



# REAL-WORLD EFFECTIVENESS AND PROGNOSTIC FACTORS OF LONG-TERM LENVATINIB USE AS FIRST-LINE TREATMENT IN ADVANCED HEPATOCELLULAR CARCINOMA: A RETROSPECTIVE COHORT STUDY IN TAIWAN

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## Background and Objectives:

- Lenvatinib is approval as first-line treatment of patients with advanced hepatocellular carcinoma (HCC).
- However, the real-world effectiveness of long-term users was limited.
- We aimed to analyze prognostic factors and effectiveness on long-term uses of Lenvatinib as first-line in Taiwan.

## Methods:

**Study Period** Study cohort from 2020/01/01 to 2021/12/31

**Study Design** Retrospective cohort study

**Data Source** Linkou and Taipei Chang Gung Research Database , electronic medical records database in Taiwan.

**Study Outcomes** Prognostic factors, overall survival (OS), progression-free survival (PFS)

**Statistical analysis** Univariable and multivariable Cox regression model

### Study Population

- Hepatocellular carcinoma (HCC) patients.
- Patients with single use of lenvatinib as first-line.
- The first date of lenvatinib was defined as index date.
- The clinical factors included age, gender, tumor number, size of tumor, portal vein invasion, hepatic vein invasion, presence ascites.
- Follow-up period : from the index date until progression date, death, or December 2023.

## Results:

- A total of 117 lenvatinib users with a median age of 64.2 years (SD 12.1) and a median duration of Lenvatinib use of 424.0 days (SD 330.4).
- Of the 117 users, 81.2% were male, and 12.8% had ascites.
- 56.4% of the patients had multiple tumors, 20.51% had a single tumor, 6.8% had hepatic vein invasion, and 47.9% had portal vein invasion.
- The overall survival (OS) and progression-free survival (PFS) were 24.5 months (21.1 to 32.1) and 13.4 months.
- Hepatic vein invasion was associated with poor OS (HR:2.4; 95% CI: 1.02-5.58).

Table 1.	Lenvatinib (n=117)
Sex	
Male	95(81.20%)
Female	22(18.80%)
Liver transplantation	
Yes	1(0.85%)
No	116(99.15%)
Hepatectomy	
Yes	26(22.22%)
No	91(77.78%)
RFA	
Yes	12(10.26%)
No	105(89.74%)
Ascites	
Yes	15(12.82%)
No	89(76.07%)
Unknown	13(11.11%)
Tumor number	
Single	24(20.51%)
Multiple	66(56.41%)
Unknown	3(2.56%)
After hepatectomy	24(20.51%)
Hepatic vein invasion	
Yes	8(6.84%)
No	104(88.89%)
Unknown	5(4.27%)
Portal vein invasion	
Yes	56(47.86%)
No	58(49.57%)
Unknown	3(2.56%)
EHM	
Yes	43(36.75%)
No	70(59.83%)
Unknown	4(3.42%)
Child-Pugh Score	
Class A	104(88.89%)
Class B	7(5.98%)
Unknown	6(5.13%)

Figure 1. Overall survival (OS) of lenvatinib was 24.5 months (21.1 to 32.1)

