

# 421P - Substance-P in the blood is related with the efficacy of aprepitant for targeted drug-induced refractory pruritus in chinese malignancy population

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## Background

As is known to all, refractory pruritus is common in patients treated with targeted drug. Substance P is an important neuro-mediator of pruritus. Aprepitant is the world's first new generation of an oral neurokinin 1 receptor antagonist, which is used in combination with other antiemetics to prevent chemotherapy-induced nausea and emesis(CINV). Our previous cases have showed that pruritus caused by targeted medications have good response to aprepitant. However, there is no clinical data on relationship between substance-P in the blood and efficacy of aprepitant.

## Methods

The study enrolled 36 patients with refractory pruritus induced by targeted drug(Table 1). All the patients received aprepitant (day 1, 125 mg; day 2, 80 mg; day 3 80mg). Substance P was measured at baseline(D1)and 7 days later(D7). The primary endpoint was the relationship between substance-P in the blood and efficacy of aprepitant. The Visual Analogue Scale (VAS) score is used to evaluate the efficacy of aprepitant. The toxicity was determined according to CTCAE 4.0.

Table 1 Baseline Patients Characteristics

Baseline patient characteristic	Patients (N=36)
Age (years old)	
Average age	56
Range	16~74
Gender, n (%)	
Men	14 ( 39% )
Women	22 ( 61% )
ECOG PS评分, n (%)	
1	33 (92% )
2	3 ( 8% )
Treatment recommendations, n (%)	
EGFR-TKIs	31 ( 86%)
ALK-TKIs	5 ( 14%)
Pathologic types, n (%)	
NSCLC	35 ( 97% )
SCLC	1 ( 3% )

## Results

The patients were enrolled From Nov. 2021 to Feb. 2022. The average age was 56 years old. The PS score of 33 patients were 1 and 3 patients were 2. Only 2 patients showed no response. Other 34 patients showed superior response especially Pt3 and Pt26, the amount of substance P in the blood respectively from 10322pg/ml to 3486 pg/ml and 9226 pg/ml to 2717 pg/ml (Figure 1) . Among the effective patients, the average change of VAS score is 6. Pt25 showed the best change of VAS score from 10 to 0(Figure 2). The toxicities associated with this protocols were manageable. Only 1 patient was 3/4-grade fatigue.

Figure 1. Pre- and post-administration changes in substance P

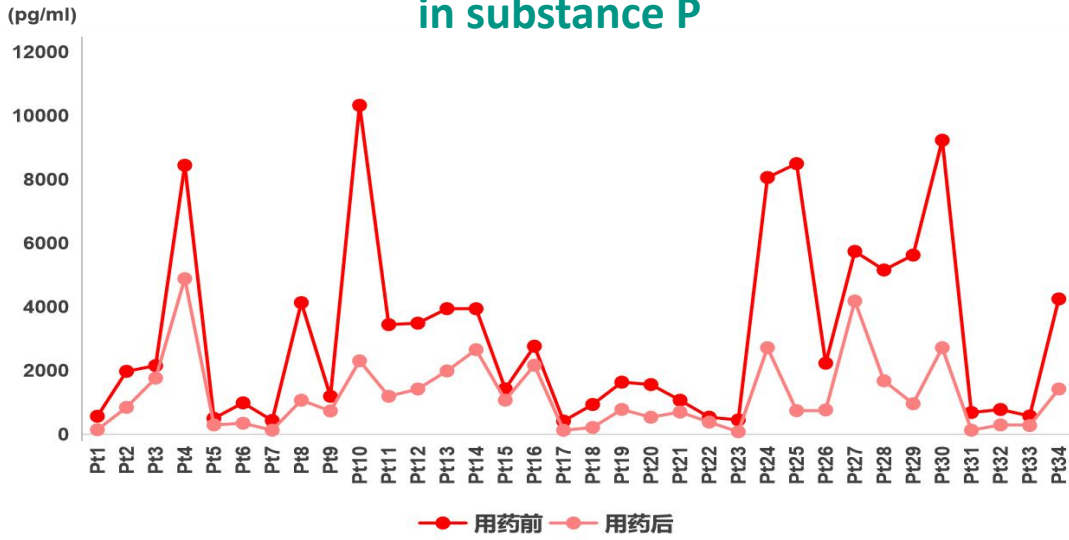
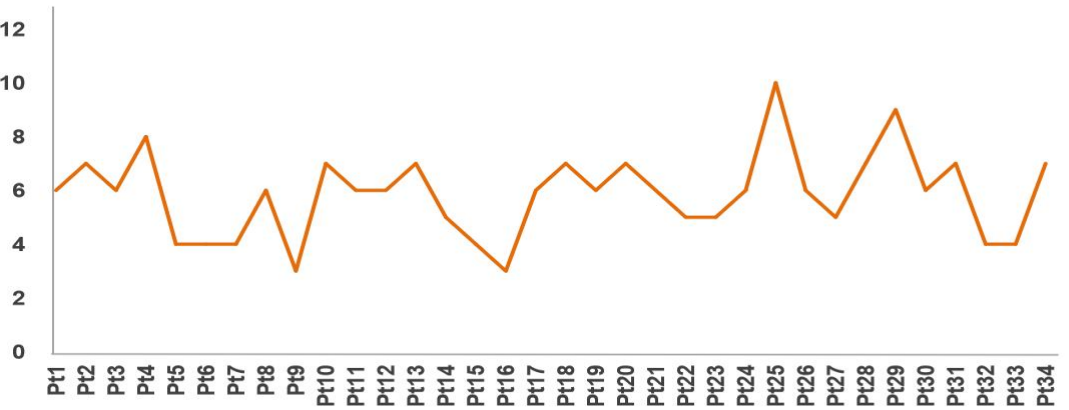


Figure 2. Change of VAS score in patients



## Conclusion

Substance-P in the blood is well-related with the efficacy of aprepitant for targeted drug-induced refractory pruritus in chinese malignancy population. It may provide a new and effective indicator for this therapy strategy, what we do next is to explore the cut-off value of substance-P at baseline who will benefit from the aprepitant.

CONFLICT OF INTEREST: There is no conflict of interest.  
If any question, please contact me. Email: hifo@263.net