Malignant pleural mesothelioma (MPM) is an uncommon but aggressive neoplasm with low survival rates. For patients with early stage - resectable MPM the role of radical surgery remains controversial and multimodal treatment might improve patients’ prognosis. Dendritic cell therapy (DCT) with Mesopher proved to be safe and yielded promising results in patients with MPM, with single agent radiological activity1-2, representing the rationale for a combined (neo)adjuvant approach with extended pleurectomy/decortication (eP/D) surgery.

**Trial Design**

Open label, single center (Erasmus MC), feasibility study.

**Study Objectives**

To assess whether (neo)-adjuvant DCT with Mesopher is feasible in resectable epithelioid MPM patients after first-line chemotherapy.

**Secondary objective**

Safety, efficacy (as measured by progression free and overall survival).

**Exploratory objective**

Determine the anti-tumor immune response induced by (neo)adjuvant DCT. Tumor-specific immune activation will be investigated on both tumor material and peripheral blood samples prior and post DCT by flow cytometry, imaging mass cytometry, and T-cell receptor (TCR) repertoire analysis.

**Study Information**

**Status:** Recruiting at the Erasmus MC, Rotterdam, NL

**EudraCT number:** 2021-000496-37

**Lead Investigator:** Prof. Joachim G.J.V. Aerts

**ClinicalTrials.gov Identifier:** NCT05304208

**Background**

**Key Eligibility Criteria**

- Histologically confirmed diagnosis of epithelioid MPM.
- Resectable disease defined by stage CT1-3. N0-1. M0 (I to IIIA)
- Eligibility for 2 to 4 cycles of platinum-based chemotherapy.
- Fit to undergo a P/D with optional removal of hemidiaphragm and pericardium.
- Tumor tissue available after completing chemotherapy and before starting treatment with DCT.
- Adequate bone-marrow, renal, and liver function.
- ECOG performance status of 0 or 1.

**Exclusion criteria**

- Clinical or radiological invasion of mediastinal structures and widespread chest wall invasion (stage T4). Involvement of N2 nodes.
- Stage IV (metastatic disease).
- Any different histology from the epithelioid MPM.
- Unavailability of tumor tissue after completing chemotherapy.
- Use of >10 mg of prednisolone or equivalent/day (or other immunosuppressive agents).
- Prior treatment of any kind for MPM.
- Any previous malignancy.
- Major surgical procedure in the last month.

**References**
