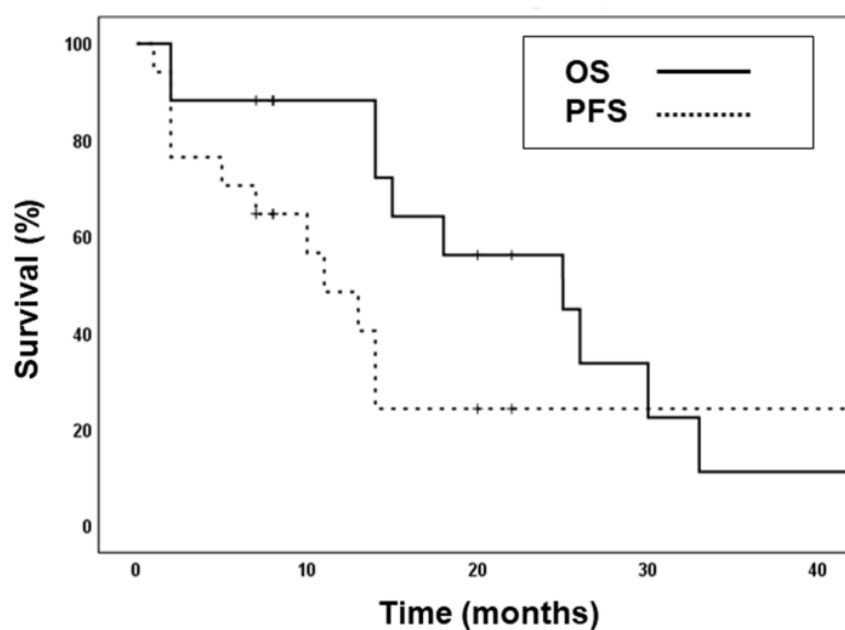


Figure S2. Progression-free survival and overall survival of all patients ($n = 17$).

Table 1. Dose escalation schedule.

Dose level	PTV1 (Gy)	BED10 (Gy)	BED3 (Gy)	PTV2 (Gy)	Fractions	No. of patients
1	2.1	63.53	89.25	1.8	25	4
2	2.3	70.72	101.58	2.0	25	6
3	2.5	78.13	114.58	2.0	25	7

Abbreviations: PTV, planning target volume; BED10, biologically effective dose with α/β ratio = 10; BED3, biologically effective dose with α/β ratio = 3.

Table S2. Normal tissue radiation dose constraints.

Organs at risk	Dose Constraints
Uninvolved liver	Mean dose <30 Gy $V_{30\text{ Gy}} < 30\%$ *
Stomach and duodenum	$D_{2\text{cc}} < 45\text{ Gy}^\S$
Spinal cord	Maximum point dose < 50 Gy
Kidney	Mean dose < 18 Gy
If mean kidney dose to one kidney >18 Gy, $V_{6\text{ Gy}}(\text{remaining kidney}) < 30\%$	

* V_X Gy is defined as the percent of the liver volume that received x Gy or more. \S D_X cc is defined as the dose received by x cc of the organ volume.



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