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CT-based tumour response criteria compared after combined treatment for liver metastases of colorectal cancer

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Purpose: The aim of this analysis is to compare different tumour response criteria (TRC) after chemotherapy combined with bevacizumab in liver metastases from colorectal cancer (mCRC) to ascertain the best early prognostic indicator of response.

Methods and Materials: 103 target liver metastases from 65 mCRC patients treated with chemotherapy plus bevacizumab were examined at the Istituto Oncologico Veneto IOV-IRCSS (March 2008-January 2013). All patients had baseline CT and at least one follow-up scan. Tumour response was retrospectively analyzed by two radiologists using RECIST1.1, modified Choi, and Chun morphologic criteria. Tumour response, classified as good (complete or partial response) or poor (stable or progressive disease), was compared with progression-free survival (PFS) at first follow-up (t1) and time of best response. Interobserver agreement and concordance between TRC were measured.

Results: At t1, 32.31% showed a good response according to RECIST1.1 (median PFS 11.1), 84.62% according to Choi (median PFS 10.8). These percentages rose to 49.23% (median PFS 12.1) and 87.69% (median PFS 10.8), respectively, at the time of best response. According to Chun, 67.69% showed a good response at the time of best response (median PFS 10.8). The Choi criteria detected a higher proportion of good responders at t1, showing a better correlation with PFS; all methods correlated with PFS at the time of best response.

Conclusion: The Choi criteria proved more consistent in the early detection of response in mCRC treated with chemotherapy plus bevacizumab, underscoring the importance of using these criteria in the early assessment of response to combined treatment.