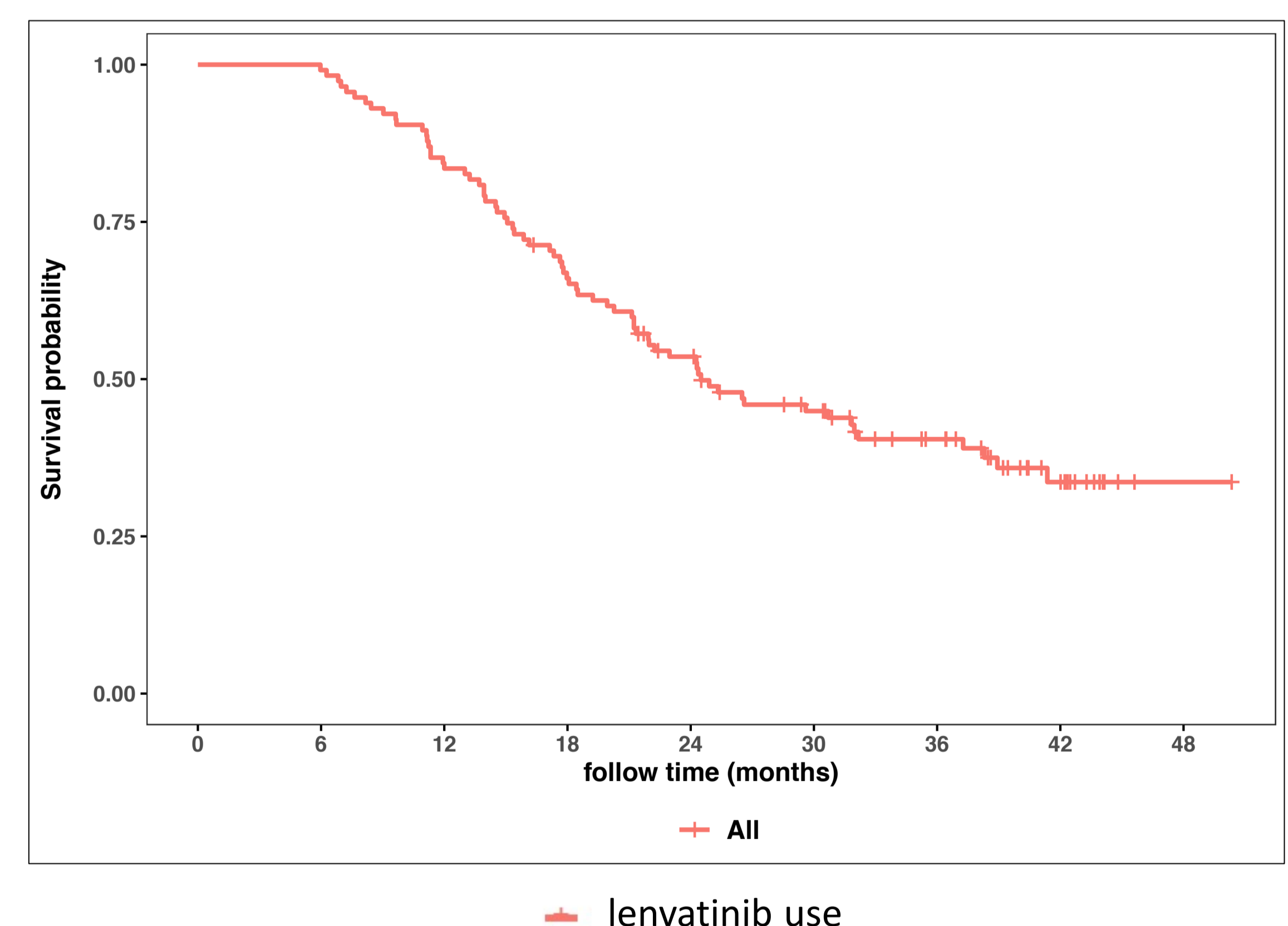
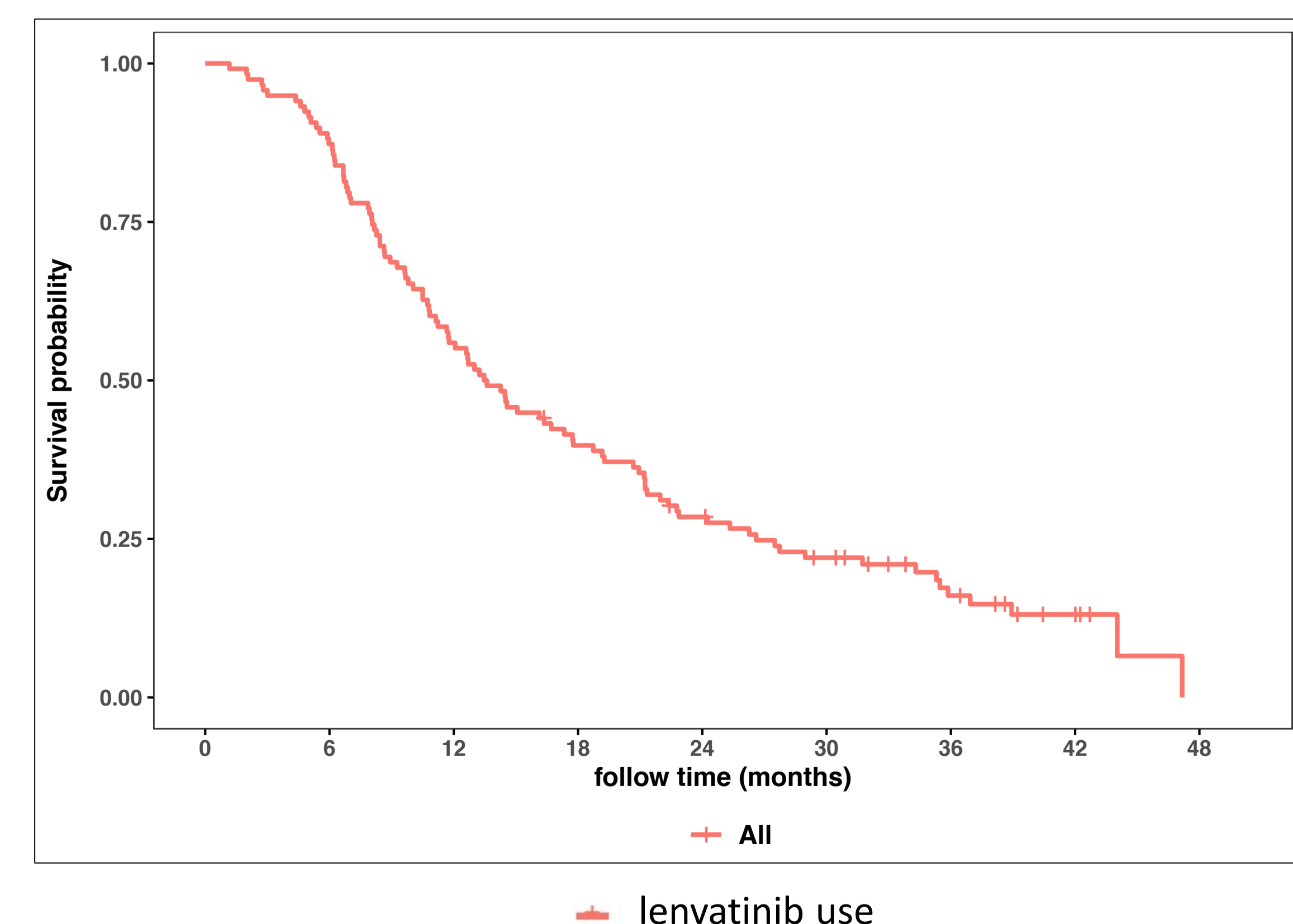


Figure 2. Progression-free survival (PFS) of lenvatinib was 13.4 months (11.1 to 17.3)



## Conclusions:

- The study demonstrated that long-term use of lenvatinib as a first-line treatment for advanced hepatocellular carcinoma in Taiwan. Hepatic vein invasion was identified as a significant prognostic factor associated with poorer overall survival.