PREDICTIVE RADIOGENOMICS MODELING OF EGFR MUTATION STATUS IN LUNG CANCER

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Supplementary Table 1: Template for capturing all semantic features to study NSCLC.

Supplementary Table 1:

NODULE ANALYSIS

	Anatomic Location	1 = RUL 2 = RML 3 = RLL 4 = LUL 5 = Lingula 6 = LLL 7 = R bronchial tree 8 = L bronchial tree 9 = Right side 10 = Left side 99 = Unable to determine
	Axial Location	1 = Central | 2 = Peripheral (edge < 2 cm from visceral pleura)
	Longest diameter (mm)	Integer
	Longest perpendicular diameter (mm)	Integer
	Nodule attenuation	1 = Solid 2 = Pure GG (Non-solid) 3 = Semi-consolidation (attenuation between solid and ground –glass in non-solid nodules) 4 = Part-solid, solid ≤ 5 mm 5 = Part-solid, solid > 5 mm
Internal Features	Nodule Reticulation	1 = Absent | 2 = Present (lines inside gg nodule)
	Internal Air alveolograms/bronchograms	1 = Absent | 2 = Present
	Necrosis	1 = Absent | 2 = Present
	Cavitation	1 = Absent | 2 = Present
	Nodule Margins – primary pattern	1 = Smooth (sharply delineated margins – can outline confidently without oscillations or serrations) 2 = Irregular (minor oscillations or serrations of margin) 3 = Lobulated (focal convexity or protrusions of lesion into lung) 4 = Spiculation (several linear radiations of finite length extending into adjacent lung) 5 = Poorly defined (lack of clear delineation of margins – cannot outline confidently)
	Nodule Shape	1 = round (roughly spherical) 2 = oval (ratio of x/y diameters >1.5) 3 = complex (neither 1 nor 2) 4 = polygonal (straight or concave borders)
	Nodule Calcification	1 = No calcification 2 = Central calcification 3 = Peripheral
Associated Findings	Attachment to Pleura	1 = Absent | 2 = Present
	Attachment to Vessel	1 = Absent | 2 = Present
	Attachment to Bronchus	1 = Absent | 2 = Present
	Pleural Retraction	1 = Absent | 2 = Present
	Entering Airway	1 = Absent | 2 = Present
	Thickened adjacent bronchovascular bundle	1 = Absent | 2 = Present
	Vascular convergence	1 = Absent | 2 = Present
	Septal thickening	1 = Absent | 2 = Present
	Nodule Periphery	1 = Emphysema 2 = Fibrosis (diffuse) 3 = Normal 4 = Scarring (focal)
	Satellite nodules in Primary Lesion Lobe (≥ 4mm, noncalcified)	1 = Absent | 2 = Solid | 3 = Non-solid | 4 = Semi-consolidation | 5 = Part-solid
	Nodules in NON-lesion lobe SAME Lung (≥ 4mm, noncalcified)	1 = Absent | 2 = Solid | 3 = Non-solid | 4 = Semi-consolidation | 5 = Part-solid

	Nodules in CONTRALATERAL Lung (≥ 4mm, noncalcified)	1 = Absent | 2 = Solid | 3 = Non-solid | 4 = Semi-consolidation | 5 = Part-solid
	Centrilobular nodules – diffuse (RB type nodules)	1 = Absent | 2 = Present

LUNG PARENCHYMA ANALYSIS

	Emphysema	1 = Absent | 2 = Present
	Primary emphysema Pattern	1 = Centrilobular 2 = Pan-acinar 3 = Paraseptal 4 = Paracicatricial 99 = NA
	Primary Distribution	1 = Upper predominant 2 = Middle Predominant 3 = Lower Predominant 4 = Diffuse, no predominance 5 = Patchy, no predominance 99 = NA or Unable to determine
	Primary Emphysema Laterality	1 = Right | 2 = Left 3=Both
	Secondary Emphysema Pattern	1 = Centrilobular 2 = Pan-acinar 3 = Paraseptal 4 = Paracicatricial 99 = NA
	Secondary Emphysema Distribution	1 = Upper predominant 2 = Middle Predominant 3 = Lower Predominant 4 = Diffuse, no predominance 5 = Patchy, no predominance 99 = NA or Unable to determine
	Secondary emphysema laterality	1 = Right | 2 = Left 3= Both
	Overall Emphysema Severity	0 = None 1 = Low (1-25%) 2 = Moderate (26-50%) 3 = Moderately High (51-75%) 4 = High (> 75%)
Lung Features	Airway Abnormalities	1 = Absent | 2 = Present
	Bronchial wall thickening	1 = Absent | 2 = Present
	Airway ectasia (mild luminal enlargement)	1 = Absent | 2 = Present
	Bronchiectasis (moderate enlargement)	1 = Absent | 2 = Present
	Luminal narrowing	1 = Absent | 2 = Present
	Bronchiolar prominence	1 = Absent | 2 = Present
	Tree-in-Bud (airway secretions)	1 = Absent | 2 = Present
	Mosaic oligemia	1 = Absent | 2 = Present
	Fibrosis	0 = Absent | 1 = Present
	Anatomic Fibrosis Distribution	1 = Apical 2 = Upper predominant 3 = Middle Predominant 4 = Lower Predominant 5 = Diffuse, no predominancne 6 = Patchy, no predominance 99 = Unable to determine
	Axial Fibrosis Distribution	1 = Subpleural 2 = Bronchovascular 3 = Both 1 & 2 4 = Random
	Fibrosis Type	1 = UIP 2 = NSIP 3 = HP 4 = Sarcoidosis

		5 = Smoking-related 6 = Post-infectious (include OGD) 7 = Other (specify) 8 = Indeterminate

Adds: longest solid diameter (mm)

% Ground glass: 1= 1-25%; 2=26-50%; 3= 51-75%; 4=76-100%

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