

# Health Outcome in Patients with Advanced or Metastatic Esophageal Squamous Cell Carcinoma Treated with First-line Sintilimab plus Cisplatin and Paclitaxel versus Cisplatin and Paclitaxel

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## BACKGROUND

- Esophageal cancer is one of the most common cancer worldwide, among which esophageal squamous cell carcinoma (ESCC)is the main subtype in China. <sup>[1]</sup>
- At present, there is no research about the health quality of esophageal cancer patients based on the EQ-5D-5L value set of China.

## METHOD

- ORIENT-15 was a multicentre, double blind, randomised, phase 3 clinical trial to evaluate sintilimab combined with Paclitaxel and Cisplatin (SCP) versus Placebo Combined With Paclitaxel and Cisplatin (CP) as First-line treatment for locally advanced or metastatic oesophageal squamous cell carcinoma in China.<sup>[2]</sup>
- A 3 health states (progression-free survival, post-progression survival, and death) partitioned survival model was constructed using individual patient data of ORIENT-15 to simulate the lifetime health outcome from the perspective of the Chinese health care system. (Figure 1).
- Clinical data was derived from ORIENT-15 and extrapolated using Log-Normal and Log-Logistic distribution. (Table 1, Figure 2 and Figure 3).

Table1 Survival curve distribution

	OS/PFS	Survival curve distribution	AIC/BIC	Distributed parameter
SCP	OS	Log-logistic	627.0678/634.6477	$\lambda=3.204948$ $\gamma=0.531401$
	PFS	Log-normal	682.4939/690.0738	$\lambda=2.563839$ $\sigma=0.908315$
CP	OS	Log-logistic	728.8765/736.4867	$\lambda=2.87889$ $\gamma=0.520503$
	PFS	Log-logistic	697.497/705.1072	$\lambda=2.111054$ $\gamma=0.464061$

