Supplemental Table 1: Detailed analysis of 9 patients with a clinical diagnosis of lung cancer (absence of pathological proof). Legend: CT-scan: Computed Tomography scan; LUL: Left Upper Lobe; LLL: Left Lower Lobe; RUL: Right Upper Lobe; RLL: Right Lower Lobe; FDG-PET: FluoroDesoxyGlucose Positron Emission Tomography-scan; BSC: Best Supportive Cave; RT: Radiotherapy (stereotactic); DOD: Dead Of Disease

Patient	Clinical factors				CT-scan features				FDG-PET-scan	Sputum/BAL microbiology	Anti biotics	Probability of cancer				Follow-up			Status
	Age (year)	Extrathoracic cancer	Smoking history	Diagnosis setting*	Location	Largest Diameter (mm)	Aspect	Image				Volume doubling time (days) +	Mayo Clinic Model^	Mayo clinic and FDG-PET model #	Treatment	Volume doubling time (days) **	Metastases	Overall Survival (months)	
#1	74	No	Former	Incident	LUL	43	Spiculated	Supplemental figure 1A	Intense Uptake	Negative	No effect	67	98.3	90.9	BSC	82	Brain metastases	2.9	DOD
#2	74	No	Former	Incident	LUL	17	Spiculated	Supplemental figure 1B	Intense Uptake	Negative	No effect	300	72.6	88.1	BSC	243	Pulmonary metastases	12.1	DOD
#3	87	No	Former	Incident	LLL	20	Spiculated	Supplemental figure 1C	Intense Uptake	Negative	No effect	123	72.2	88.0	BSC	145	Pulmonary metastases	4.3	DOD
#4	78	No	Former	Incident	LUL	21	Spiculated	Supplemental figure 1D	Intense Uptake	Negative	No effect	180	82.0	89.3	BSC	154	Bone metastases	14.6	DOD
#5	61	Yes	Former	Incident	LUL	14	Spiculated	Figure 1	Intense Uptake	Negative	No effect	112	85.9	89.7	RT	0	Bone metastases	24.1	DOD
#6	80	Yes	Current	Incident	RUL	18	Spiculated	Supplemental figure 1E	Intense Uptake	Negative	No effect	130	92.8	90.4	BSC	190	Bone and liver metastases	8.9	DOD
#7	79	No	Former	Incident	RLL	19	Spiculated	Supplemental figure 1F	Intense Uptake	Negative	No effect	65	62.6	86.4	BSC	76	Brain and liver metastases	5.6	DOD
#8	78	No	Former	Incident	LUL	26	Spiculated	Supplemental figure 1G	Intense Uptake	Negative	No effect	210	89.6	90.1	BSC	125	Pulmonary metastases	6.3	DOD
#9	75	Yes	Former	Incident	RUL	42	Spiculated	Supplemental figure 1H	Intense Uptake	Negative	No effect	298	99.7	91.0	BSC	198	Brain metastases	7.1	DOD

Notes:

* Incident means that the patient had undergone chest CT-scan before the clinical diagnosis of lung cancer was made, which did not show any suspicious image for lung cancer.

[+] This is volume doubling time before the clinical diagnosis of lung cancer was made..Volume doubling time was assessed comparing previous CT-scans with the CT-scan performed at the time of the clinical diagnosis of lung cancer.

^ Probability of cancer assessed by the Mayo Clinic Model [Swensen SJ, Silverstein MD, Ilstrup DM, et al. Arch of Int Med 1997;157:849–55], as per the following formula: Probability of cancer = 100 * e(X) / (1 + e(X)), where X=(0.0391 * Age) + (0.7917 * Smoker) + (1.3388 * Cancer) + (0.1274 * NoduleDiameter) + (1.0407 * Spiculation) + (0.7838 * UpperLobe) - 6.8272

Probability of cancer assessed by the Mayo Clinic / FDG-PET Model [Herder GJ, van Tinteren H, Golding RP, et al.. Chest 2005;128:2490–6], as per the following formula: Probability of cancer = 100 * e(X) / (1 + e(X)), where X= (Probability of cancer as per the Mayo Clinic Model) *3.691+ (2.322 IF PET uptake is faint, 4.617 IF PET uptake is moderate, 4.771 IF PET uptake is intense) - 4.739

[**] Volume doubling time of the primary lesion was assessed at follow-up CT-scans after the clinical diagnosis of lung cancer was made.