NPS
Imagerie Interventionnelle
Quoi de neuf ?

NPS
Ponction
Biopsie

Les problématiques

- **Avalanche de NPS fortuitement et ds programmes de dépistage**
- **Peut-on envisager aujourd'hui d'opérer un NPS sans argument de certitude pour un cancer ?**
- **Peut-on envisager de traiter un NPS par ablathermie sans confirmation histologique de malignité au préalable ?**
- **Comment faire à l'heure du TTT personnalisé et des mutations génétiques en cours de ttt ?**

-Core Biopsy
-Fine Needle Aspiration Biopsy (FNAB)

Efficacité diminue et Complications augmentent au fur et à mesure de la diminution de la taille des nodules

Westeel V. Rev Mal Respir 2014

NPS Solide

Original Article

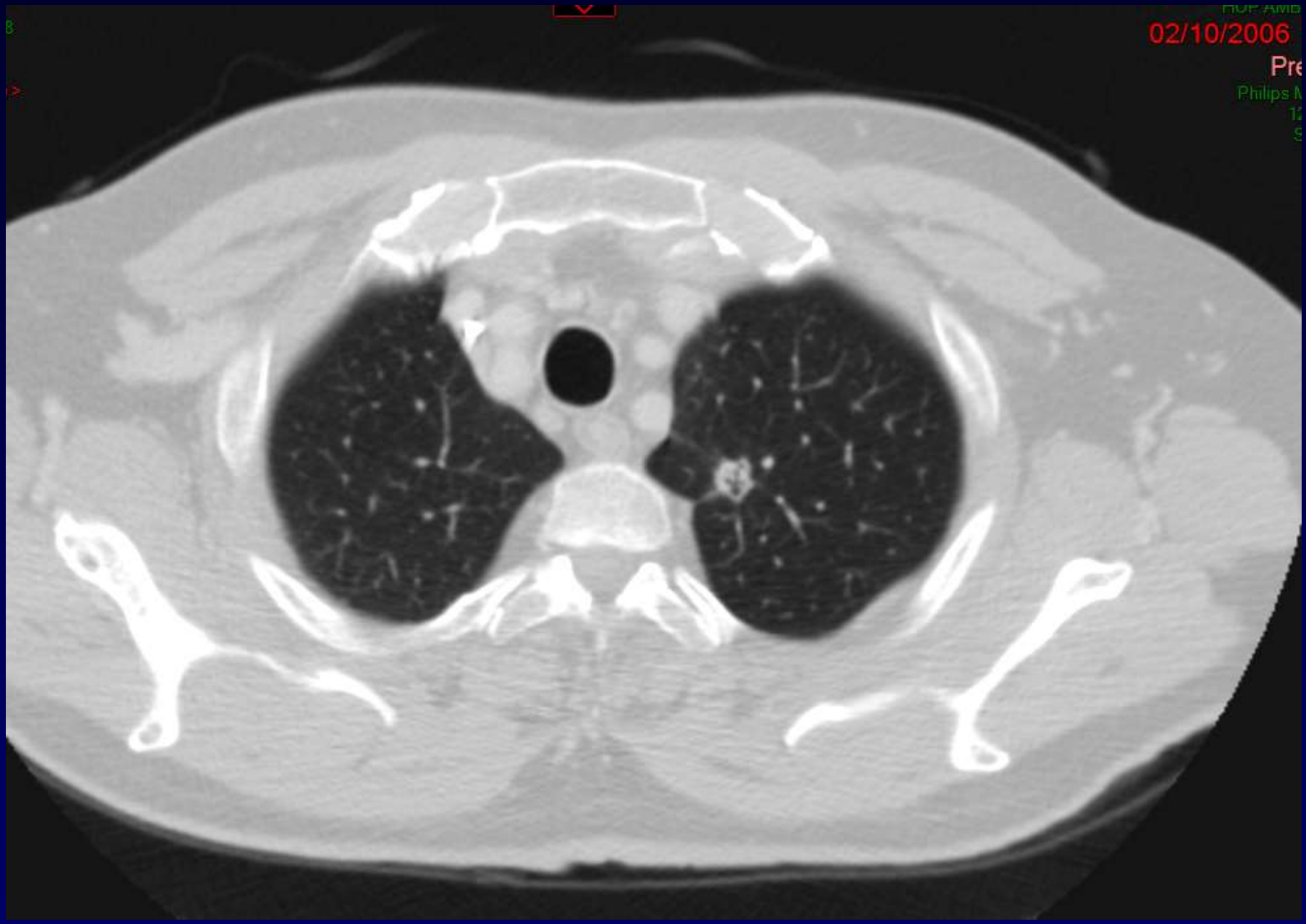
Journal of Thoracic Disease, March 2019

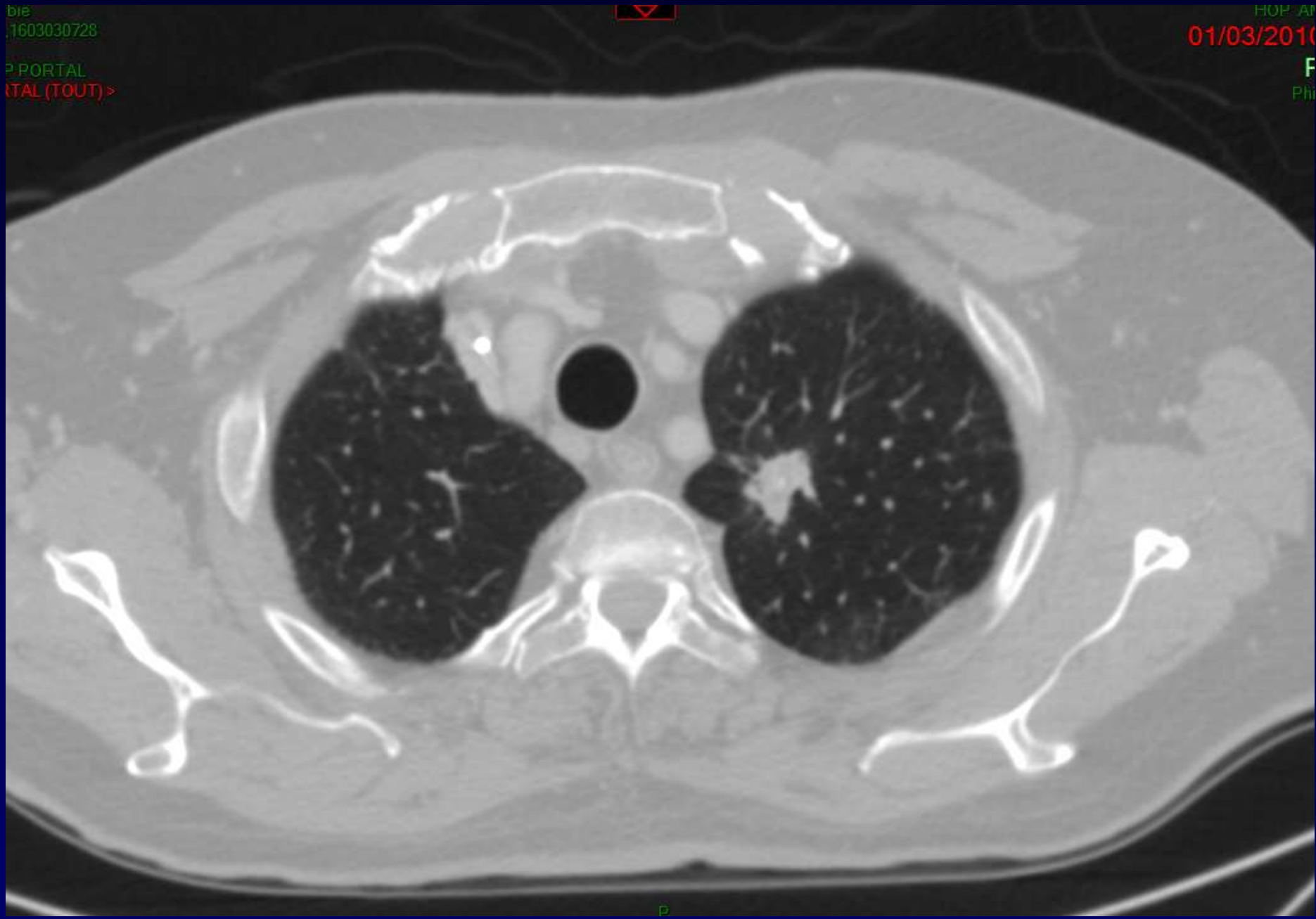
CT-guided fine-needle aspiration biopsy of solitary pulmonary nodules under 15 mm in diameter: time for an afterthought?

Davide Tosi[1], Paolo Mendogni[1], Rosaria Carrinola[1], Alessandro Palleschi[1], Lorenzo Rosso[1], Eleonora Bonaparte[2,3], Fulvia Milena Cribiù[2], Stefano Ferrero[2,4], Gianluca Bonitta[1], Mario Nosotti[1,3]

