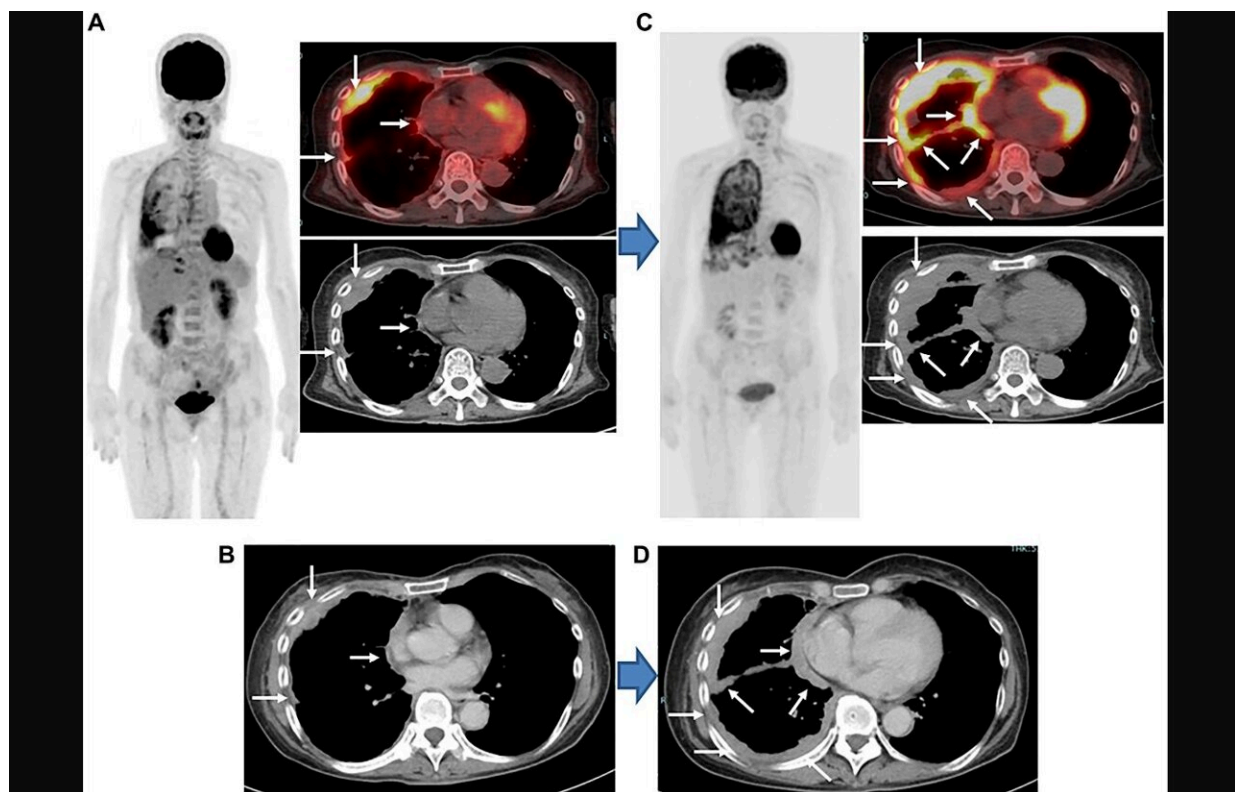


Comparison of FDG-PET/CT and CT for treatment evaluation of patients with unresectable malignant pleural mesothelioma

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Epithelioid MPM, stage IIIB (cT4N0M0), woman, 64 years old. Credit: *Oncotarget* (2024). DOI: 10.18632/oncotarget.28594

A new research paper titled "Comparison of FDG-PET/CT and CT for evaluation of tumor response to nivolumab plus ipilimumab combination

therapy and prognosis prediction in patients with unresectable malignant pleural mesothelioma" has been [published](#) in *Oncotarget*.

Malignant pleural mesothelioma (MPM) is an aggressive neoplasm and affected patients have low survival rates. In this new retrospective study, researchers Kazuhiro Kitajima, Kozo Kuribayashi, Toshiyuki Minami, Hiroyuki Yokoyama, Akifumi Nakamura, Masaki Hashimoto, Takashi Kijima, Seiki Hasegawa, Hayato Kaida, and Koichiro Yamakado from Hyogo Medical University and Kindai University Faculty of Medicine examined the effectiveness of fluorodeoxyglucose positron emission tomography (FDG-PET) criteria, i.e., immunotherapy-modified PET response criteria in [solid tumors](#) (imPERCIST), with morphological computed tomography (CT) criteria, i.e., modified response evaluation criteria in solid tumors (mRECIST), to evaluate patients with unresectable MPM undergoing nivolumab plus ipilimumab combination therapy as first-line treatment regarding response and prognosis prediction.

"Results for [malignant pleural mesothelioma](#) (MPM) patients following first-line treatment with nivolumab plus ipilimumab obtained with immunotherapy-modified PERCIST (imPERCIST), shown by [18F] (FDG-PET/CT), and modified RECIST (mRECIST), shown by CT, were compared for response evaluation and prognosis prediction," the researchers state.

Twenty-six patients (23 males, 3 females; median 73.5 years) with histologically proven MPM and no curative surgery received nivolumab plus ipilimumab combination therapy. FDG-PET/CT and diagnostic CT scanning at the baseline, and after 2–4 cycles (2 in three, 3 in 17, 4 in six patients) were performed. Therapeutic response findings evaluated using imPERCIST and mRECIST were compared. PFS and OS analyses were done using log-rank and Cox methods.

The results show that imPERCIST indicated nine progressive metabolic disease (PMD), eight stable metabolic disease (SMD), four partial metabolic response (PMR), and five complete metabolic response (CMR) cases. mRECIST showed nine with progressive disease (PD), nine stable disease (SD), seven partial response (PR), and one complete response (CR). Although high concordance was noted ($\kappa = 0.827$), imPERCIST correctly judged a greater percentage with CMR (15.4%). Following a median of 10.0 months, 15 patients showed progression and eight died from MPM. With both, [progression-free survival](#) (PFS) and overall survival (OS) were significantly longer in patients without progression (CMR/PMR/SMD, CR/PR/SD, respectively) as compared to PMD/PD patients (imPERCIST p

"For unresectable MPM patient examinations, FDG-PET and CT provide accurate findings for evaluating tumor response and also prognosis prediction following first-line nivolumab plus ipilimumab immunotherapy (approximately three cycles)," the researchers conclude.

More information: Kazuhiro Kitajima et al, Comparison of FDG-PET/CT and CT for evaluation of tumor response to nivolumab plus ipilimumab combination therapy and prognosis prediction in patients with unresectable malignant pleural mesothelioma, *Oncotarget* (2024). [DOI: 10.18632/oncotarget.28594](https://doi.org/10.18632/oncotarget.28594)

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