EUROPEAN UNION

LiT-Met

Liver transplantation for colorectal liver metastases

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On behalf of the LiT-Met consortium

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5 years Cancer Mission:
Stronger Through Connection

BRUSSELS
29 SEPTEMBER – 01 OCTOBER

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Liver transplantation
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The challenge

According to WHO, colorectal cancer (CRC) is the third most common cancer worldwide, accounting for approximately 10% of all cancer cases, and the second leading cause of cancer-related deaths[1]. The liver is the most common site of CRC metastasis, a major cause of CRC-related mortality.

Approximately **40–50% of patients** with colorectal cancer develop liver metastases during the course of their disease.

The liver may be the **only site** of metastatic disease or one of several metastatic sites.

Surgical resection remains the standard potentially curative treatment when feasible.

For selected patients with unresectable liver-only disease, **liver transplantation** is emerging as a potential treatment option.

Clinical problem

Many patients with borderline resectable or unresectable CRLM face complex surgical options, high recurrence risk and limited long-term survival

Opportunity

Liver transplantation, with rigorous selection criteria and biomarkers, can deliver a step-change in survival and open a new field of transplant oncology.

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Overview of the LiT-Met research programme

STUDIES

Retro-Met
Compare past outcomes and develop risk models

ELI-Trans
Test transplantation against complex resection

Pro-Met
Track outcomes and ctDNA recurrence markers

Ex vivo study
Test interventions with matched human tissue

LiT-Met

Integrated evidence

SELECTION AND IMPLEMENTATION

AI and biomarkers
Improve prediction and patient selection

Patient-reported outcomes
Measure quality of life and patient experience

Cost-effectiveness
Compare costs and health benefits

Access and equity
Identify barriers and inform allocation policies

Shared purpose: better treatment decisions and fair access



Three complementary clinical studies

Sample size

Retro-Met
Retrospective

1,776 planned patients

Purpose
Compare surgical outcomes and develop prognostic models

ELI-Trans
Randomised trial

207 planned patients

Purpose
Test transplantation against complex liver resection

Pro-Met
Prospective cohort

82 planned patients

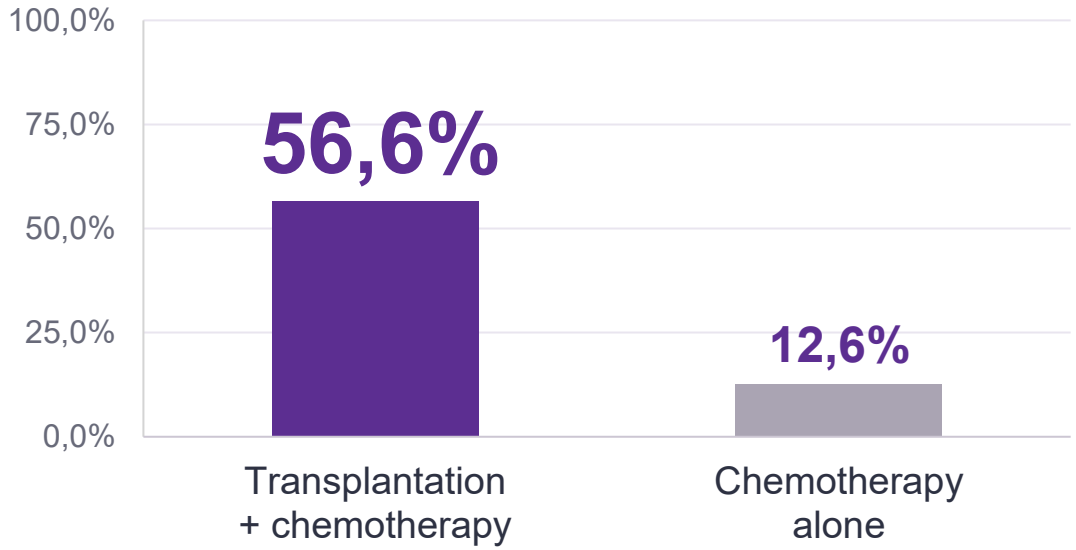
Purpose
Study transplant outcomes and ctDNA recurrence markers



The evidence gap: can we shift the paradigm?

UNRESECTABLE DISEASE

TransMet randomised trial



5-year survival, intention-to-treat population, n = 94

BORDERLINE RESECTABLE DISEASE

Retrospective comparisons

Promising, selection-dependent findings* do not establish superiority over resection.

ELI-Trans

Randomised comparison of transplantation with complex liver resection

*Adam et al., Lancet 2024. Nakao et al. and Serenari et al., Ann Surg 2026 (online 2025).



ELI-Trans: the central clinical comparison

207 participants

Planned enrolment borderline resectable, liver-only CRLM

Randomise

104: transplantation

Planned treatment group

103: complex resection

Planned treatment group

Primary endpoint

Overall survival at 3 years

Also assessed: recurrence, safety and quality of life



Better patient selection

Development and validation of AI-powered predictive models for patient stratification and transplant optimization.

Multimodal data integration

- Clinical history
- Imaging
- Histopathology
- Molecular biomarkers

Prognostic models

Estimate outcomes
Identify risk groups
Explain predictions

Independent validation

Test performance and
clinical usefulness

Clinical decision support tool

Inform multidisciplinary clinical decision
and treatment selection

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Beyond clinical research

A prospective multicentre observational ex vivo study

Aim | test interventions in perfused human livers under matched experimental conditions; reduce animal experiments

Explanted livers

From adult patients with CRLM undergoing planned resection or transplantation. No change to patient care.

Split-liver NMP

Each liver is divided and perfused for 48h on two independent normothermic circuits.

Matched comparison

Treated vs
Control portion

Analyses:

- **All centres**: cytokines, molecular profiles and cell death
- **Specific analyses in the 3 centres**: bioactive liposome, AAV vectors and growth stimulation

Study design: 5 years (2-year enrolment, 3-year study), 18 livers planned, 3 centres, 6 livers each



Beyond Survival: economics, equity and policy Evidence for patients and health systems

Patient-reported outcomes

Quality of life
Patient experience

Health economics

Cost-effectiveness analysis of liver resection vs liver transplantation across European healthcare systems

Access and equity

Analysis of regional and systemic disparities in access to liver transplantation for CRLM across Europe

Clinical guidance and organ allocation policies

Evidence to inform sustainable, equitable care across Europe



Expected impacts

We seek to show whether liver transplantation (LT) can be a superior alternative to complex liver resection (LR) and help patients live longer and better, thus addressing a long-standing gap in European cancer care.

For Patients

Longer survival, improved quality of life and more equitable access to care

For Decision makers

Actionable evidence on clinical effectiveness, cost-effectiveness and patient-centred outcomes.

For Researchers

Access to high-quality evidence, multimodal datasets and innovative AI tools.

For Clinicians

Enhanced capacity to personalise treatment and optimise patient selection.



The LiT-Met consortium across Europe

21 organisations
13 participating countries
10 million EU funding

Coordinated by
University of Bologna, Italy





Liver Transplantation for Colorectal Liver Metastases: An International Real-Life Analysis of Post-Transplant Outcomes

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https://lit-met.eu/

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