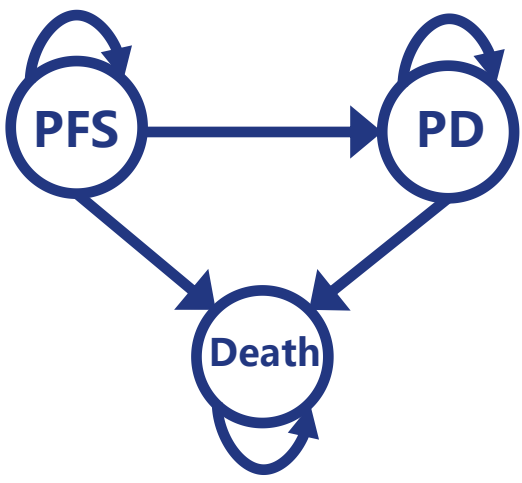


Figure 1 Partitioned survival model

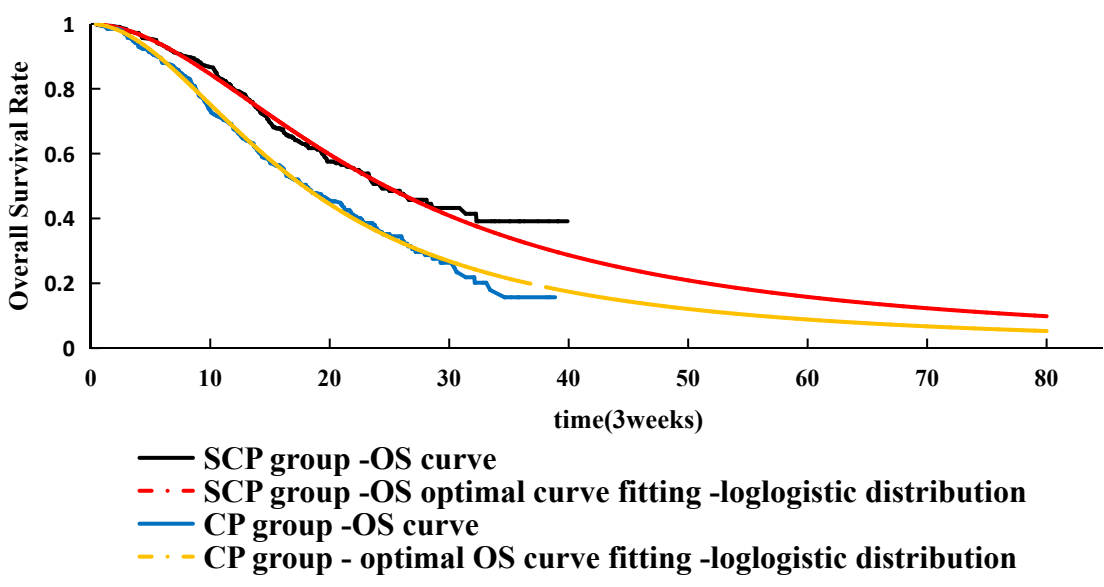


Figure 2 OS survival curve

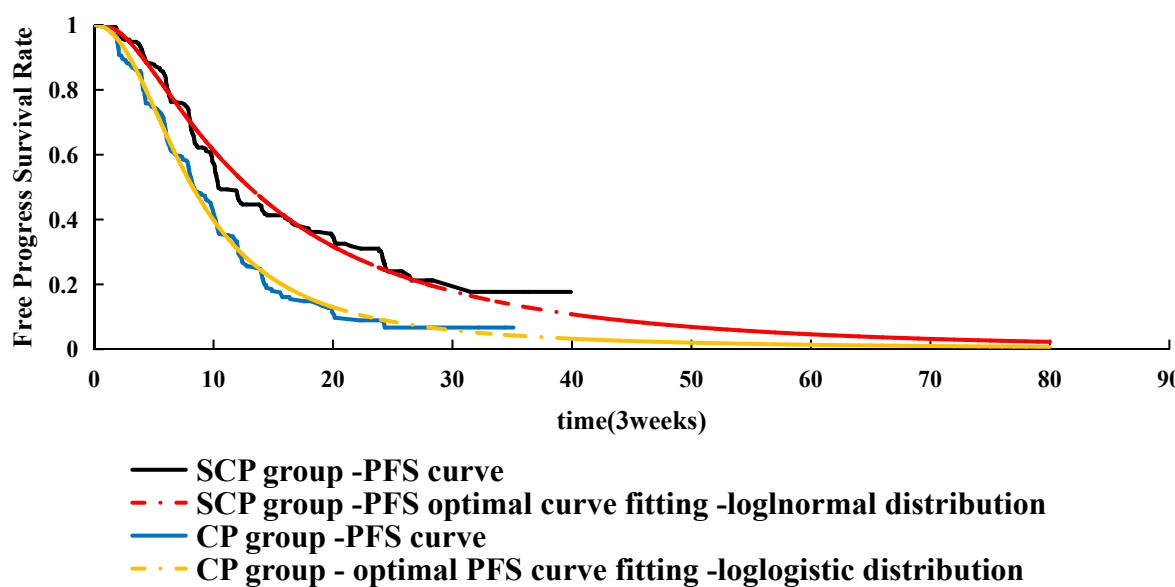


Figure 3 PFS survival curve

## OBJEVTIVE

- This study aimed to compare the lifetime health outcome of sintilimab plus cisplatin and paclitaxel (SCP) versus cisplatin and paclitaxel (CP) as first-line treatment for advanced or metastatic Esophageal Squamous Cell Carcinoma (ESCC) in China.

formula:

$$\bar{U} = \frac{\sum x_1 U_1 + x_2 U_2 + \dots + x_n U_n}{x_1 + x_2 + \dots + x_n}$$

$x_n$ : The number of days between the  $(n-1)$ th and the  $n$ th measurements. ( $x_1 = 1$ )

$U_n$ : Health utility of the  $n$ th measurement

- Quality-adjusted life-year (QALY) and life year (LY) were primary outcomes and discounted at an annual rate of 5%

Table2 Utility calculation process

Measuring sequence	Days	Progression of disease	EQ-5D scale measurement results	Utility	The average utility
1	1	NO	21121	0.8760795	
2	41	NO	21221	0.8314964	
3	90	NO	21111	0.933958	
4	124	NO	21121	0.8760795	0.9058719
5	162	YES	42332	0.3700861	0.3700861

## RESULR

- Patients in the SCP group could survive for 1.94 years, of which progression-free survival (PFS) was 1.06 years, and progressive disease (PD) was 0.88 years. Meanwhile, Patients could gain a total of 1.74 QALYs, including 0.96 QALYs in PFS state and 0.78 QALYs in PD state.
- Patients in the CP group could survive for 1.43 years, of which the PFS was 0.66 years, and the PD was 0.76 years. Patients could gain a total of 1.23 QALYs, including 0.58 QALYs in PFS state and 0.65 QALYs in PD state.

## CONCLUTION

- Compared with CP, first-line treatment of SCP for Chinese patients with advanced or metastatic ESCC could significantly prolong the survival time and improved the quality of life of patients.

## REFERENCES

[1] National Health Commission of the People's Republic of China. Guidelines for Diagnosis and Treatment of Esophageal Cancer (2018 edition)[J]. Chin J Digest Med Imageol (Electronic Editiog), 2019,9 (04):158-192.

[2] Lu Z, Wang J, Shu Y,et al. Sintilimab versus placebo in combination with chemotherapy as first line treatment for locally advanced or metastatic oesophageal squamous cell carcinoma (ORIENT-15): multicentre, randomised, double blind, phase 3 trial. BMJ. 2022 Apr 19;377:e068714.