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Postprogression survival after lenvatinib treatment for advanced hepatocellular carcinoma

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INTRODUCTION

Lenvatinib treatment has been established as first line systemic chemotherapy for advanced heapatocellular carcinoma (HCC), however, sequential treatment after lenvatinib remains obscure. As for multi-targeting agent (MTA) treatment for advanced HCC, it is well-known that not progression-free survival (PFS) but postprogression survival (PPS) is well correlated with overall survival (OS). PPS in the patients treated with lenvatinib remains obscure.

AIM

To investigated PPS for advanced HCC treated with lenvatinib.

METHOD

Patients: Sixty advanced HCC patients treated with lenvatinib at our institution (3 patients participated REFLECT trial and 57 patients were treated in a real-world practice between July 2018 and December 2019) were reviewed.

Assessment
- ✓Clinical characteristics
- ✓radiological progression pattern
- ✓following treatment after progression disease
- ✓Overall survival
- ✓Postprogression survival

RESULTS

Table 1. Characteristics at starting lenvatinib

		n = 44
age	median	74 (68-78)
gender	male/female	36/8
ECOG PS	0/1	38/6
etiology	B/C/NBNC	7/12/25
BCLC	B/C	16/28
Extrahepatic spread		23 (52.2%)
Macrovascular invasion		11 (25.0%)
Child-Pugh	5/6/7/8/9	24/12/3/4/1
	A/B	36/8
ALBI	score	-2.42 (-2.75--1.95)
	grade 1/2a/2b/3	17/10/14/3
AFP		64.2 (8.6-1642)
L3		21.4 (6.7-56.1)
DCP		
treatment line	1/2/3	29/8/7

Figure 1. Kaplan-Meier survival curve

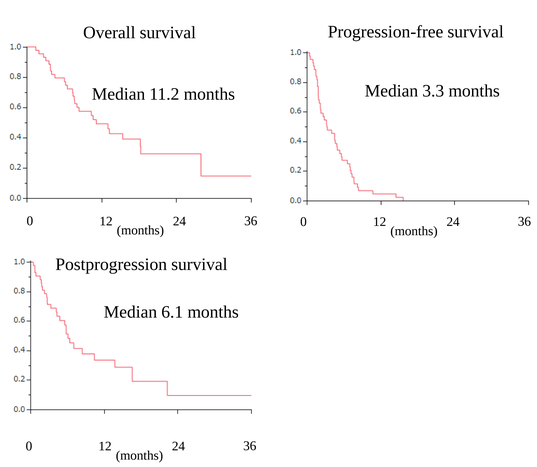


Table 2. Changes at radiological disease progression

		n (%)
impairment of PS	+1	24 (54.5%)
impairment of Child-Pugh	≥+1	19 (43.2%)
	≥+2	9 (20.5%)
radiologic progression pattern	NIH	19 (43.2%)
	IHG	30 (68.2%)
	NEH	13 (29.5%)
	EHG	15 (34.1%)

NIH, new intrahepatic lesion; IHG, intrahepatic growth;
NEH, new extrahepatic lesion; EHG, extrahepatic growth

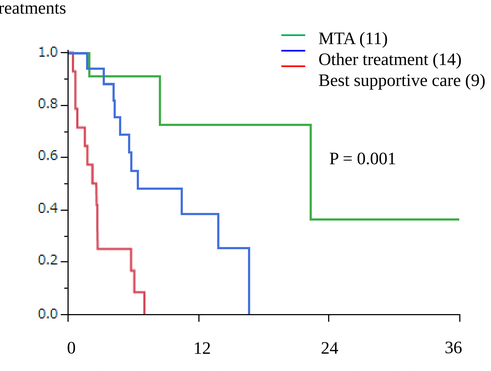
Table 3. predictive factors for overall survival

variables		univariate			multivariate		
		HR	95% CI	p-value	HR	95% CI	p-value
age	≥70	1.23	(0.54-2.84)	0.61			
gender	male	1.57	(0.47-5.27)	0.47			
ECOG PS	1	3.88	(1.42-10.5)	0.008	9.63	(2.41-38.5)	0.001
impairment of PS		2.17	(0.92-5.09)	0.08	0.77	(0.21-2.80)	0.7
etiology	HBV	0.78	(0.29-2.09)	0.62			
	HCV	1.29	(0.54-3.09)	0.56			
BCLC	C	2.18	(0.94-5.00)	0.07	1.45	(0.44-4.81)	0.54
EHS		1.17	(0.55-2.49)	0.69			
MVI		3.69	(1.64-8.31)	0.002			
Child-Pugh	B	3.71	(1.59-8.65)	0.002	1.32	(0.36-4.81)	0.67
impairment of Child-Pugh	≥1	1.57	(0.72-3.41)	0.26	0.74	(0.20-2.77)	0.66
ALBI	1or2a	3.59	(1.63-7.91)	0.002	0.43	(0.08-2.26)	0.32
treatment line	1st line	0.73	(0.34-1.59)	0.43			
following treatment	yes	0.18	(0.08-0.42)	<0.001	1.17	(0.04-0.66)	0.01
progression pattern	NIH	2.05	(0.93-4.50)	0.07	3.77	(1.38-10.3)	0.01
	IHG	2.01	(0.81-5.00)	0.13			
	NEH	1.19	(0.51-2.73)	0.69			
	EHG	1.3	(0.59-2.86)	0.51			

Table 4. predictive factors for postprogression survival

variables		univariate		multivariate	
		HR95% CI	p-value	HR95% CI	p-value
age	≥70	1.25(0.54-2.89)	0.61		
gender	male	1.21(0.36-4.07)	0.76		
ECOG PS	1	2.39(0.87-6.54)	0.09	4.02(1.06-15.17)	0.04
impairment of PS		2.46(1.03-5.85)	0.042	0.47(0.08-2.74)	0.4
etiology	HBV	0.7(0.26-1.91)	0.48		
	HCV	0.75(0.31-1.78)	0.51		
BCLC	C	2.16(0.93-5.00)	0.07	2.17(0.70-6.72)	0.18
Child-Pugh	B	3.86(1.64-9.08)	0.002	0.97(0.27-3.54)	0.97
impairment of Child-Pugh	≥1	1.92(0.86-4.26)	0.11		
ALBI	1or2a	0.32(0.14-0.70)	0.0048	2.99(0.57-15.80)	0.2
treatment line	1st line	0.65(0.30-1.42)	0.28		
following treatment	yes	0.14(0.06-0.35)	<0.0001	0.09(0.02-0.58)	0.01
progression pattern	NIH	2.31(1.03-5.16)	0.04	4.91(1.75-13.77)	0.0025
	IHG	1.56(0.63-3.88)	0.34		
	NEH	1.18(0.50-2.77)	0.71		
	EHG	1.09(0.49-2.40)	0.83		

Figure 2. Comparison of postprogression survival among following treatments



MTA treatment was administered to 11 patients (regorafenib, ramucirumab, and sorafenib 1, 1, and 9 patients, respectively). The PPS of 22.3 months of patients treated with sequential MTA was higher than that of patients with other treatments (PPS, 10.4 months) or BSC (PPS, 2.5 months) (p<0.0001).

CONCLUSIONS

OS and PPS are influenced by the progression pattern, which are important in prognostic predictions. Moreover, sequential MTA treatment after lenvatinib may improve OS and PPS.

CONTACT INFORMATION

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