

## **The application of Diffusion Weighted Whole Body Imaging with Background Body Signal Suppression (DWIBS) in lung malignancies pre- and post-treatment with CT-guided Ar-he cryoablation**

M. X. yin<sup>1</sup> and M. X. yin<sup>1</sup>

<sup>1</sup>radiology, coal general hospital, beijing, beijing, China, People's Republic of

**Purpose:**DWIBS is a new technique to depict lesions of body which some authors called PET like imaging. It can show both original tumors and metastasis. Ar-he cryoablation is an effective method in the treatment of lung malignancies, but it is hard to evaluate its curative effects with CT. PET is effective but with higher cost and radiation. The purpose of this study is to evaluate the role of DWIBS in lung malignancies pre- and post-treatment with CT-guided Ar-he cryoablation .

**Materials :**47 patients with lung malignancies were enrolled in this study. Male 34 ,female 13,age from 37-76yrs,mean 60.6 yrs. Among the 47 patients,42 were patients with lung cancer,5 with metastasis from other organs. All the 47 patients were scanned with DWIBS pre- and post-treatment with CT-guided Ar-he cryoablation with 3.0T Intera Achieva Philips within 10 days.20 patients with PET examination,8 pre- and 12 post-treatment with CT-guided Ar-he cryoablation. DWIBS imaging parameters were as follows: STIR-EPI sequence, b=0,800, EPI factor 75,Achieva 3.0T,8 channel SENSE Torso coil, sense factor 2,Fov 400mm,slice thickness 4mm,gap 0,slices 44,Matrix 256X256,TR/TE/NSA =8000/60ms/7,total scan time 12'24",using MIP reconstruction, reverse window. **Results:**All the 47 patients shown changes of lung malignancies pre- and post-treatment with CT guided Ar-He cryoablation with DWIBS. Among the 20 cases with both PET and DWIBS, these two methods demonstrate well consistency.96.4% lesions depicted by DWIBS demonstrate consist with PET. The images were successfully obtained with adequate fat suppression. **Conclusion:**DWIBS is very useful in the evaluation of lung malignancies. It can demonstrate the curative effect of CT-guided Ar-He cryoablation in the treatment of lung malignancies. And this technique is provided to be a new method to screen malignancies in the whole body.