INPLASY

Antibody-drug conjugates with payload as topoisomerase 1 inhibitor versus irinotecan plus docetaxel versus docetaxel monotherapy in the treatment of NSCLC : a network meta-analysis

INPLASY202670093
doi: 10.37766/inplasy2026.7.0093
Received: 24 July 2026
Published: 24 July 2026

Lin, CC; Kung, CW.

Corresponding author:
Chin-Wei Kung

cwkung86@gmail.com

Author Affiliation:
National Taiwan University.

ADMINISTRATIVE INFORMATION

Support - No support.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202670093

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 July 2026 and was last updated on 24 July 2026.

INTRODUCTION

Review question / Objective P (Patient or Problem): advanced or metastatic non-small cell lung cancer (NSCLC)

I (Intervention or Indicator): antibody-drug conjugates (ADCs) with payload as topoisomerase 1 inhibitors

C (Comparator): irinotecan + docetaxel , docetaxel monotherapy

O (Outcome):
Efficacy: 1-year OS, 6-month PFS
Safety: grade≧3 AEs, TRAE leading to treatment discontinuation, TRAE leading to death.

Condition being studied Non-small cell lung cancer (NSCLC) constitutes 80 to 90% of primary is the largest part of lung malignancy. Most patients are already in advanced stage when they are diagnosed because there are no specific signs and symptoms initially. The traditional first-line choice of therapy for advanced stagethis status is platinum-based chemotherapeutic regimen. Docetaxel remains the standard second-line treatment of NSCLC. However, it has an unsatisfied prognosis under the conventional systemic therapy. With the advancement of genetic testing technologies, driver genetic alterations had been disclosed in NSCLC. For example, mutation in epidermal growth factor receptor (EGFR) has been found 15 to 50% in association with a considerable proportion of NSCLC (particularly adenocarcinoma) patients. For advanced or metastatic EGFR mutant NSCLC these patients or those with metastatic disease, the standard first-line treatment is EGFR tyrosine kinase inhibitors (TKIs) with chemotherapy or amivantamab.
In recent yearsdecades, immune checkpoint inhibitors (ICIs) have demonstrated revolutionary efficacy in many malignancies, including NSCLC. ICIs becomes first-line or second-line standardrole in the treatment of NSCLC without driver genetic alterations., it is still restricted to safety concern. ICIs sometimes cause There are so called immune

related adverse effects (irAE), which are documented relevantly associated with their use.
Antibody drug conjugates (ADCs) is a newer generation of anti-cancer drugs that combines highly specific antibodies with potent cytotoxic payloads called anti-drug conjugate (ADC) hashave made remarkable success in oncology and been approved for manyhundreds of indications.
Therefore, we performed this network meta-analysis which compareds the efficacy and safety of anti-TROP2 ADCs with topoisomerase I inhibitors as payloads as TOP1 inhibitors, irinotecan plus docetaxel, and docetaxel alone as the second-line therapy for advanced NSCLC.

METHODS

Participant or population Advanced or metastatic non-small cell lung cancer (NSCLC).

Intervention Antibody-drug conjugates (ADCs) with payload as topoisomerase 1 inhibitors.

Comparator Irinotecan + docetaxel , docetaxel monotherapy.

Study designs to be included Randomized controlled trial.

Eligibility criteria Without imposing any language restriction. The search combined keywords were as follows: (“anti-drug [P1.1]conjugate with payload as topoisomerase I inhibitor[P2.1]” or “ADC with payload as topoisomerase I inhibitor” or “anti-drug conjugate with payload as deruxtecan” or “ADC with payload as deruxtecan” or “anti-drug conjugate with payload as govitecan” or “ADC with payload as govitecan” or “anti-drug conjugate with payload as SN-38” or “ADC with payload as SN-38” or “ADC with payload as belotecan” or “anti-drug conjugate with payload as belotecan”) and (“irinotecan” or “CPT-11”) and (“docetaxel monotherapy”) and (“non-small cell lung cancer”). Any relevant published systematic reviews were also manually searched.

Information sources PubMed, ClinicalTrials.gov and the Cochrane Library.

Main outcome(s) 1. Fang et al. 2025--> sac-TMT showed statistically significant in ORR, PFS, OS over docetaxel
2. Paz-Ares et al. 2024--> SG didn't meet statistically significancy in OS, compared with docetaxel
3. Ahn et al. 2024--> Dato-DXd significantly improved PFS versus docetaxel
4. Wachters et al. 2005--> irinotecan combined with docetaxel didn't improve response rate over docetaxel
5. Pectasides et al. 2004--> irinotecan plus docetaxel didn't improve significantly RR, 1-year survival.

Quality assessment / Risk of bias analysis The evaluation of the study quality considered six factors: selection bias, performance bias, detection bias, attrition
bias, reporting bias, and otherbias.

Strategy of data synthesis We used MetaInsight (version 4.0.2, Complex Review Support Unit, National Institute for Health Research, London, UK) for the data analysis of outcomes.

Subgroup analysis Asian/non-Asian.

Sensitivity analysis One-study removal.

Language restriction None.

Country(ies) involved Taiwan.

Keywords ADC with payload as topoisomerase 1 inhibitor; irinotecan; docetaxel monotherapy; NSCLC.

Contributions of each author
Author 1 - Chia-Chi Lin.
Author 2 - Chin-Wei Kung.