

Supplementary Table 1. Correspondence table between Inuyama classification and a term of “encephalopathy” according to the Common Terminology Criteria for Adverse Events (version 4.0)

Inuyama classification			CTCAE (Ver 4.0) (a term of “encephalopathy”)	
Grade of coma	Psychiatric disorders	Reference items	Grade	Definition
I	Inversion of sleep pattern Euphoria and/or occasional depression Negligent attitude with shortened attention span	Recognized retrospectively in most cases	1	Mild symptoms
II	Disorientation of time or place and confusion Inappropriate behaviors, such as throwing away money or discarding items of value Occasional somnolent tendency; able to open eyes and respond appropriately to questions Makes impolite remarks, but follows doctors’ instructions	Excitation state and, urinary and fecal incontinence are absent, but flapping tremor is found on physical examination	2	Moderate symptoms; limiting instrumental ADL
			3	Severe symptoms; limiting self-care ADL
III	State of excitation and/or delirium, showing defiant behavior Somnolent tendency; sleeping most of the time Opens eyes in response to stimulation, but cannot follow the instructions of doctors, except for simple orders	Flapping tremor is observed, and the extent of disorientation is severe		
IV	Coma; complete loss of consciousness Response to painful stimuli	Brushes off doctor’s hands if touched and/or frowns in response to stimuli	4	Life-threatening consequences; urgent intervention indicated
V	Deep coma No response to painful stimuli			
-			5	Death

Abbreviation: CTCAE, Common Terminology Criteria for Adverse Events.

Supplementary Table 2. Advanced hepatocellular carcinoma patients who had hepatic encephalopathy during lenvatinib treatments

Cases	Age	Body weight (kg)	Child-Pugh score	Starting dose	P-S shunt	Best response (mRECIST)
1	80	53	5	8	+	PR
2	78	68	5	12	-	SD
3	81	53	6	8	+	PR
4	83	40	6	8	+	PR
5	83	50	6	8	+	SD
6	72	69	6	8	+	SD
7	64	84	6	8	+	SD
8	67	46	6	8	+	SD
9	72	66	6	12	+	PD
10	71	58	6	4	+	PD
11	85	61	6	4	+	PD
12	65	48	6	8	+	NE
13	73	57	6	8	-	SD
14	82	58	6	8	-	NE
15	69	83	7	8	+	PR
16	72	80	7	8	+	SD
17	79	71	7	8	+	PD
18	71	61	7	8	-	PD
19	65	62	8	12	+	PR
20	84	70	8	8	+	SD