49 FNAB Chiba 22-23G
Pneumothorax 39%
Hgie 1%
Pathologiste sur place (ROSE)
Malignité 71.4%

Sensibilité 74% - 95%
Specificité 87% - 100%


02/10/2006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P PORTAL
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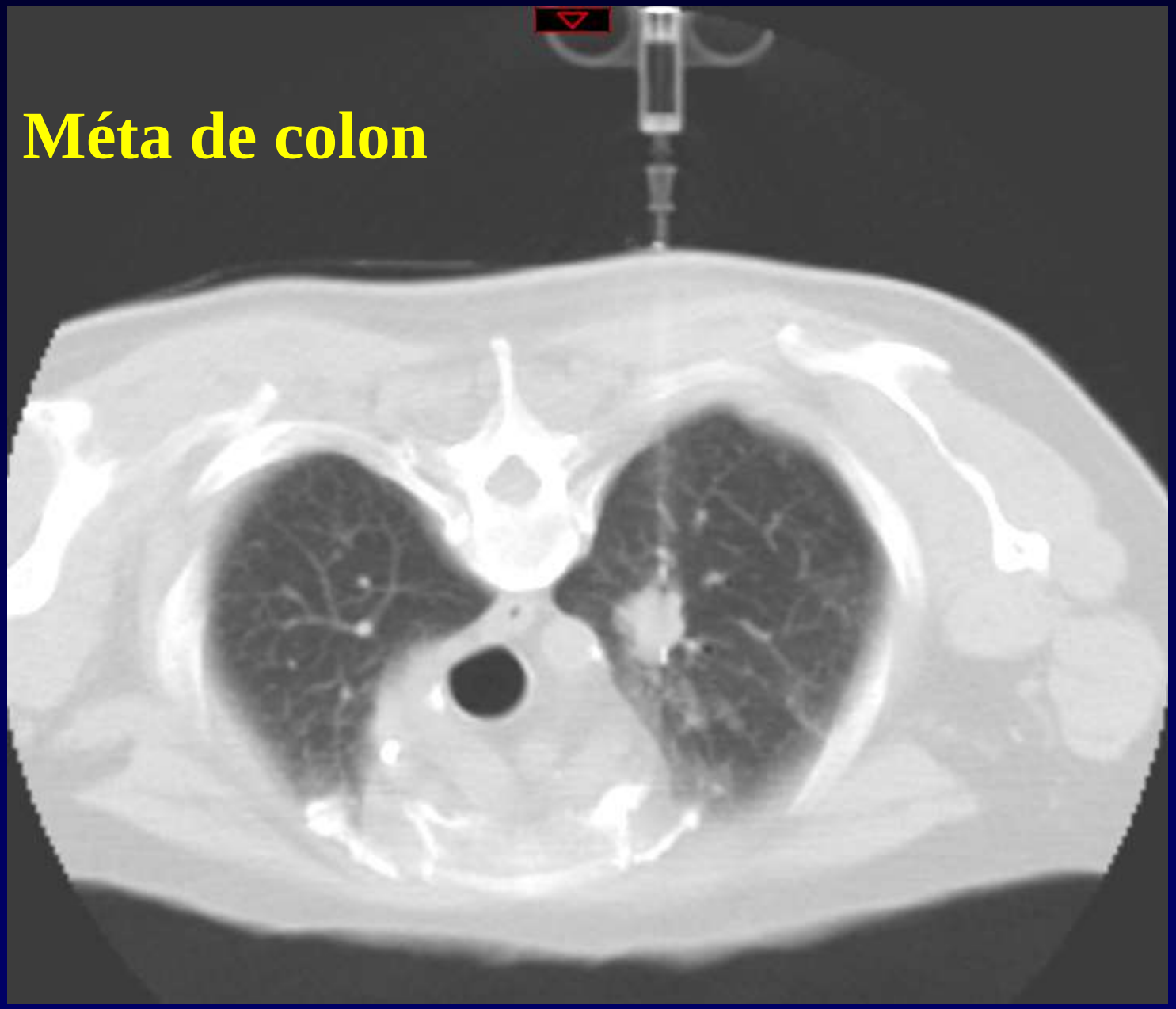
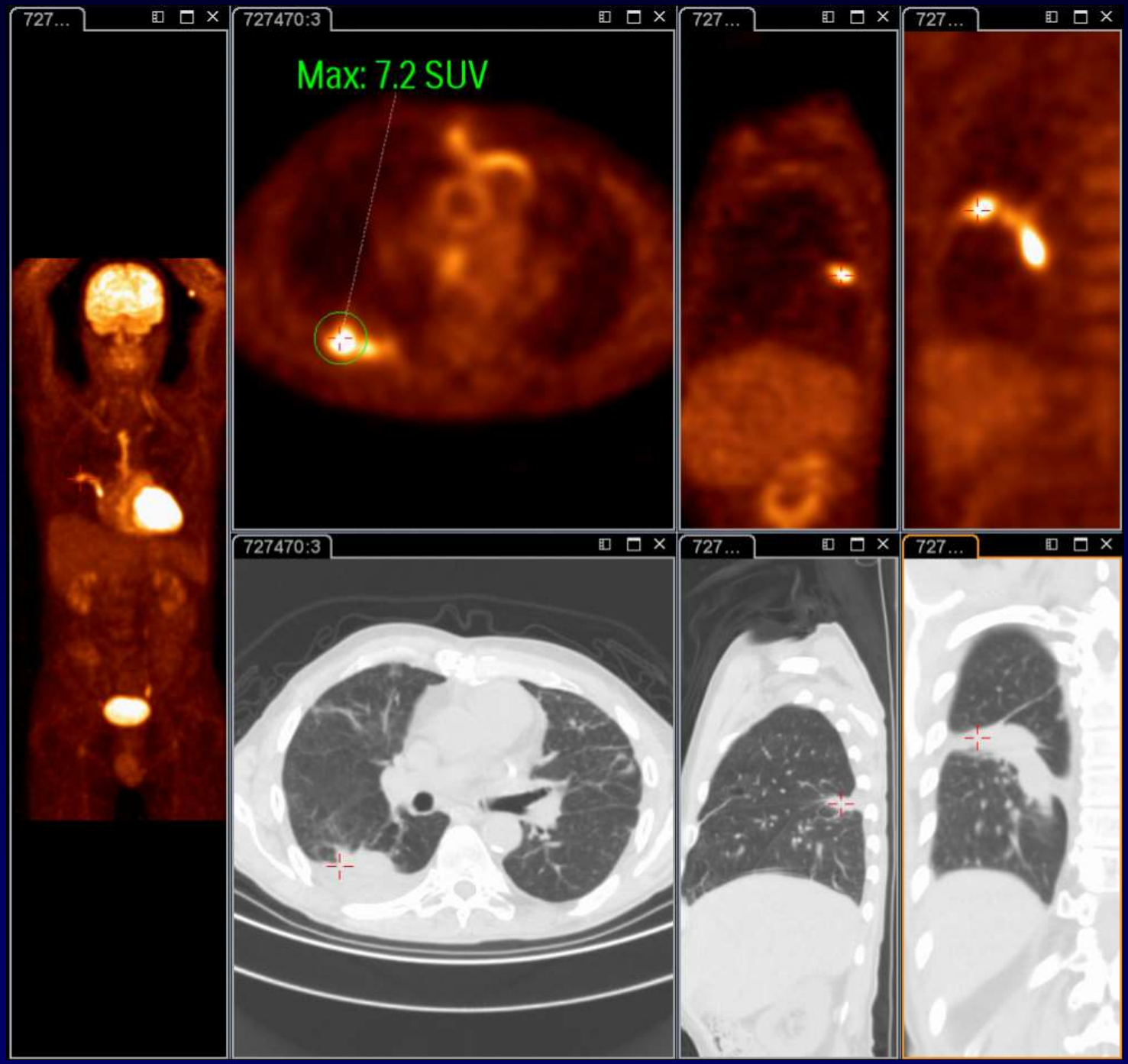
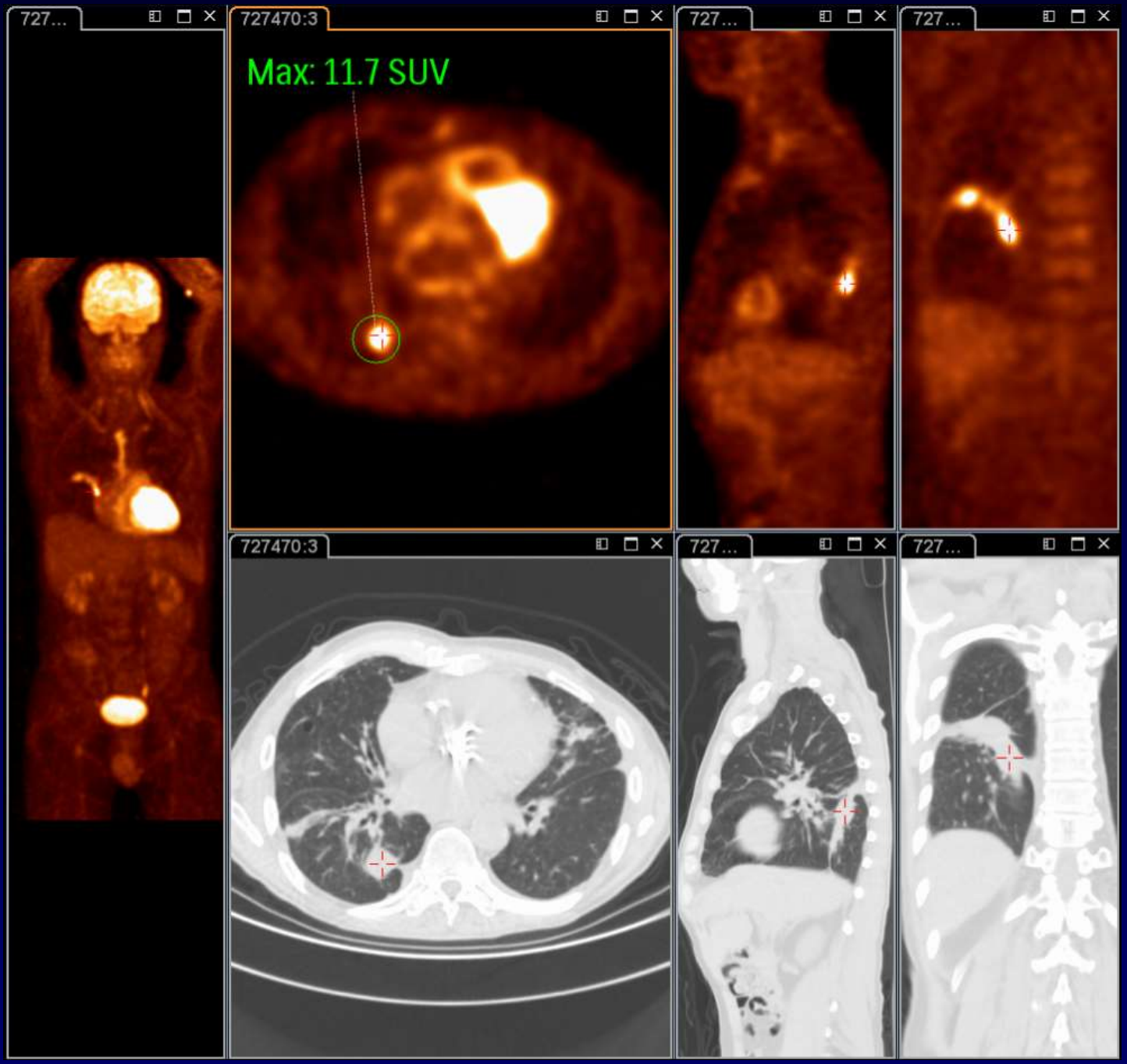
Phi

