



P2.339: Trial in Progress: Neoadjuvant Tislelizumab Plus Platinum-Based Chemotherapy in Resectable Malignant Pleural Mesothelioma

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INTRODUCTION

Malignant pleural mesothelioma (MPM) is a rare and aggressive malignancy associated with poor survival despite multimodality treatment. For selected patients with resectable disease, surgery combined with chemotherapy remains a standard treatment approach; however, recurrence rates remain high and long-term outcomes are unsatisfactory. Immune checkpoint inhibitors targeting the PD-1/PD-L1 pathway have demonstrated clinical benefit in advanced MPM, particularly following the positive results of CheckMate 743. Nevertheless, the role of immunotherapy in the perioperative setting remains largely unexplored.

This is a prospective, single-arm, exploratory study. Patients with resectable MPM receive neoadjuvant tislelizumab plus pemetrexed-platinum chemotherapy for four cycles followed by surgery. The study evaluates MPR, ORR, PFS, OS, and safety. Blood, stool, and tumor tissue samples are collected for biomarker analyses, and correlations between biomarkers and clinical outcomes will be explored.

Sample size

This is a prospective, single-arm, exploratory study. A total of 20 patients with resectable MPM, as determined by a multidisciplinary team, are planned for enrollment. As of August 2026, five patients have been enrolled.

Clinical Trial Registration:
ChiCTR2500106112

METHODS

Study Design

Key Eligibility Criteria

- Age 18–80 years
- Histologically/cytologically confirmed MPM (epithelioid, sarcomatoid, or biphasic)
- Disease confined to one hemithorax
- Resectable or potentially resectable disease per MDT assessment
- ECOG PS 0–1
- Life expectancy ≥3 months

Neoadjuvant Treatment

Tislelizumab 200 mg
Pemetrexed 500 mg/m²
Carboplatin (AUC 5)
or Cisplatin 75 mg/m²
Q3W, 4 cycles

Pleurectomy/
Decortication
(P/D)

PD or Unacceptable
Toxicity

Biospecimen
Collection

Biospecimen
Collection

Primary Endpoint: P/D rate
Secondary Endpoints: MPR, ORR, PFS, OS, and Safety
Exploratory Analyses: TME characterization, mIHC, circulating biomarkers, gut microbiota, and single-cell sequencing

Key Inclusion Criteria

- Age 18–80 years
- Histologically or cytologically confirmed MPM (epithelioid, sarcomatoid, or biphasic)
- Disease confined to one hemithorax
- Resectable or potentially resectable disease per MDT assessment
- ECOG PS 0–1
- Life expectancy ≥3 months
- Adequate organ function
- Written informed consent

Key Exclusion Criteria

- Participation in another interventional clinical trial
- Unresectable advanced MPM
- Severe cardiopulmonary dysfunction
- End-stage renal failure requiring dialysis
- Hepatic failure
- Uncontrolled systemic disease
- Pregnancy or breastfeeding

References: Sung H, et al. CA Cancer J Clin. 2021;71:209-249. Janes SM, et al. N Engl J Med. 2021;385:1207-1218. Lapidot M, et al. Ann Surg. 2022. Baas P, et al. Lancet. 2021;397:375-386. Chu, et al. J Clin Oncol. 2023