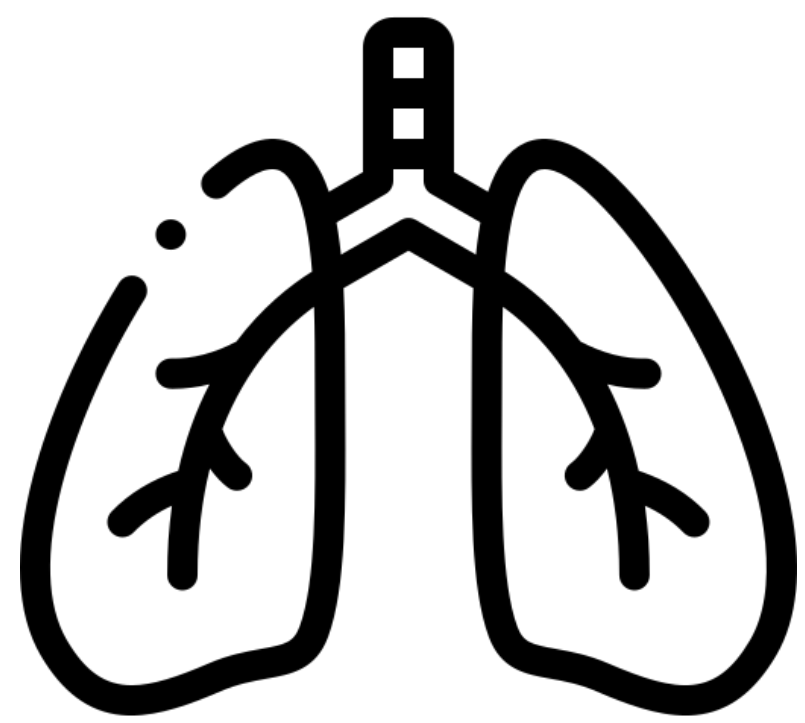
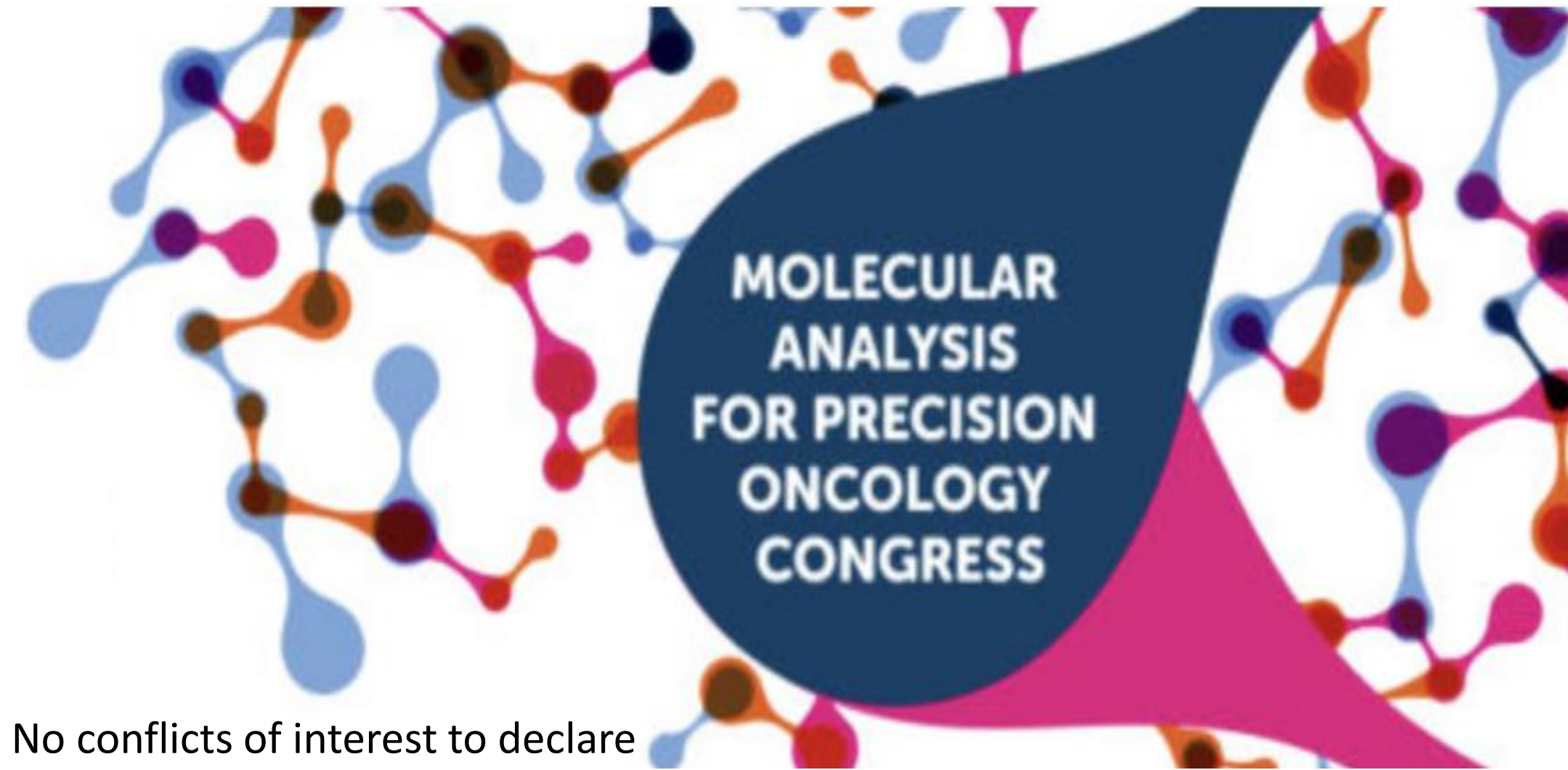