Méta de colon




727...
727470:3
Max: 7.2 SUV
727...
727...
727470:3
727...
727...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Max: 11.7 SUV
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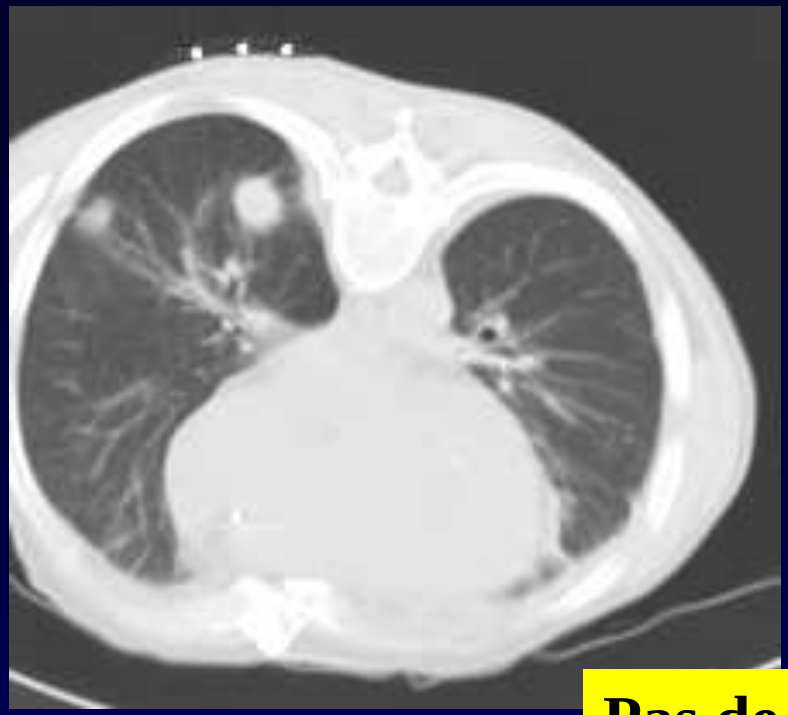
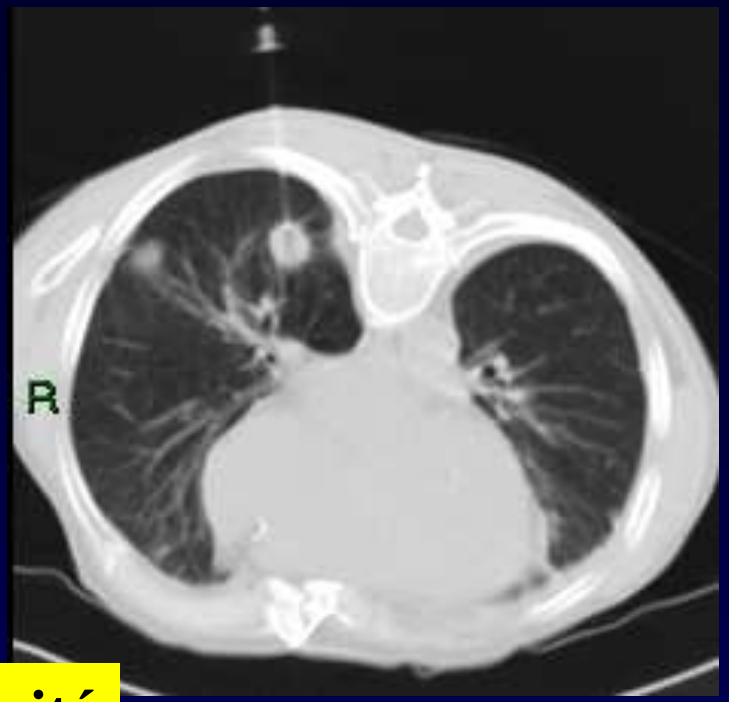
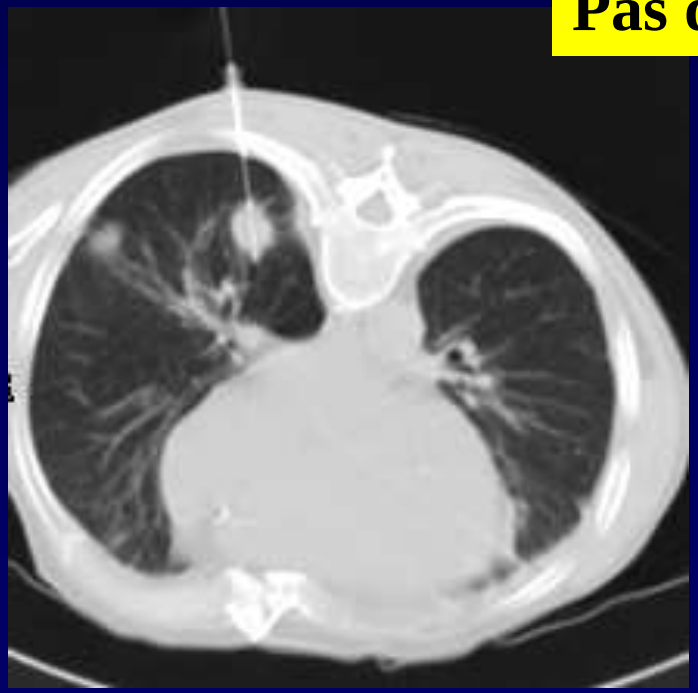
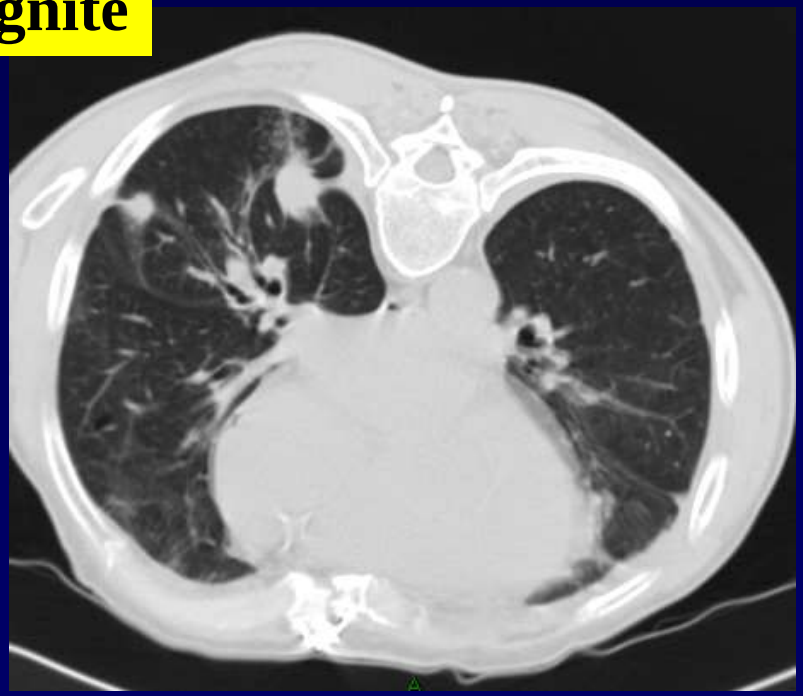




Pas de malignité





NPS Sub-Solide

Biopsie trans-thoracique : non recommandée
Le diagnostic impose un ex. ana-path. de la totalité de la pièce anatomique

- **Fleischner Society & American College of Chest Physicians guidelines**
  CT follow-up NPS <10mm

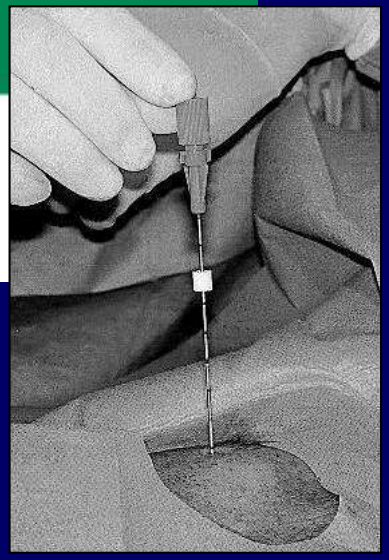
- **American College of Chest Physicians**
  Approche plus aggressive CT-guided transthoracic needle biopsy NSP >10mm persistants

Klein JS. Cancer Cytopathology July 2016

Edited by Martha B. Pitman, MD

Clinician's Corner

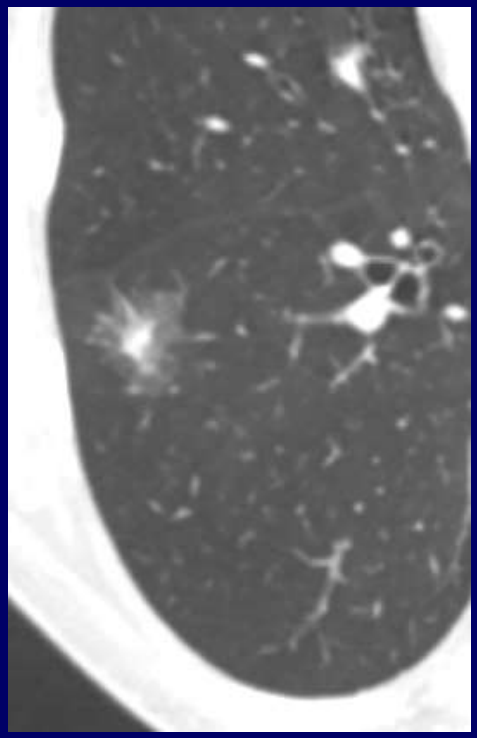
Transthoracic Needle Aspiration Biopsy for the Cytologic Diagnosis of Subsolid Lung Nodules

