

# Phase II study of SMILE chemotherapy for relapsed/refractory peripheral T-cell lymphoma

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## Background

Prognosis of patients with peripheral T-cell lymphomas is poor, particularly for those with relapsed/refractory disease.

We previously reported that **SMILE** (Steroid, Methotrexate, Ifosfamide, L-asparaginase and Etoposide) regimen is effective for newly-diagnosed stage IV, relapsed or refractory extranodal NK/T-cell lymphoma, nasal type (J Clin Oncol 2011).

Because of the many similarities in extranodal NK/T-cell lymphoma, nasal type and peripheral T-cell lymphoma (PTCL), the SMILE regimen was applied for PTCL.

## Objectives

The aim of this study is to examine the efficacy and safety of **SMILE regimen for relapsed/refractory PTCL**. Patients were treated with 2 courses of SMILE.

## Eligibility

- Histologic diagnosis of peripheral T-cell lymphoma
  - Peripheral T-cell lymphoma, not otherwise specified (PTCL-NOS)
  - Angioimmunoblastic T-cell lymphoma (AITL)
  - Anaplastic large cell lymphoma (ALCL), ALK-positive
  - Anaplastic large cell lymphoma (ALCL), ALK-negative
  - Hepatosplenic T-cell lymphoma (HSTL)
  - Enteropathy-associated (intestinal) T-cell lymphoma (EATL)
  - Primary cutaneous gamma-delta T-cell lymphoma (PCGDTL)
  - Primary cutaneous CD8 positive aggressive epidermotropic cytotoxic T-cell lymphoma (CD8-PCETL)
- Relapsed/refractory to the first-line treatment
- Age: 15 – 69 years
- PS (ECOG): 0 - 2
- At least one evaluable lesion
- Adequate organ function
- Written informed consent

