HepatoPredict

A prognostic tool supporting the decision of liver transplantation in hepatocellular carcinoma

Ophiomics

Liver transplantation (LT) is the best curative treatment for HCC patients. Currently used criteria to identify patients for transplantation are either **too strict**, rejecting patients that could benefit from the transplant or **overestimate the benefit from a LT**, selecting patients that will relapse afterwards.

HepatoPredict addresses this clinical challenge by identifying HCC patients that will benefit from a liver transplant with high precision and sensitivity.

Captures biology of the tumor through a **gene expression** signature

Combines **tumor biomarkers** with **clinical variables**

Integrates data through **machine learning** algorithm

Outperforms current criteria for liver transplantation

Results in less than 24h; Hands-on time: 5h

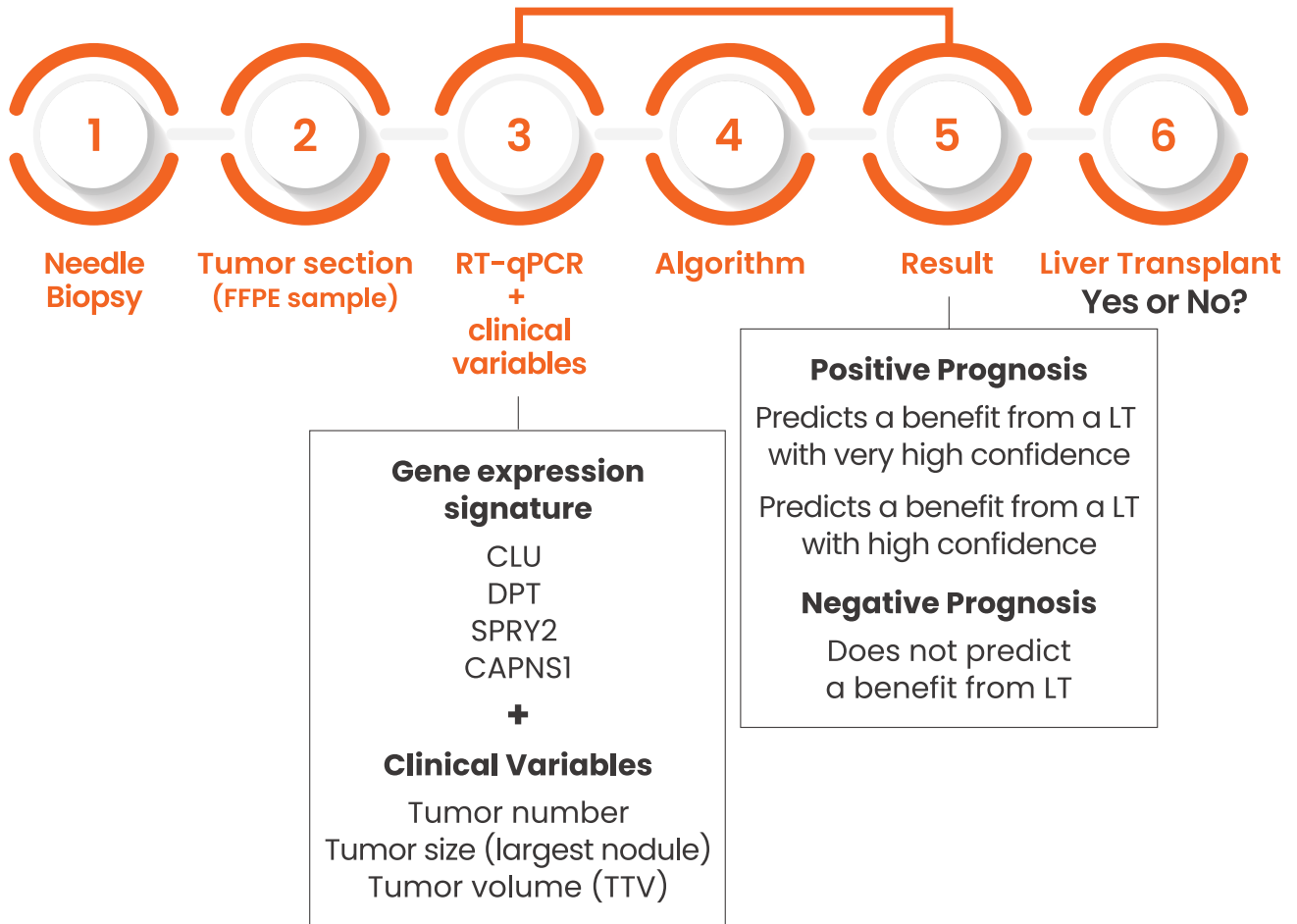Results in a clear and objective report

Easy access to results via "MyOphiomcs" portal

Identifies patients that benefit from LT with high precision PPV=94%

Identifies 30% more patients than currently used criteria PPV=88.5%

HepatoPredict relies on a proprietary algorithm developed by Ophiomics

HepatoPredict

1	2	3	4	5	6
Needle Biopsy	Tumor section (FFPE sample)	RT-qPCR + clinical variables	Algorithm	Result	Liver Transplant Yes or No?

Gene expression signature

CLU
DPT
SPRY2
CAPNS1

+

Clinical Variables

Tumor number
Tumor size (largest nodule)
Tumor volume (TTV)

Positive Prognosis

Predicts a benefit from a LT with very high confidence

Predicts a benefit from a LT with high confidence

Negative Prognosis

Does not predict a benefit from LT

Clinically and analytically validated

References

Pinto-Marques et al. (2022) A gene expression signature to select hepatocellular carcinoma patients for liver transplantation. Annals of Surgery. *In press*

Gonçalves Reis et al. (2022) Analytical validation of HepatoPredict kit to assess hepatocellular carcinoma prognosis prior to a liver transplant. *Submitted*

Cardoso et al. (2022) New criteria in liver transplantation for hepatocellular carcinoma: a combined molecular and clinical predictor of survival [Oral presentation]. *Transplantation*. https://ilts.org/education/abstracts.

Cardoso et al. (2021). A new tool for predicting survival in liver transplantation for hepatocellular carcinoma combining molecular and clinical variables [Poster Presentation]. *Journal of Hepatology*, 75(2), S475. https://doi.org/10.1016/S0168-8278(21)01843-2.

Benefits For Clinical Centres/ Medical Professionals

- More effective organ allocation
- Better success rates for liver transplantation
- Better waiting lists management
- Reduced costs per successful transplant (less resources spent on failed transplants)

Benefits For Patients

- Access to curative-intent treatment for patients currently not eligible for liver transplant
- Can provide earlier access to transplantation waiting list for downstaged patients if used instead of a 'wait-and-see' approach
- Early identification of bad prognosis patients can direct them earlier for more effective treatments
- Better quality of life

CE IVD

Ophiomics

BIOCARTIS