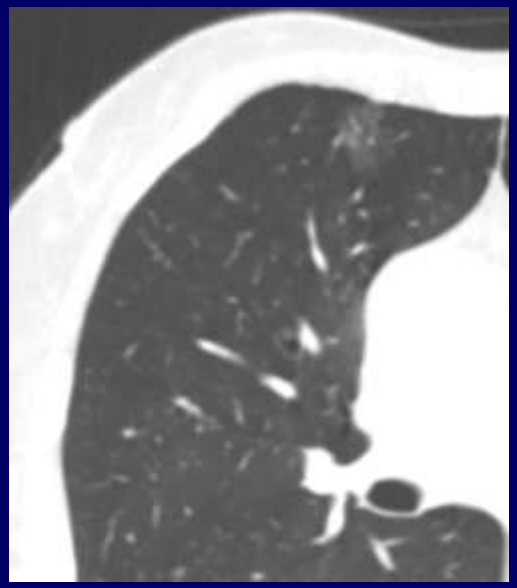


32 TNAB
Taille = 22.1mm
Pneumothorax 6.3%

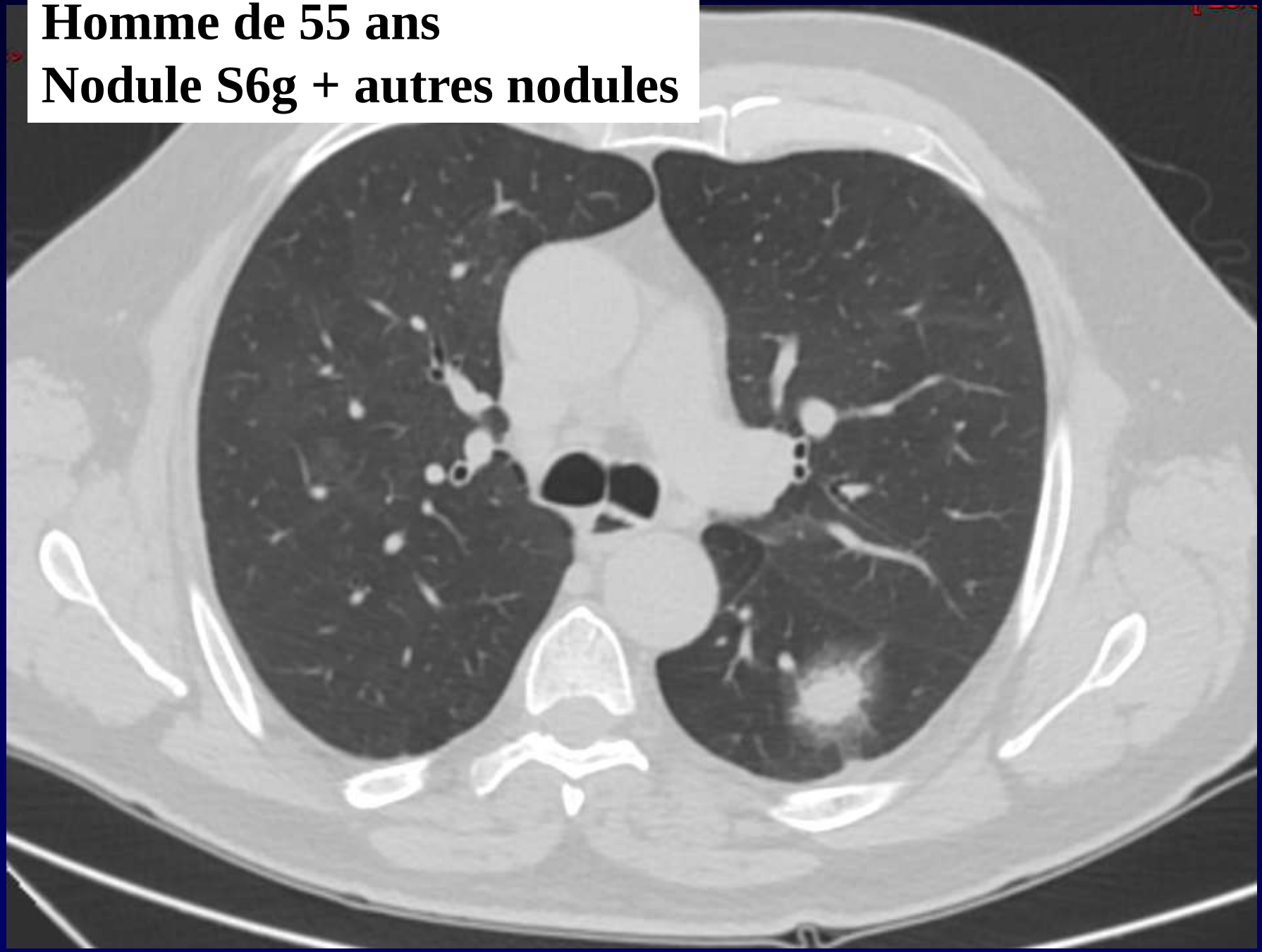
Malignité 87.5%

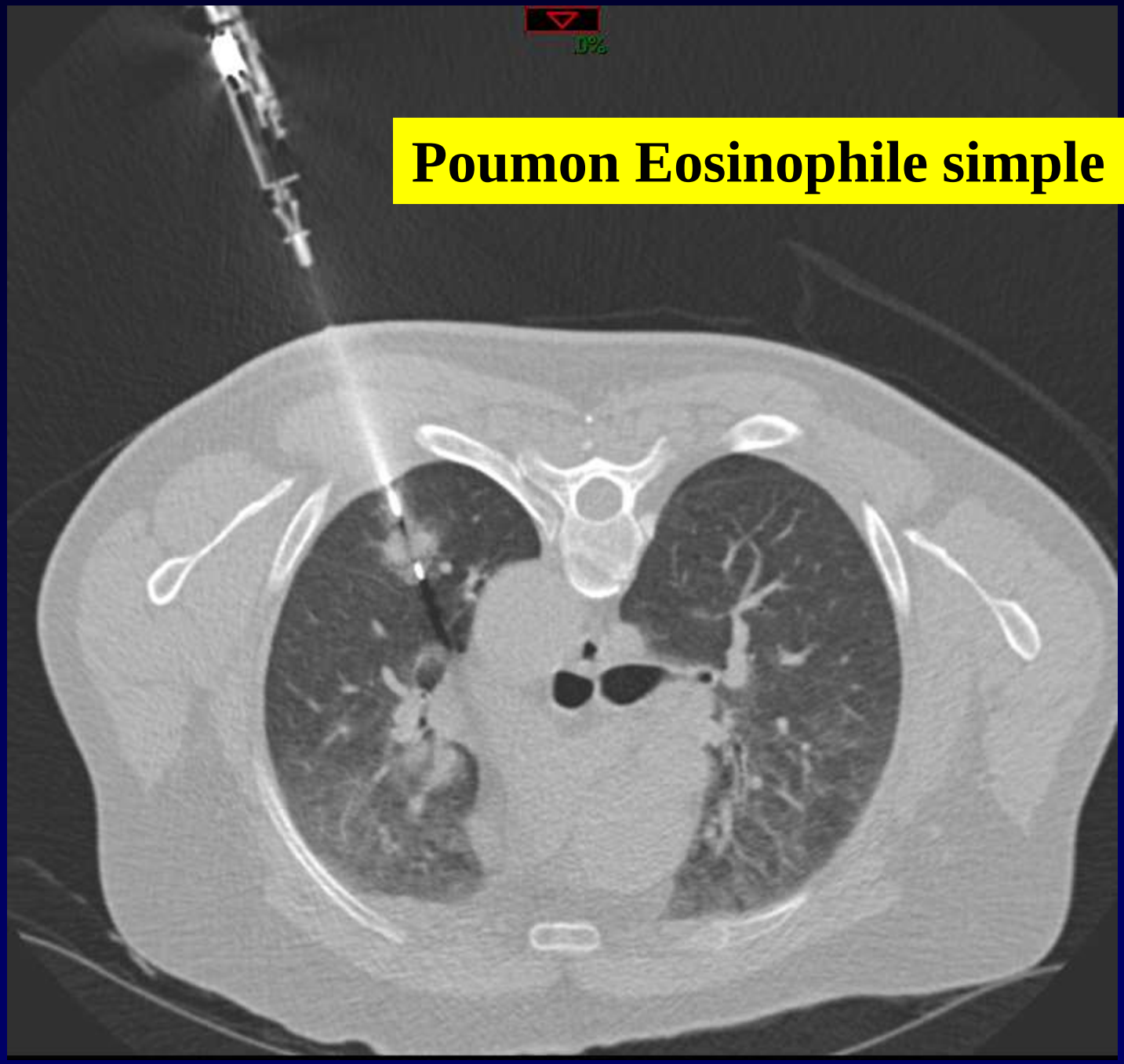
Sensibilité 89.7%
Specificité100%





Homme de 55 ans
Nodule S6g + autres nodules




Poumon Eosinophile simple

Clinical Radiology xxx (2017) 1–9

Contents lists available at ScienceDirect

Clinical Radiology

journal homepage: www.clinicalradiologyonline.net

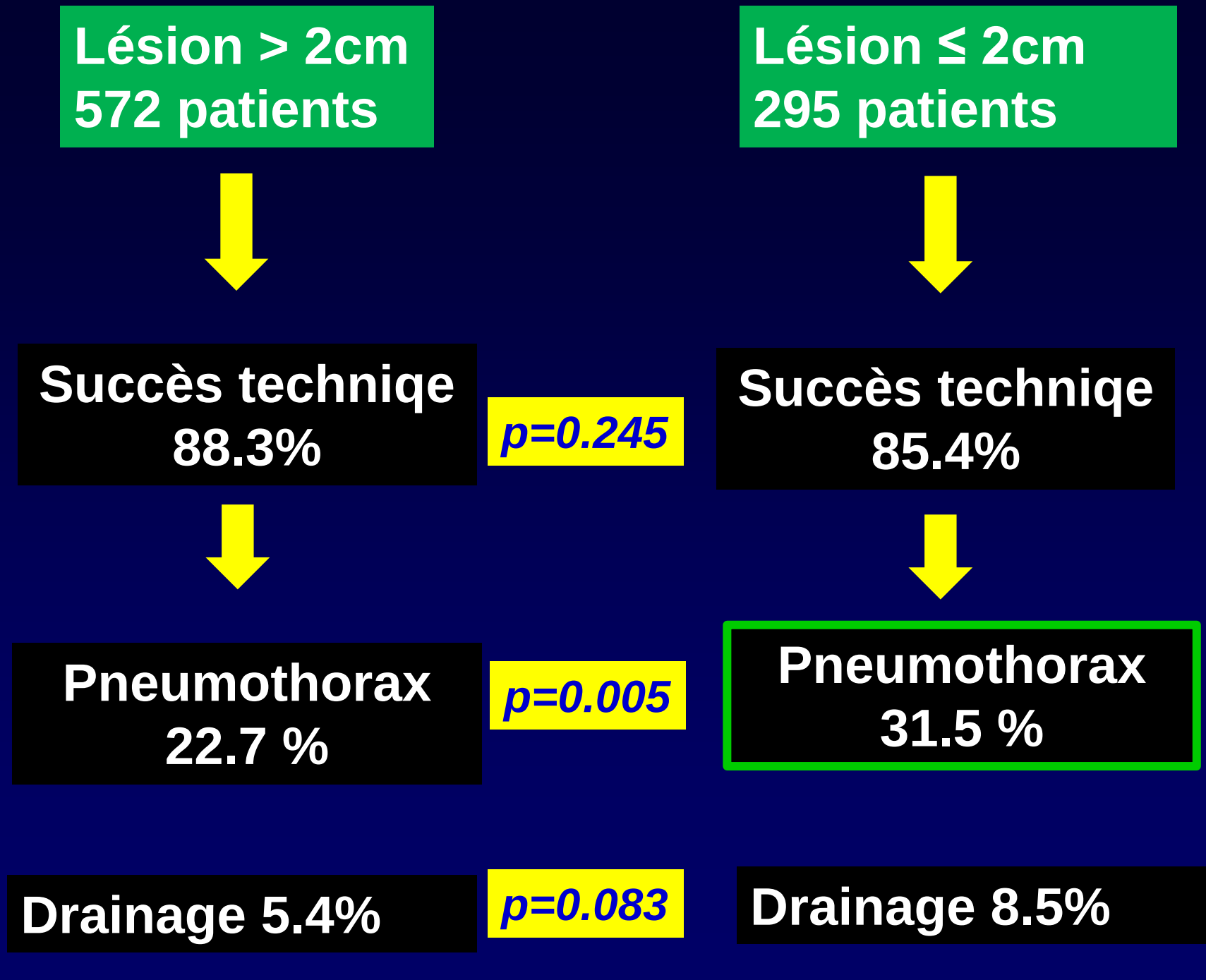
Retrospective analysis of technical success rate and procedure-related complications of 867 percutaneous CT-guided needle biopsies of lung lesions

M. Mills [a], J. Choi [a], G. El-Haddad [a], J. Sweeney [a], B. Biebel [a], L. Robinson [b], S. Antonia [b], A. Kumar [c], B. Kis [a,*]

[a] *Division of Diagnostic Imaging and Interventional Radiology, Moffitt Cancer Center, Tampa, FL, USA*
[b] *Division of Thoracic Oncology, Moffitt Cancer Center, Tampa, FL, USA*
[c] *Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL, USA*

Pneumothoax 223 soit 25.7%

Exuff ou drainage 56 / 867 biopsies soit 6.5%


Lésion > 2cm
572 patients
Lésion ≤ 2cm
295 patients
Succès technique
88.3%
p=0.245
Succès technique
85.4%
Pneumothorax
22.7 %
p=0.005
Pneumothorax
31.5 %
Drainage 5.4%
p=0.083
Drainage 8.5%

Respiration 2019

Interventional Pulmonology

Respiration
DOI: 10.1159/000498951

Received: November 25, 2018
Accepted after revision: February 15, 2019
Published online: July 26, 2019

First Human Use of a New Robotic-Assisted Fiber Optic Sensing Navigation System for Small Peripheral Pulmonary Nodules

David I.K. Fielding[a] Farzad Bashirzadeh[a] Jung Hwa Son[a] Maryann Todman[a]
Adrian Chin[a] Lionel Tan[a] Karin Steinke[a] Morgan N. Windsor[a] Arthur Wai Sung[b]

[a]Royal Brisbane and Women's Hospital, Brisbane, QLD, Australia; [b]Stanford University Medical Center, Stanford, CA, USA

29 patients
Aiguilles 22-23G
Nodules = 12.3mm
Malignité 88%
Se 88%
Sp 64%
Pas de complication