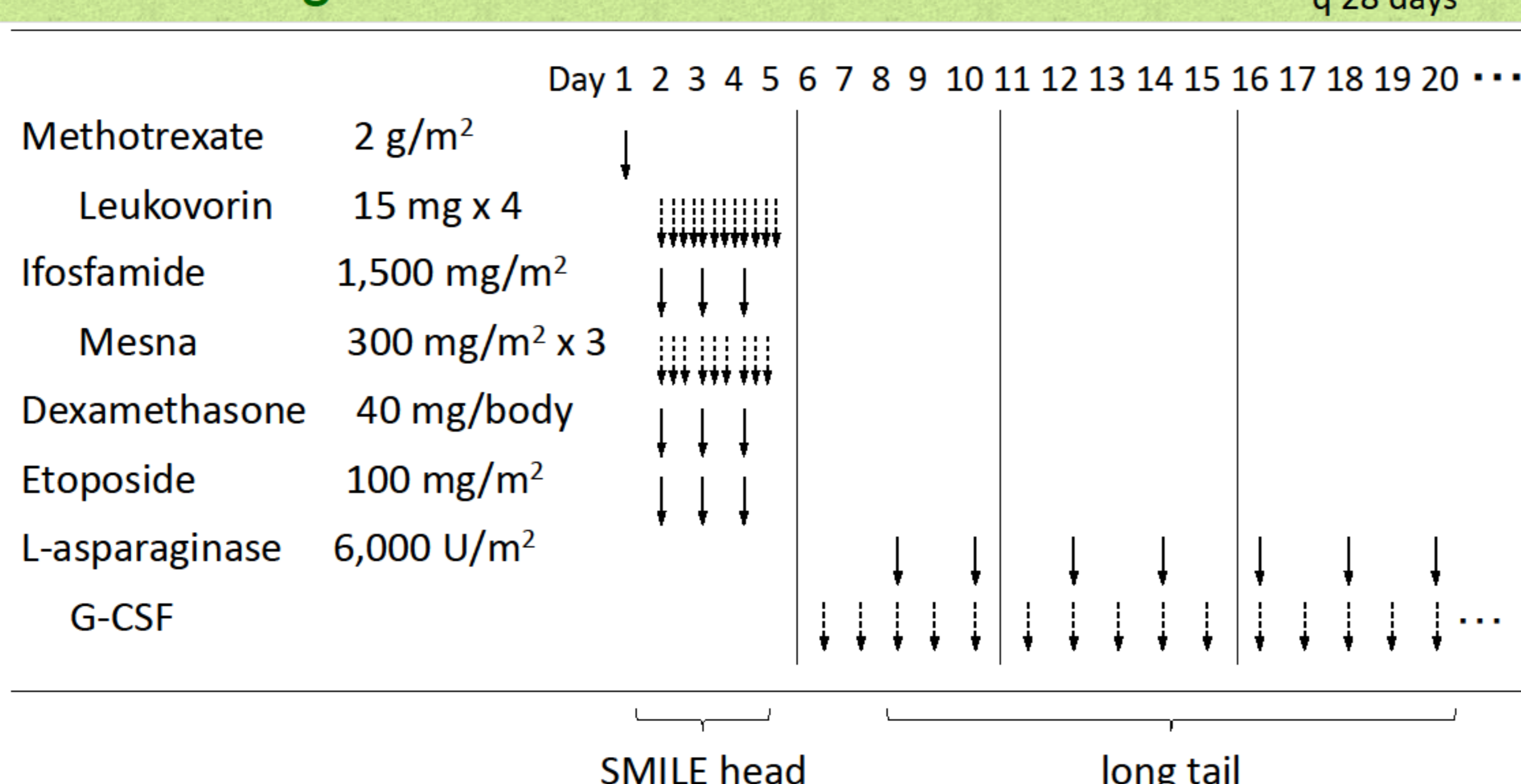
## Endpoints

Primary endpoint: Overall response rate (ORR)

Secondary endpoints:

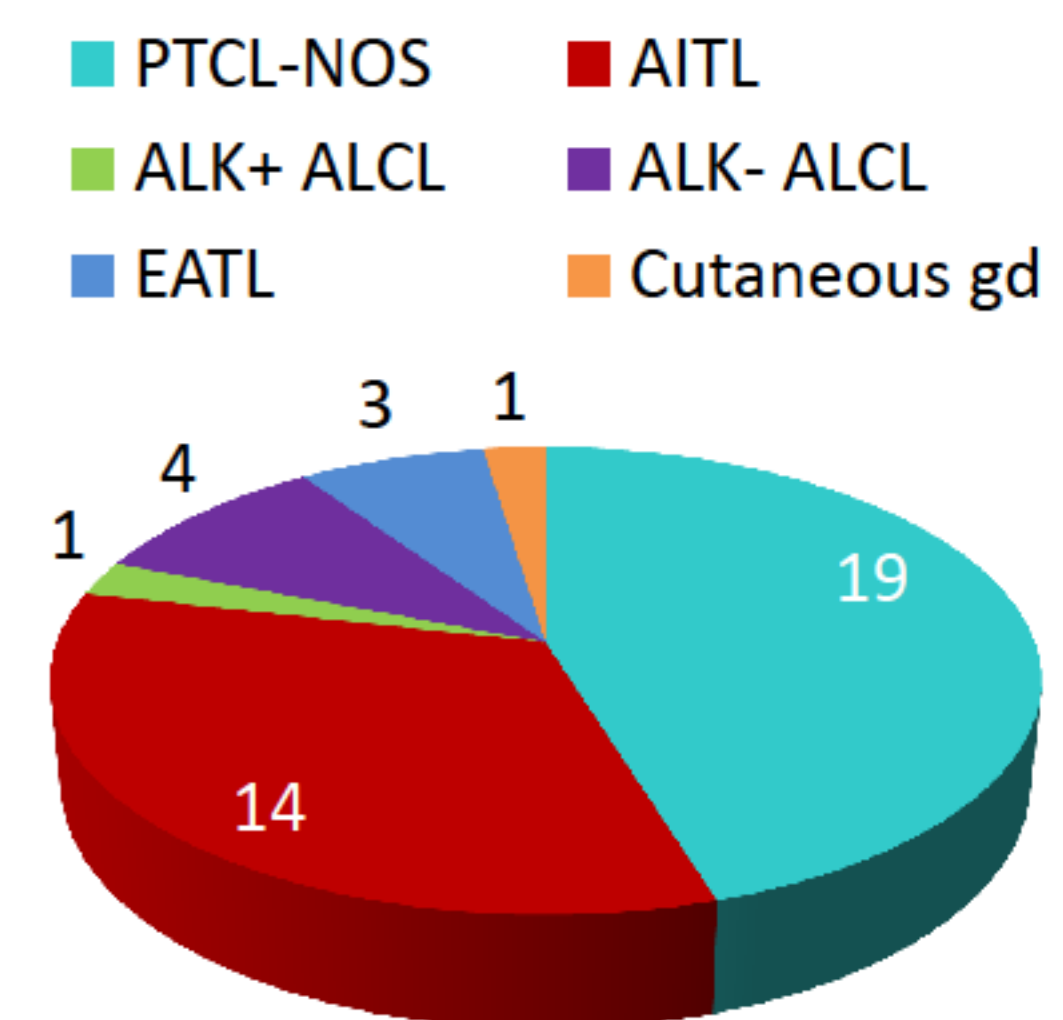
- Complete response rate (%CR)
- 1-year overall survival
- Response by relapsed/refractory categorization
- Response by disease subtype
- Rates of adverse event