12P - The efficacy of EGFR tyrosine kinase inhibitors and its clinical prognostic factors in lung adenocarcinoma patients harboring different types of EGFR mutations: Real World Data

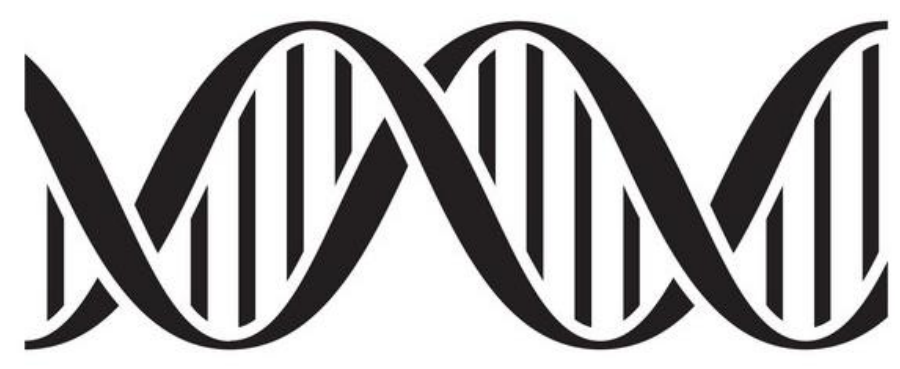
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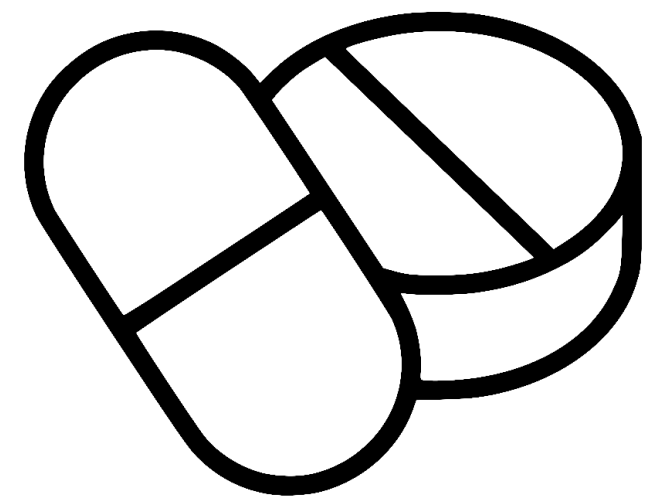
No conflicts of interest to declare



Lung cancer has the highest incidence and mortality among all cancers, with a 5-year survival rate of 15%.¹



EGFR mutation is the most common type of gene mutations detected in patients with advanced non-small-cell lung cancer, and is identified as the therapeutic target of EGFR tyrosine kinase inhibitors²