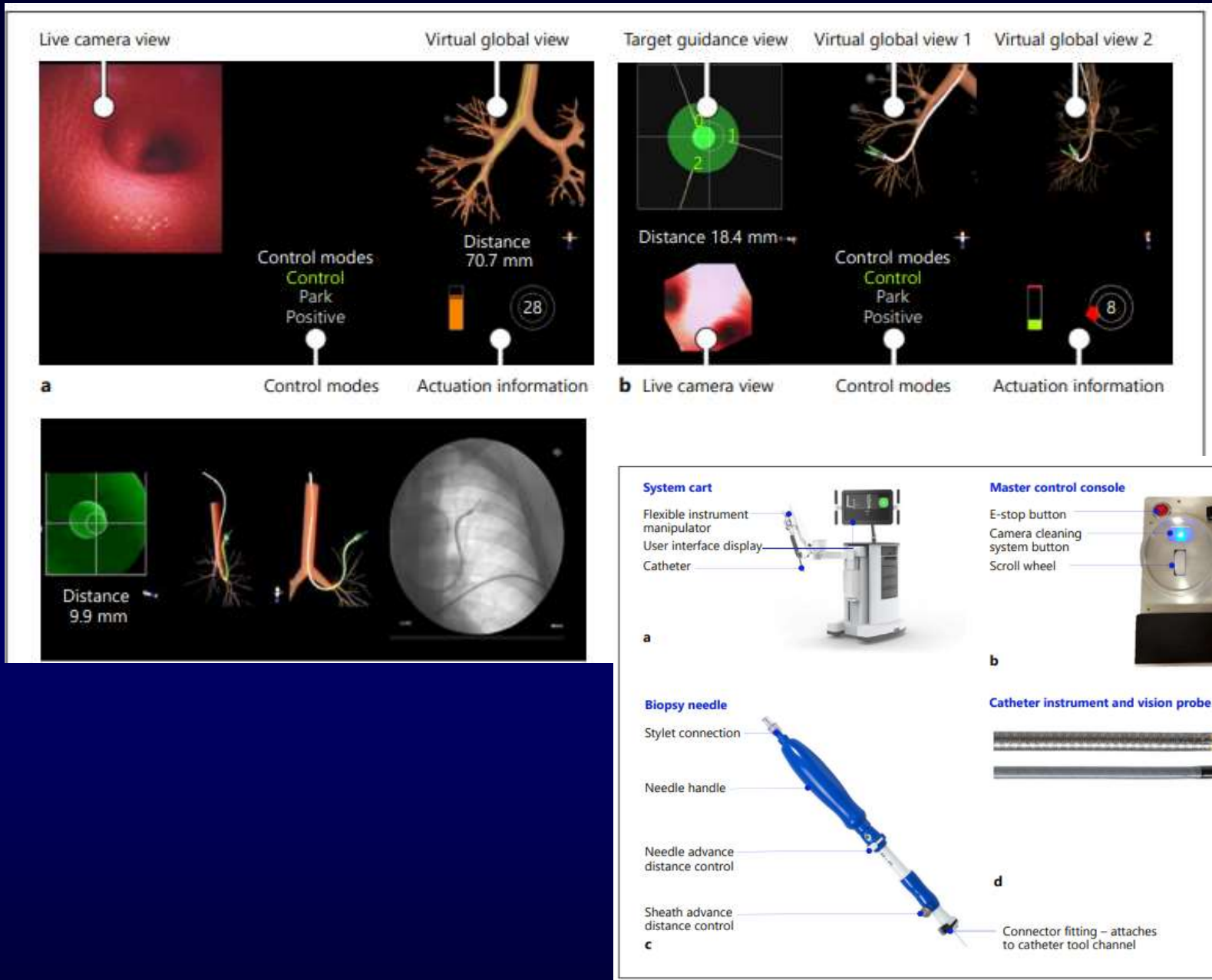
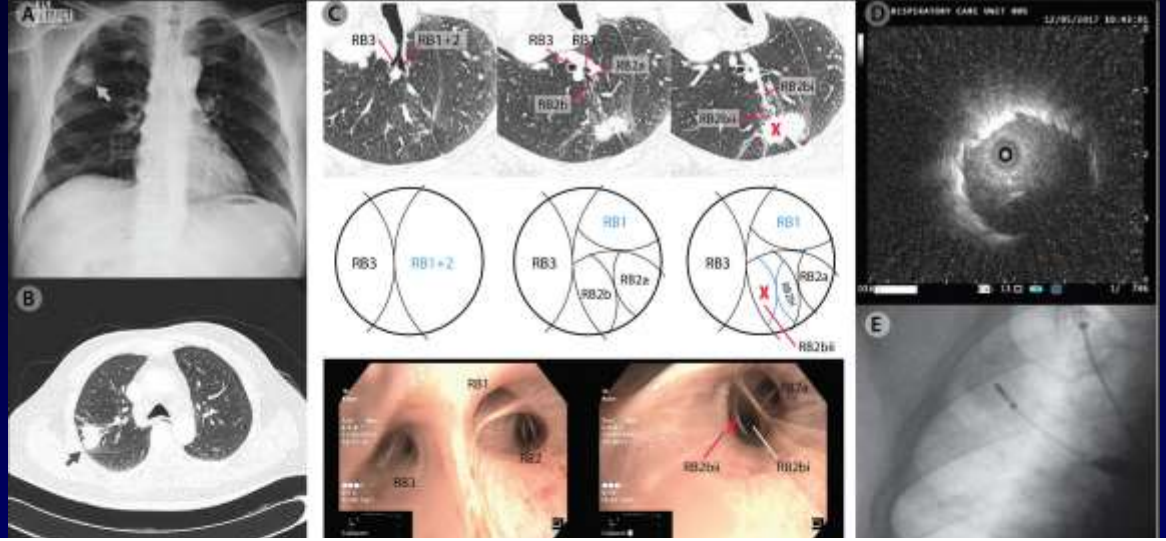


Fig. 1. a IROB study system. **b** Master control console with trackball/scroll wheel interface. **c** Vision probe and catheter instrument wit catheter instrument in articulated position. **d** Study-specific flexible biopsy needle.



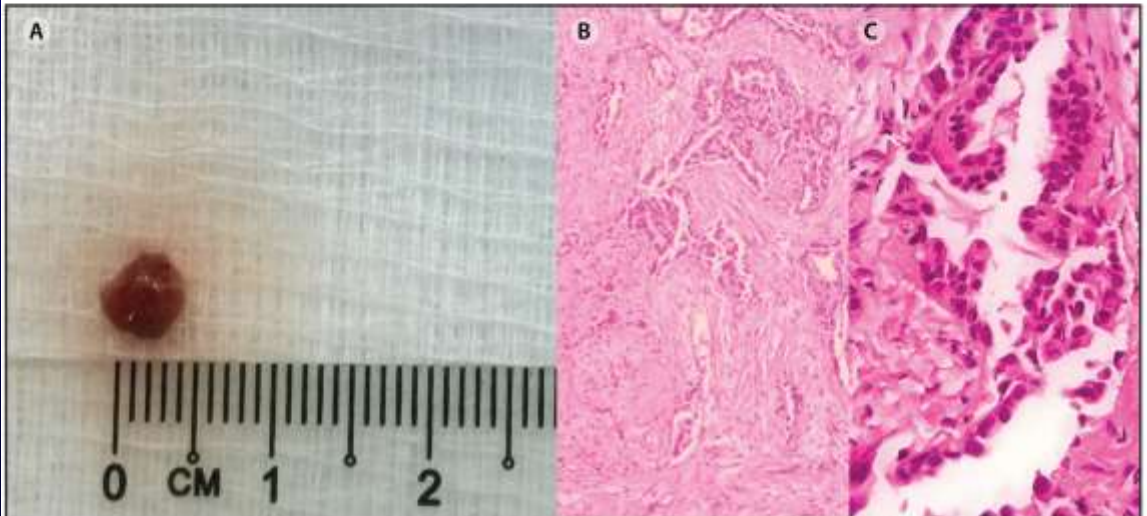
Med J Malaysia. 2019 Aug;74(4):349-351. Paperpile

Radial probe endobronchial ultrasound (R-EBUS) guided transbronchial cryobiopsy in the diagnosis of peripheral solitary pulmonary nodule.

Kho SS[1], Tie ST[2].

RB2bii.

*RB1: Apical segment of RUL; RB3: Anterior segment of RUL; RB2: Posterior segment of RUL; RB2a: Posterior sub-segment of RB2; RB2b: Anterior sub-segment of RB2; RB2bi: Posterior sub-segment of RB2b; RB2bii: Anterior sub-segment of RB2b.
(D) A concentrically orientated R-EBUS lesion successfully localized at the target segment of RB2bii.
(E) Fluoroscopic image showing placement of the 1.9mm cryoprobe within a guide sheath into the target lesion.



NPS
ABLATHERMIE

Option TTT chez patients non candidats à la chirurgie

Plus les Métastases pulmonaires
que le Kc primitif (Radiottt stéréotaxique)

The smaller the better

Cardiovasc Intervent Radiol (2015) 38:160–166
DOI 10.1007/s00270-014-0999-6

CIRSE

CLINICAL INVESTIGATION INTERVENTIONAL ONCOLOGY

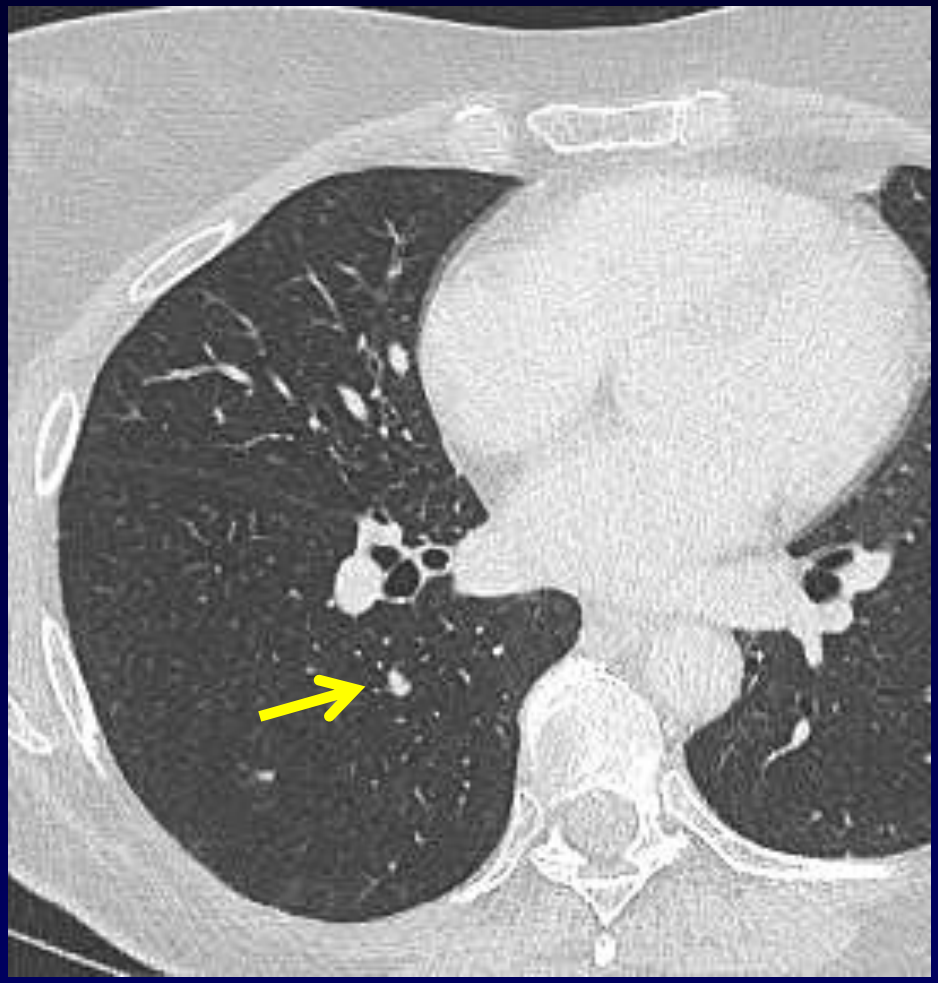
Percutaneous Lung Thermal Ablation of Non-surgical Clinical N0 Non-small Cell Lung Cancer: Results of Eight Years' Experience in 87 Patients from Two Centers

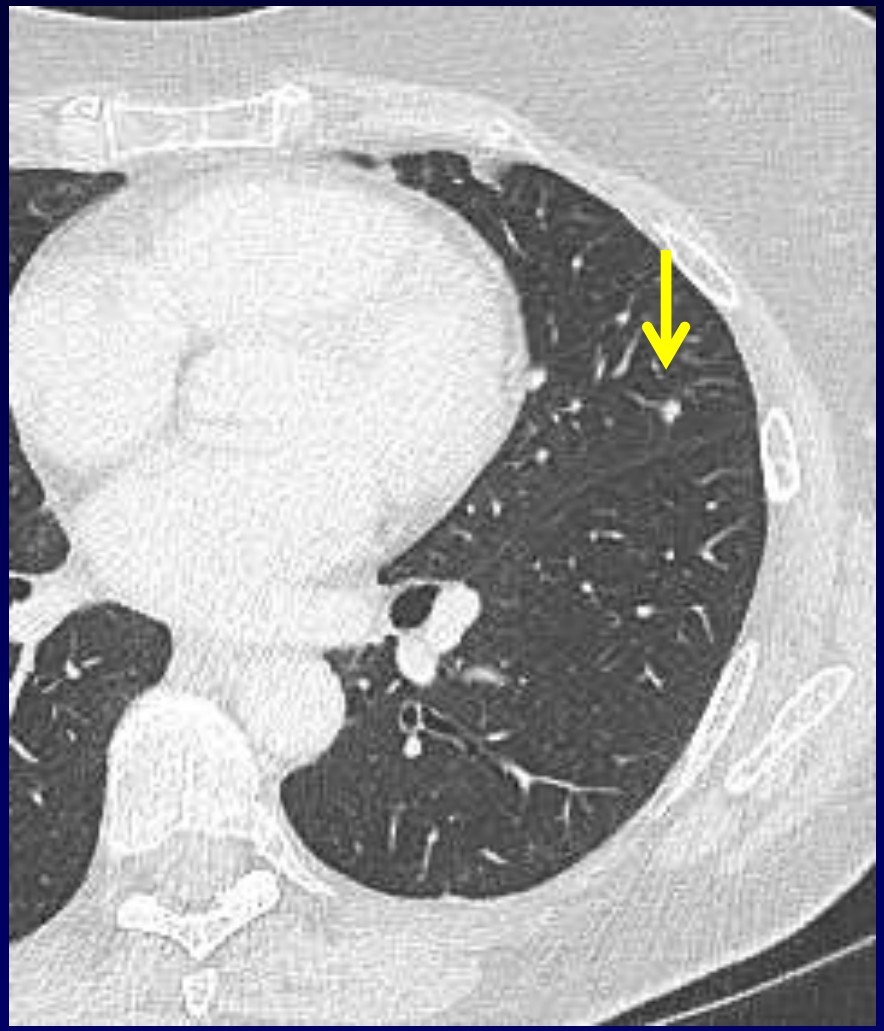
Jean Palussiere · Philippe Lagarde · Anne Aupérin · Frédéric Deschamps · François Chomy · Thierry de Baere

