

Publication**Accuracy of CT parameters for assessment of tumour size and aggressiveness in lung adenocarcinoma with bronchoalveolar elements****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1193591**Author(s)** Bhure, U N; Lardinois, D; Kalff, V; Hany, T F; Soltermann, A; Seifert, B; Steinert, H C**Author(s) at UniBasel** [Lardinois, Didier](#) ;**Year** 2010**Title** Accuracy of CT parameters for assessment of tumour size and aggressiveness in lung adenocarcinoma with bronchoalveolar elements**Journal** British journal of radiology**Volume** 83**Number** 994**Pages / Article-Number** 841-9

Accurate determination of tumour size in lung adenocarcinoma with bronchoalveolar features (BAC) is important for the determination of TNM (tumour, nodes, metastasis) scores used in staging, prognosis and therapy response assessment. However, tumour sizes derived using lung window (LW) CT or soft-tissue/mediastinal window (MW) CT often give different results. This study examines which measurement correlates best with actual tumour size and which best identifies advanced disease. This retrospective study included 43 BAC patients who underwent surgical resection with mediastinal lymphadenectomy <4 weeks post CT scan. The largest unidimensional tumour diameter on each CT window was compared with actual histopathological tumour size (HP). LW, MW and HP size measurements and a recently described CT parameter - the modified tumour shadow disappearance rate (mTDR) = $(1 - [MW/LW])$ - were then used to determine which parameter best discriminated between the presence or absence of advanced disease. There was no difference between HP and LW sizes, but MW significantly underestimated HP size ($p < 0.0001$). Unlike MW ($p = 0.01$) and mTDR ($p = 0.001$), neither HP ($p = 0.14$) nor LW ($p = 0.10$) distinguished between patients with or without advanced disease. On receiver operating characteristic (ROC) analysis at a cut-off of 0.13, the sensitivity and specificity of mTDR for detecting advanced disease were 69% and 89%, respectively. In patients with tumours 3 cm, only mTDR remained a significant predictor of advanced disease ($p = 0.017$), with best cut-off at 0.20, giving a sensitivity and specificity of 71% and 94%, respectively. MW better predicts advanced disease than LW and might also need to be recorded for RECIST (response evaluation criteria in solid tumours) assessment for T staging of BAC; however, mTDR appears to be an even better predictor and should also be used.

Publisher British Institute of Radiology**ISSN/ISBN** 0007-1285**edoc-URL** <http://edoc.unibas.ch/dok/A6003833>**Full Text on edoc** No;**Digital Object Identifier DOI** 10.1259/bjr/13711326**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/20846983>**ISI-Number** WOS:000281869900005**Document type (ISI)** Journal Article