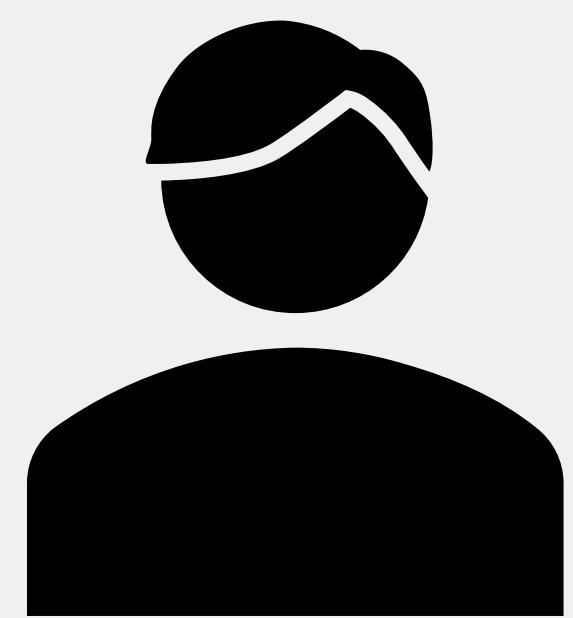
EGFR-TKIs have become the standard treatment. However, the most of the trials were developed in Asian countries, with a lack of data in western population²



Aim and methods

This retrospective study aimed to review the medical records of *EGFR*- mutant advanced lung adenocarcinoma undergoing EGFR- TKIs treatment from 2015 to 2021, so as to examine the association of clinical factors with EGFR-TKI efficacy.

2. Population characterization



53 stage IV Lung Cancer patients enrolled
64.2% female
60.4% of non-smokers
74.2 years old mean age
71.7% patients had ECOG-PS 0-1

Table 1 - Demographic and clinical characterization

Patients (n)	53	Timing of targeted therapy (n/%)	
Mean age (years)	74.2	1st line	26/41.9%
≤ 65 years (n/%)	11/20.8%	2nd line	22/35.5%
>65 years (n/%)	42/79.2%	3rd or higher line	14/22.6%
Gender (n male/n female)	19/34	Previous chemotherapy (n/%)	29/54.7%
ECOG score (n/%)		TKI (n/%)	
0-1	38 /71.7%	Osimertinib	15/28.3%
2	13/ 24.5%	Erlotinib	23/ 43.3%
>2	2/ 3.8%	Gefitinib	20/ 37.7%
Non-smoker (n/%)	32/ 60.4%	Afatinib	4/0.8%
Local of metastasis (n/%)		Patients treated with more than one TKI (n/%)	9/17%
1	18/34%	Type of EGFR mutation (n/%)	
2	17/32,1%	18 G719C	1/1.9%
3	11/ 20.8%	Del19	23/43.3%
4 or more	7/ 13.2%	20 T790M	6/11.3%
Brain metastasis (n/%)	10/18.9%	21 L861G	20/37.7%
Bone metastasis (n/%)	24/45.3%	21 L858X	1/1.9%
		Ins20	1/1.9%
		Unknown/Not determinated	9/17%