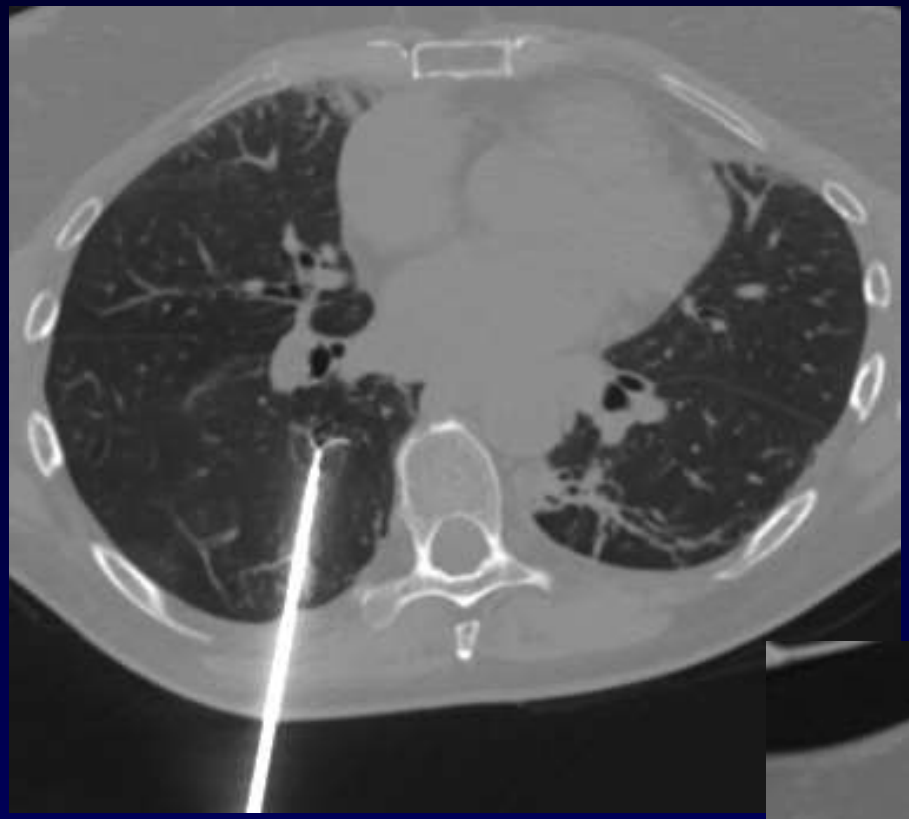
87 CBNPC
Taille = 2.1 cm (1- 5.4 cm)
RFA = 82 / MO = 5
Progression locale à 3 ans = 21%

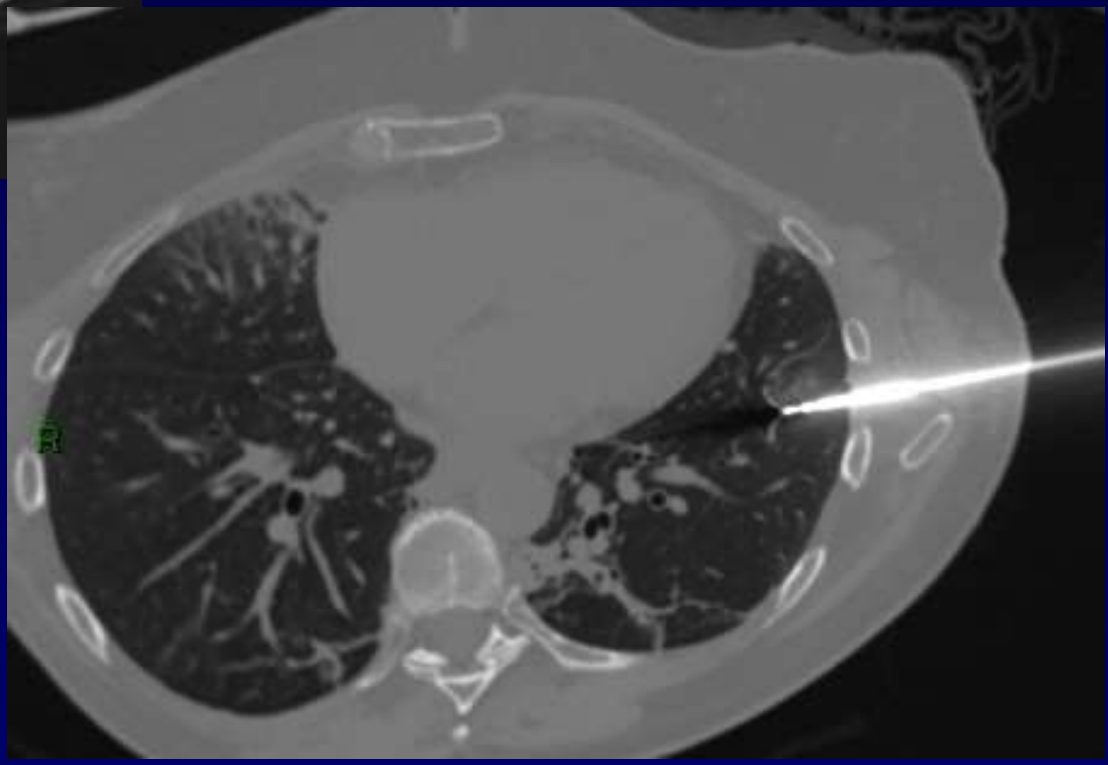
OS à 5 ans	58%
DFS à 5 ans	28%

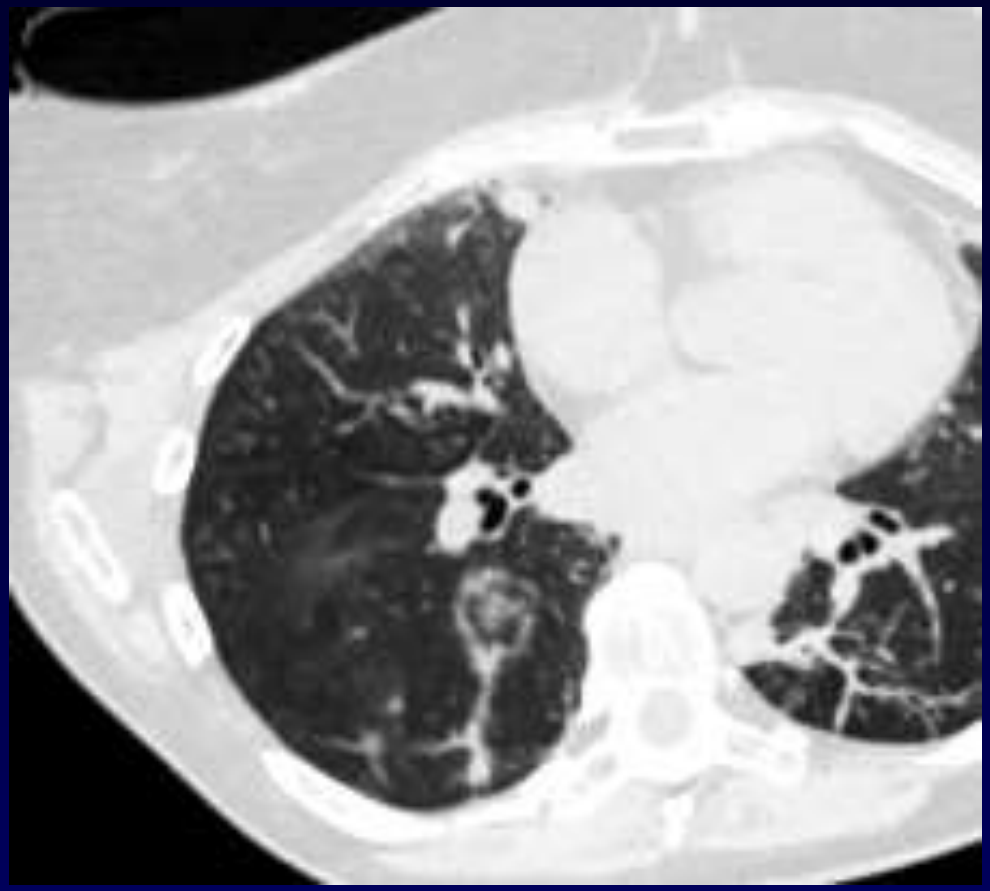
Taille tumorale > 2 cm =
Facteur pronostic influençant OS, DFS et récidive locale