## SMILE regimen



## Patient demographics

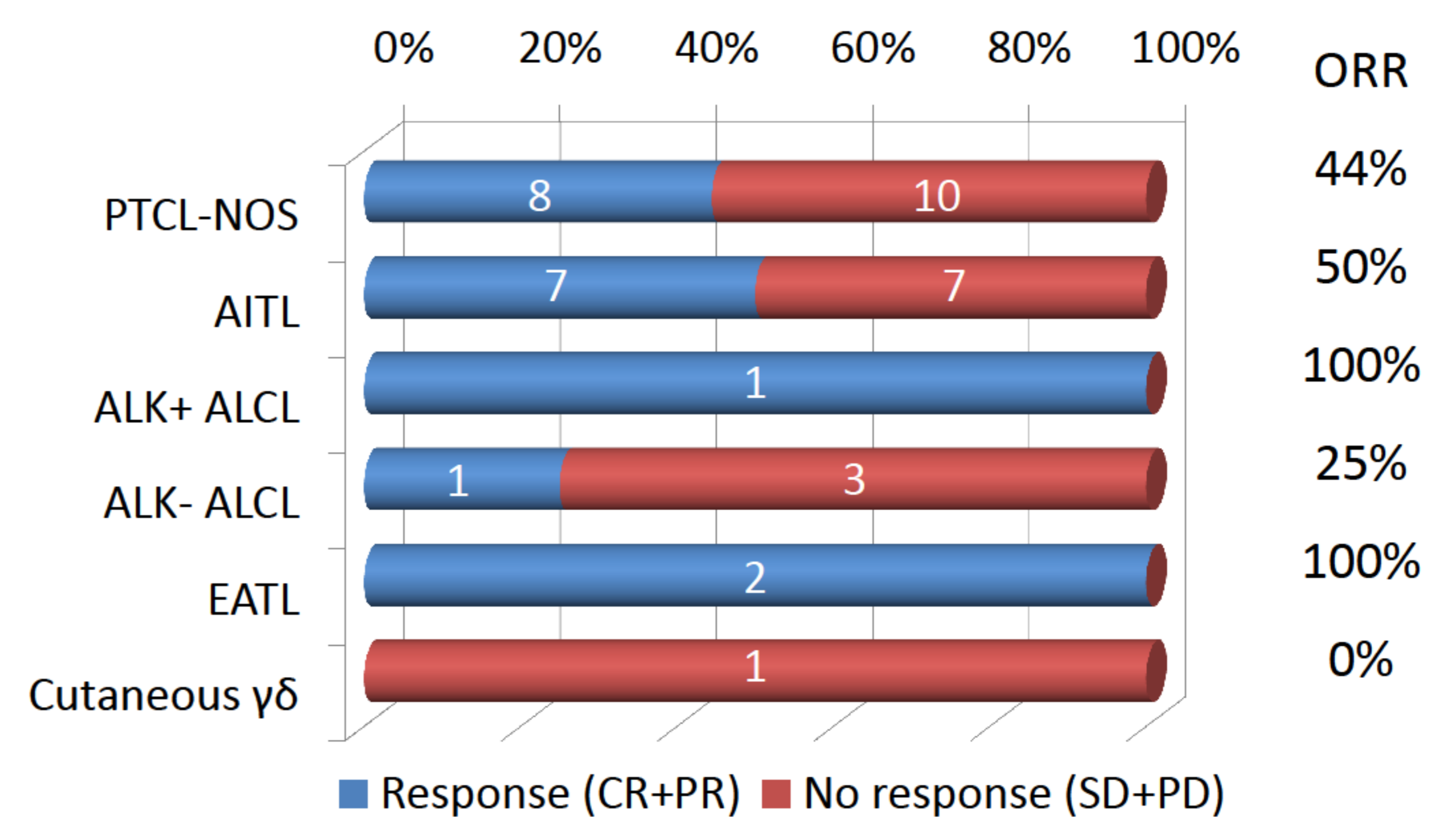
Age, median (range)	56 years (28-69)
Male : Female	33 : 9
Disease status	
First relapse	26 (62%)
Primary refractory	16 (38%)
PTCL subtype	
PTCL-NOS	19 (45%)
AITL	14 (33%)
ALK(+) ALCL	1 (2%)
ALK (-) ALCL	4 (10%)
EATL	3 (7%)
Cutaneous $\gamma\delta$ -TCL	1 (2%)
Performance status (0/1/2)	23 / 17 / 2



## Overall response

	Number of Patients	ORR (90% CI)
CR	6 pts	Total 48% (34-62%)
PR	13	
SD	6	Relapsed 64% (46-80%)
PD	15	Refractory 27% (10-51%)
Not evaluable	2	CR% 15% (95% CI: 6 -30%)

## Response by subtypes



## Severe adverse events & death

Toxic death	1 (sepsis)
Grade 4 non-hematologic	5
Death by lymphoma within treatment	1

## Conclusion

These results indicate that SMILE regimen is effective for relapsed/refractory PTCL. The efficacy was lower than that for extranodal NK/T-cell lymphoma, but the present T-SMILE study included more relapsed patients. Further follow-up is required to determine the duration of response and long-term efficacy.