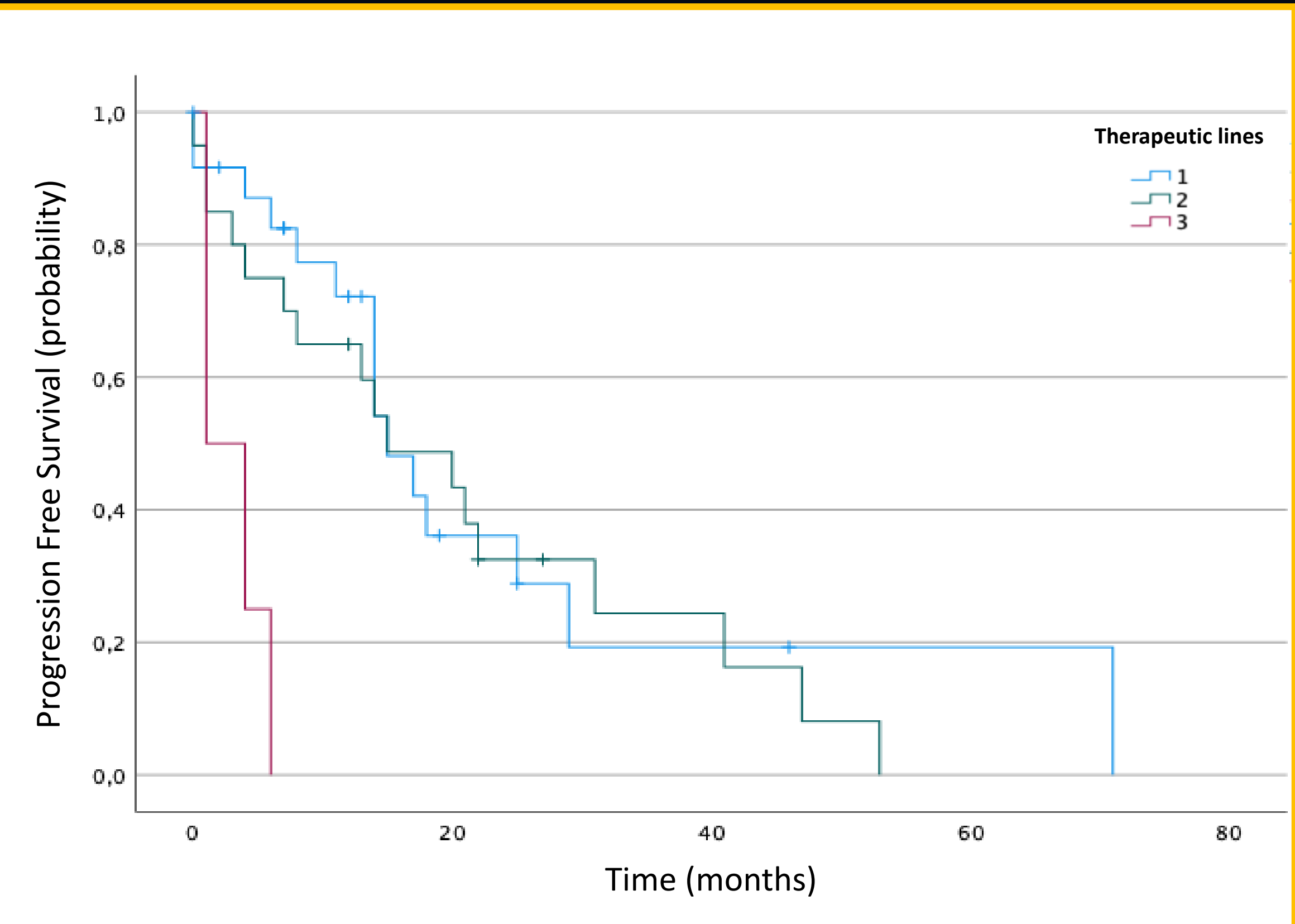
Legend: ECOG-PS - Eastern Cooperative Oncology Group Performance Status, TKI - Tyrosine-kinase inhibitor, EGFR - Epidermal Growth Factor Receptor, OS - Overall Survival
PFS - Progression Free-Survival