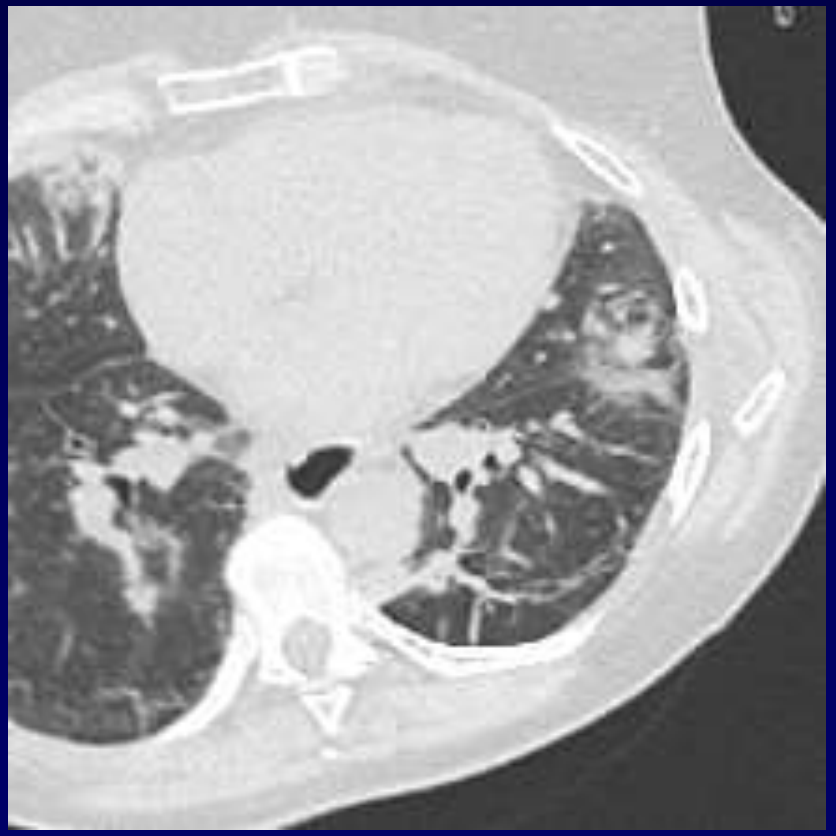




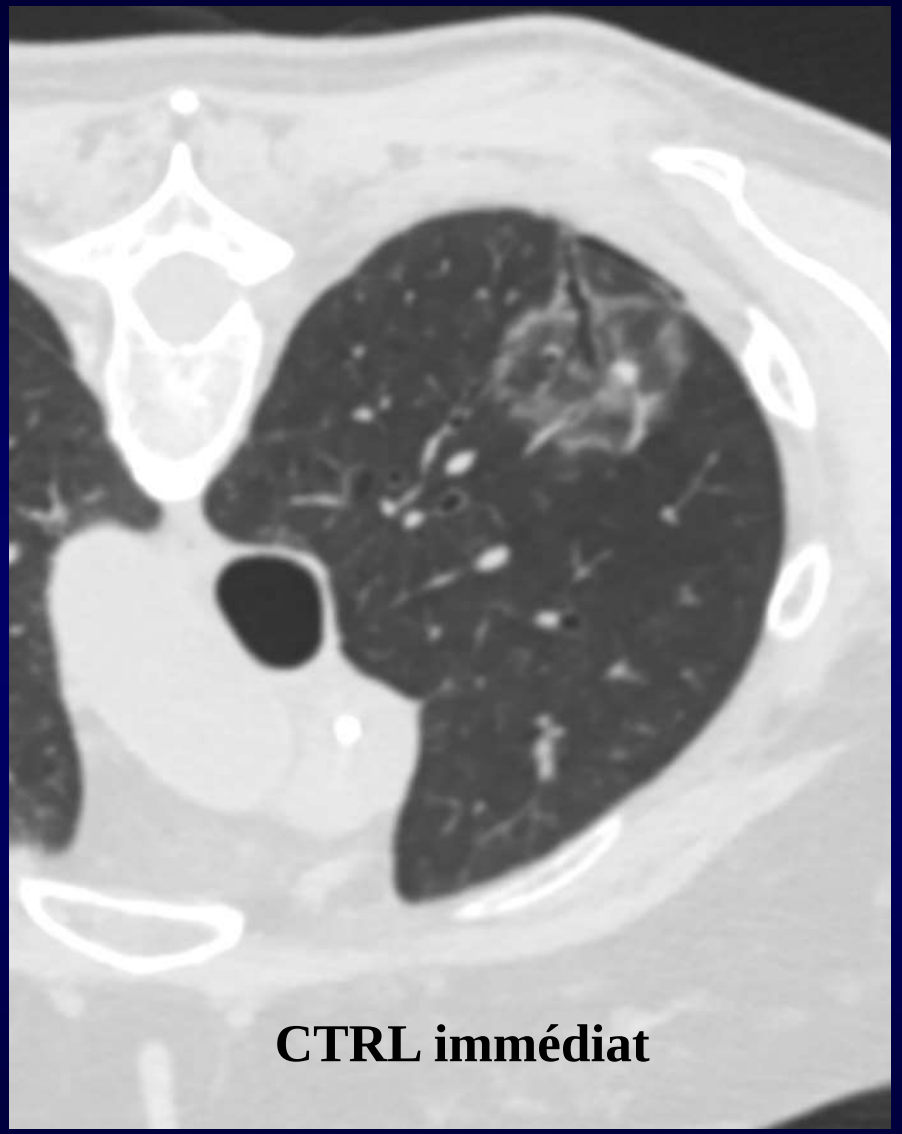




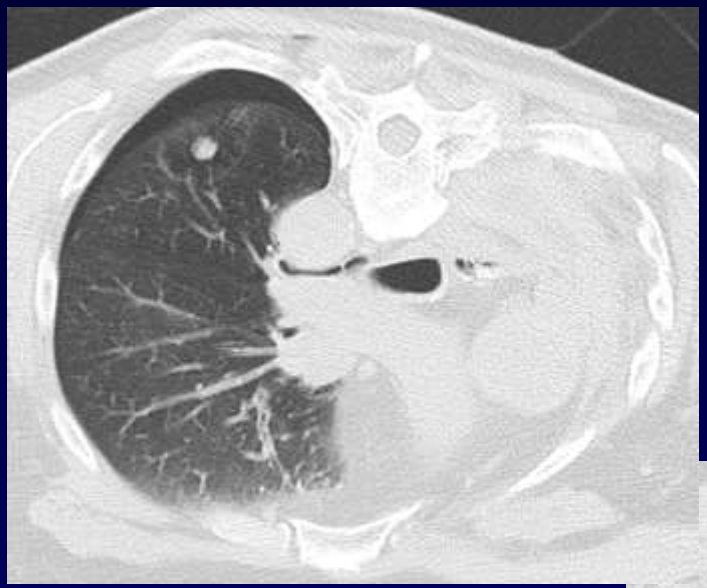




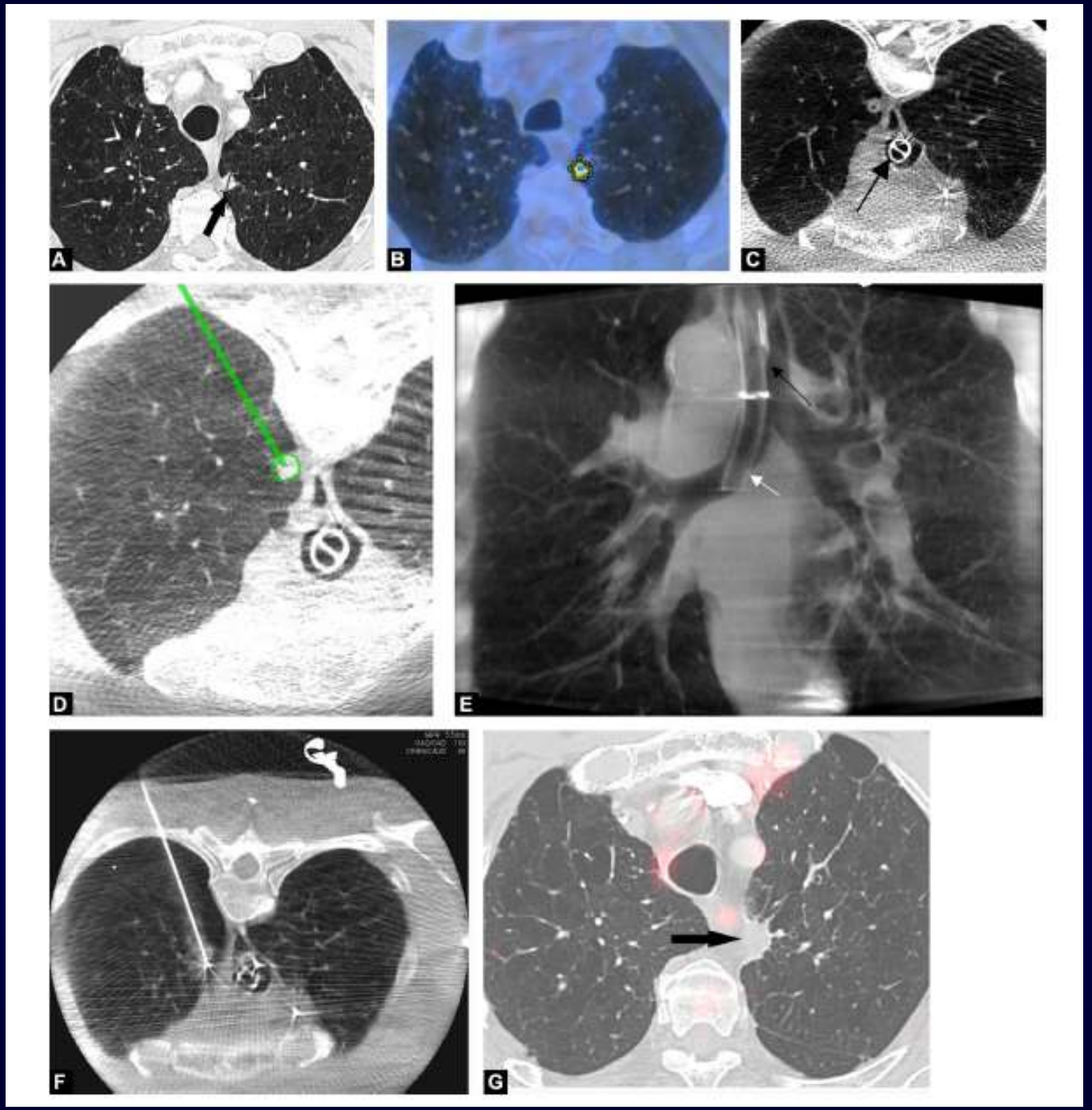
Atoll inversé



CTRL immédiat



RFA sous CBCT
Intubation sélective



Amoyal G.
Diagn Interv Imaging 2017

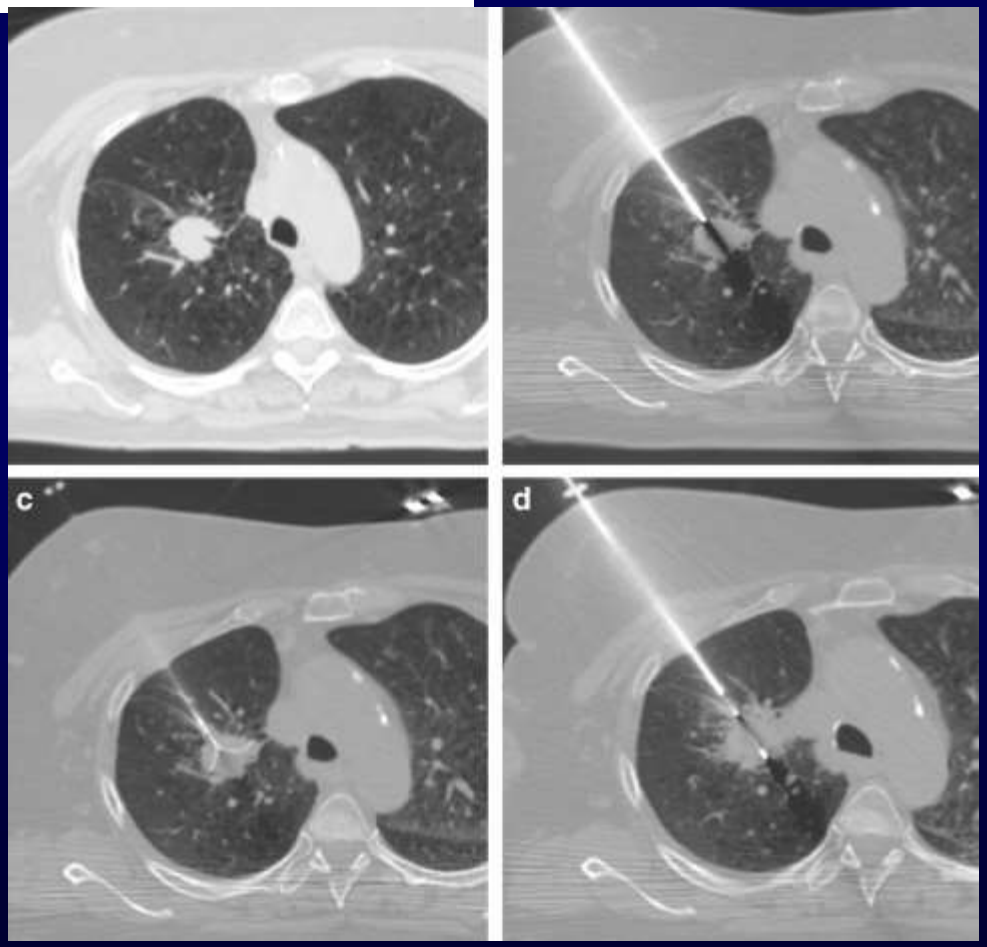
Eur Radiol (2017) 27:1211–1217
DOI 10.1007/s00330-016-4447-7

