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THE CLIFF AND CONOR STUDIES NOVEL ASSESSMENT TOOLS IN COLORECTAL LIVER METASTASES (CLIFF STUDY - CHANGE IN LIVER FUNCTION AND FAT IN PRE-OPERATIVE CHEMOTHERAPY FOR COLORECTAL LIVER METASTASES, CONOR STUDY)

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Introduction: Hepatic resection is the only potentially curative treatment for patients with colorectal liver metastases (CLM). Patient selection is key, but there is wide variation in practice. Pre-operative chemotherapy can improve oncological outcomes, however chemotherapy-associated liver injury (CALI) may hinder liver regenerative capacity. Standard pre-operative assessments fail to accurately capture factors such as CALI and future liver remnant (FLR) function. The CLiFF and CoNoR studies utilise two novel assessment techniques, aiming to improve patient outcomes.

Method: The CLiFF study prospectively assesses two primary outcomes in 35 patients undergoing pre-operative chemotherapy for CLM: 1) change in liver function (via LiMAX test: direct assessment of hepatic functional capacity), and 2) change in liver fat (via advanced MR imaging (in-house spectroscopy and modified Dixon technique, scaled up via Perspectum LiverMultiScan)). The CoNoR study assesses potential added benefit of these novel tools in CLM resectability decision-making via sequential workstreams: a systematic review and international hepatobiliary expert interviews inform the online survey, assessing added benefit via online MDT scenarios.

Result: Preliminary CLiFF analysis suggests that CALI changes in liver fat and function are unrelated. Liver fat analysis techniques are compared and correlated with digital histological analysis. The CoNoR systematic review identifies key factors influencing CLM resectability decision-making and informs the international expert interviews, scheduled to occur during a February 2020 international hepatobiliary conference.

Conclusion: These studies are the first to assess where these novel tools might be utilised to maximal patient benefit within the Hepatobiliary MDT, and the first systematic review in CLM resectability decision-making.

Take-home message: These two linked studies evaluate the use of two novel assessment tools in the treatment of colorectal liver metastases, with the potential to improve patient selection for curative resection and patient outcomes.