3. Survival outcomes

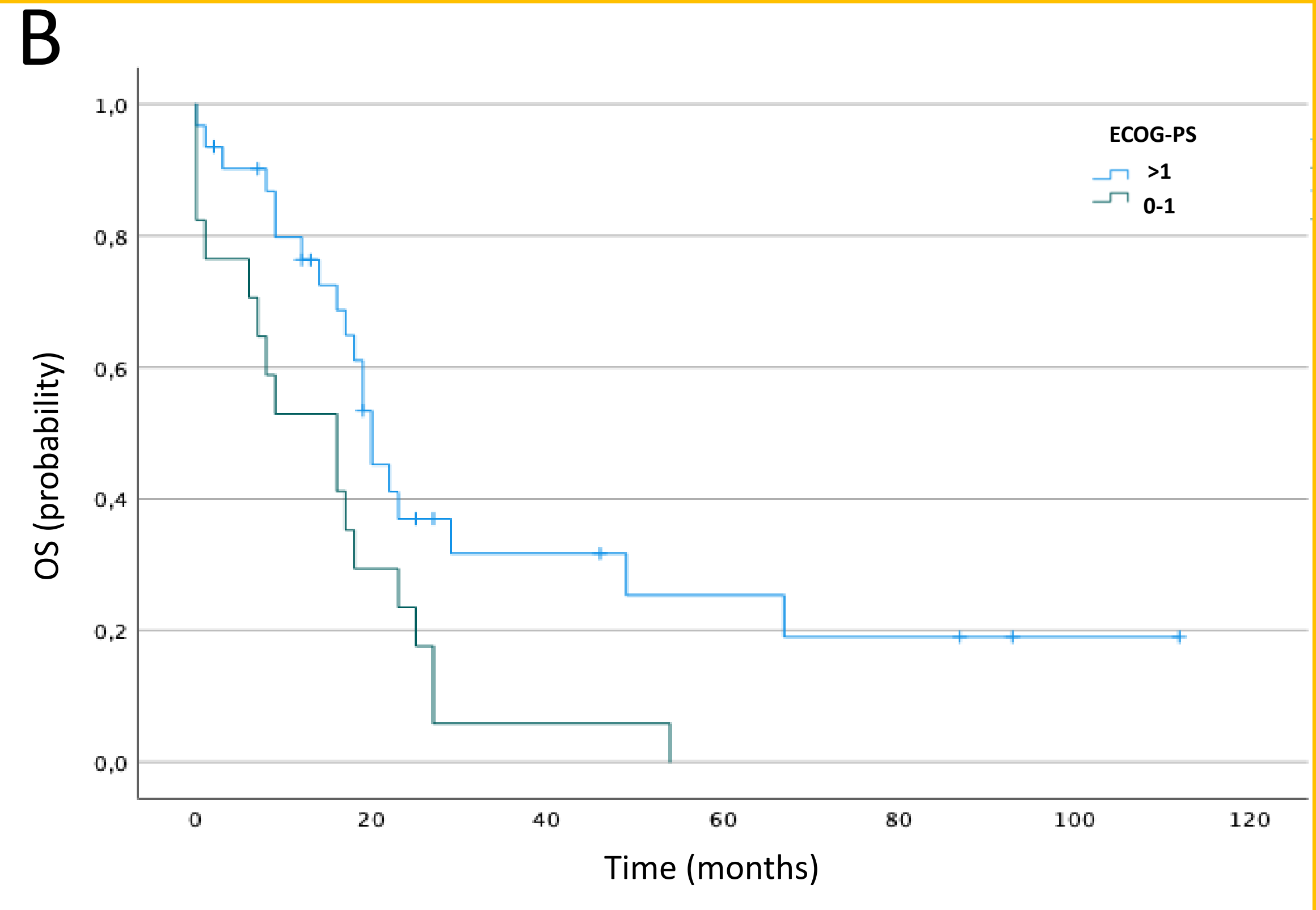
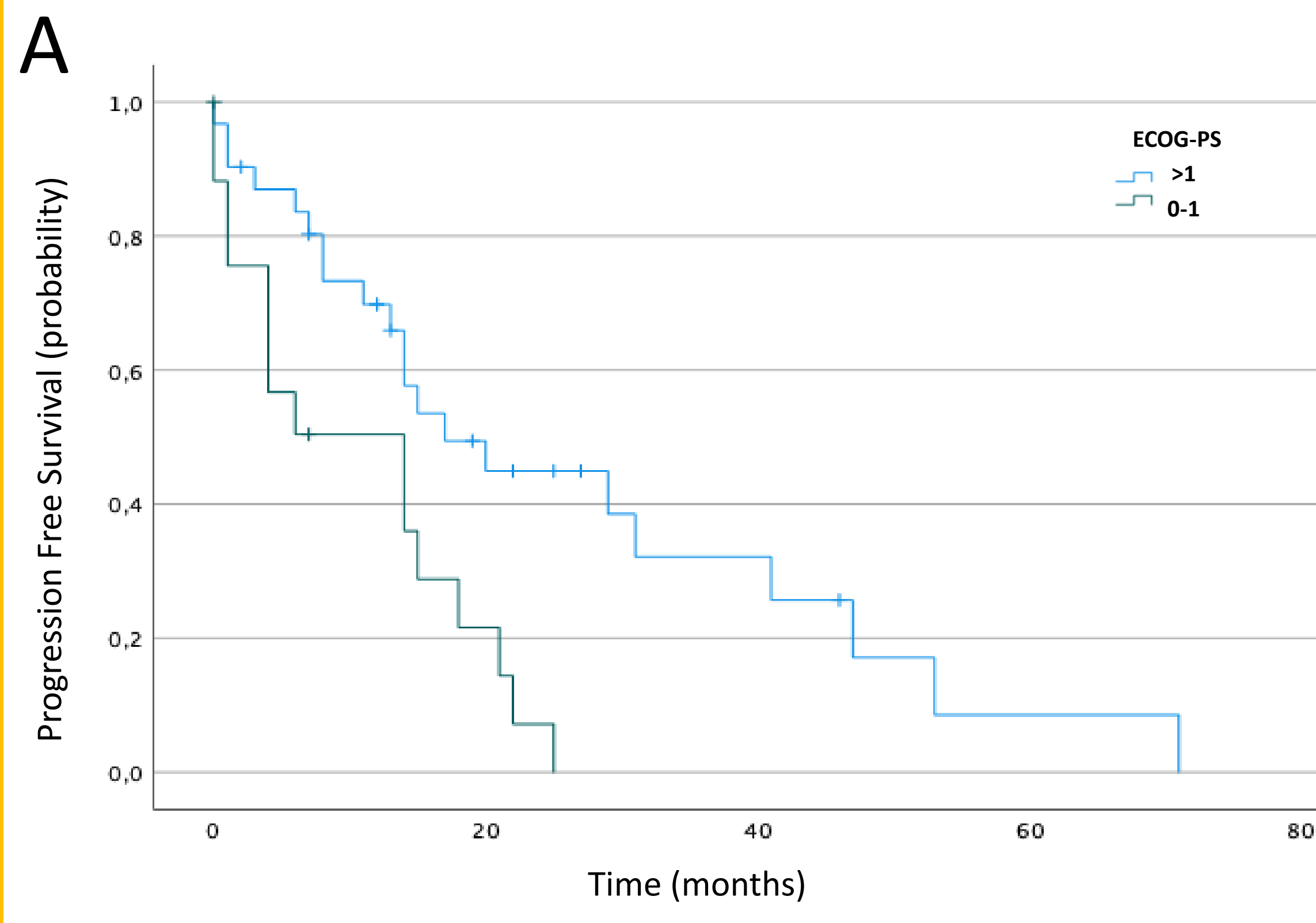
Table 2 – Clinical outcomes

OS (months)	Therapeutic line ECOG-PS ECOG PS0-1 ECOG PS>1	29.1 months Non-significant p=0.013 39.1 months (95% CI:23.2-54.9) 14.9 months (95% CI:8.3-21.5)
PFS (months)	Therapeutic line 1st line 2nd line 3rd line ECOG-PS ECOG PS0-1 ECOG PS>1	20.6 months p<0.01 25.2 months (95% CI:13.0-37.4) 20.9 months (95% CI:12.8-28.9) 3 months(95% CI:0.6-5.4) p<0,01 26.5 months (95% CI:17.6-35.5) 10.6 months (95% CI:6.18-14.9)
Objective response rate		24%
Disease control rate		67%

Figure 1 - Kaplan-Meier curves for PFS to EGFR-TKIs treatment in patients treated with 1st, 2nd or 3rd therapeutic lines



Figures 2 and 3– Kaplan-Meier curves for PFS (A) and OS (B) to EGFR-TKI treatment in ECOG-OS 0-1 and ECOG PS >1 groups



4. Discussion and conclusions

- The mutations del19 or 21 L861G were the most frequent (23 and 20 patients respectively)
- The 20 T790M mutation was detected in 6 patients. First-line TKI (Gefitinib, Afatinib, Erlotinib and Osimertinib) were used in 26 pts and prior chemotherapy was preferred in 29 pts
- A 24% objective response rate (ORR) and 67% disease control rate were observed for EGFR-TKIs treatment in all lines
- The subjects had a PFS of 20.6 months and an overall survival OS of 29.1 months. The median PFS was longer in patients treat with first-line TKI (p<0.01)
- The multivariate analysis indicated that ECOG-PS (p=0.04) was independent prognostic factor for OS



The EGFR-TKI therapy results in survival benefits for EGFR-mutant advanced lung adenocarcinoma patients. ECOG-PS was independent prognostic factors for OS.

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