VASCULAR-INTERVENTIONAL

Diagnostic yield of a biopsy performed immediately after lung radiofrequency ablation

Lambros Tselikas[1] · Thierry de Baere[1] · Frederic Deschamps[1] · Antoine Hakimé[1] · Benjamin Besse[2] · Christophe Teriitehau[1] · Vincent de Montpreville[3] · Julien Adam[4]

20 patients
Taille nodule = 17mm
Diagnostic 90%
Type de Kc 70%
(Méta +++)



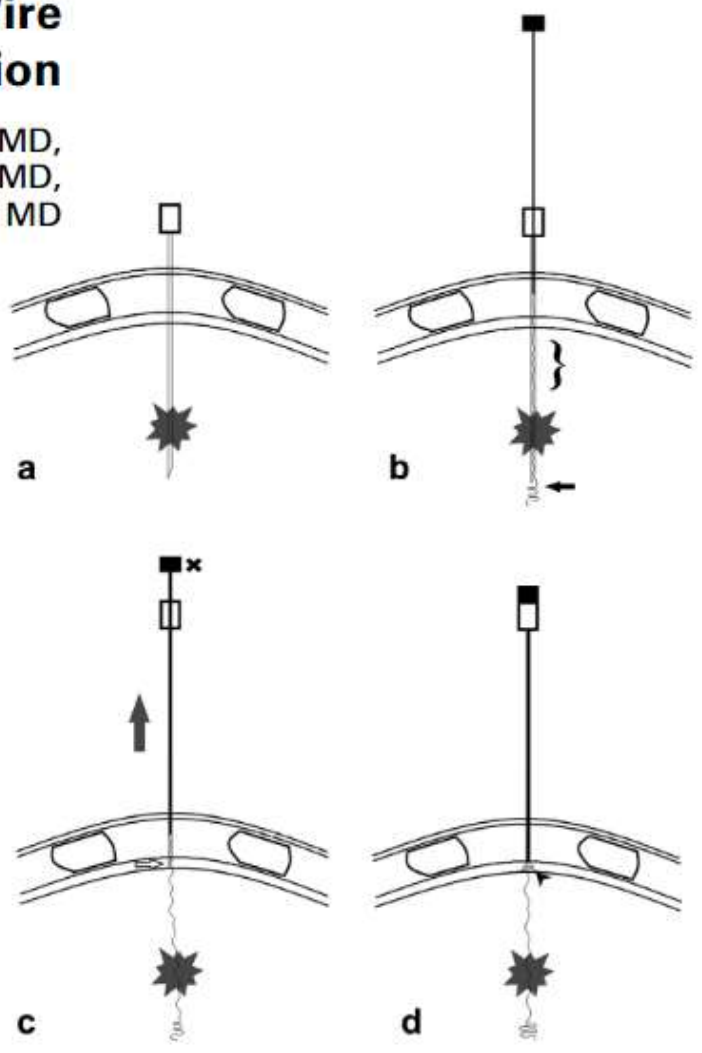
NPS
Repérage pré-Thoracoscopie

JVIR 2019

CLINICAL STUDY

CT Fluoroscopic-Guided Coil Localization of Lung Nodules prior to Video-Assisted Thoracoscopic Surgical Resection Reduces Complications Compared to Hook Wire Localization

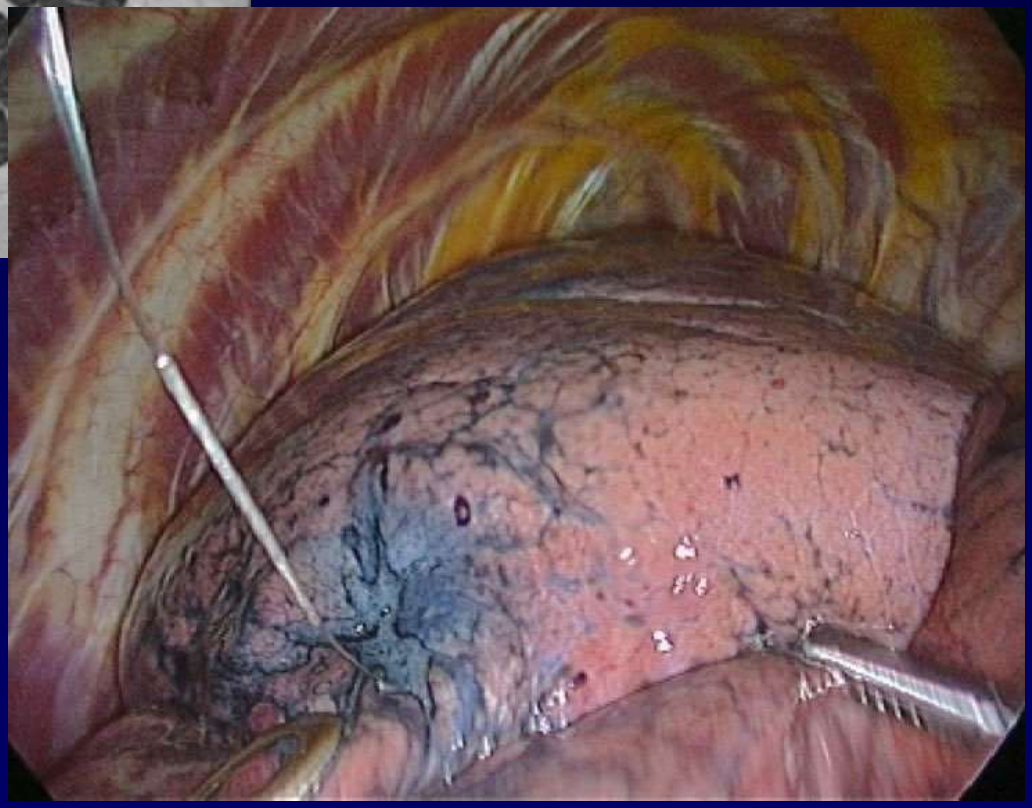
Nassir Rostambeigi, MD MPH, Patrick Scanlon, MD, Siobhan Flanagan, MD, Nicholas Frank, MD, Reza Talaie, MD, Rafael Andrade, MD, Jafar Golzarian, MD, and Prashant Shrestha, MD

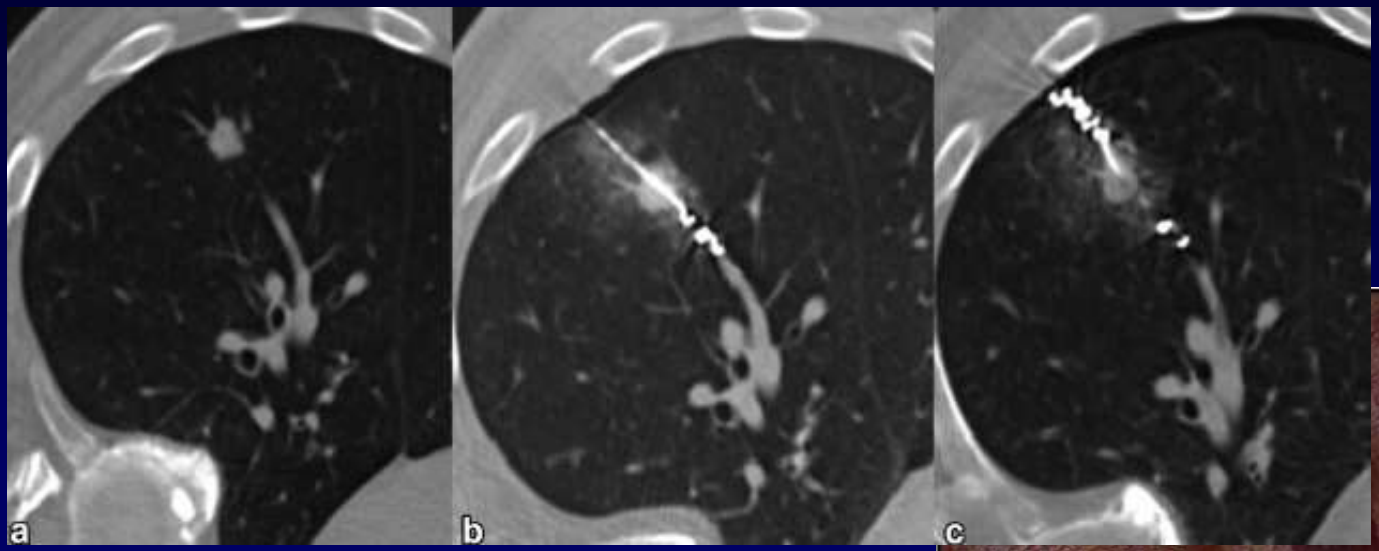


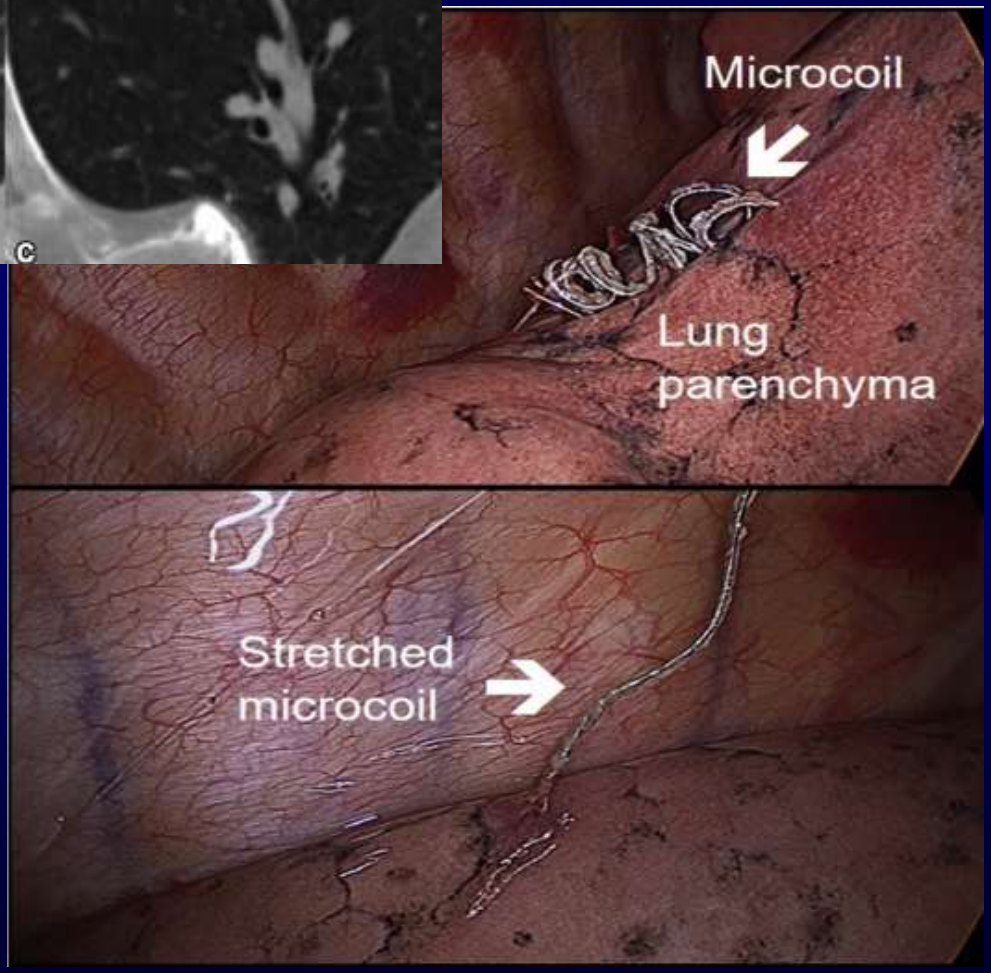
Préférence pr les coïls

Moins de déplacement

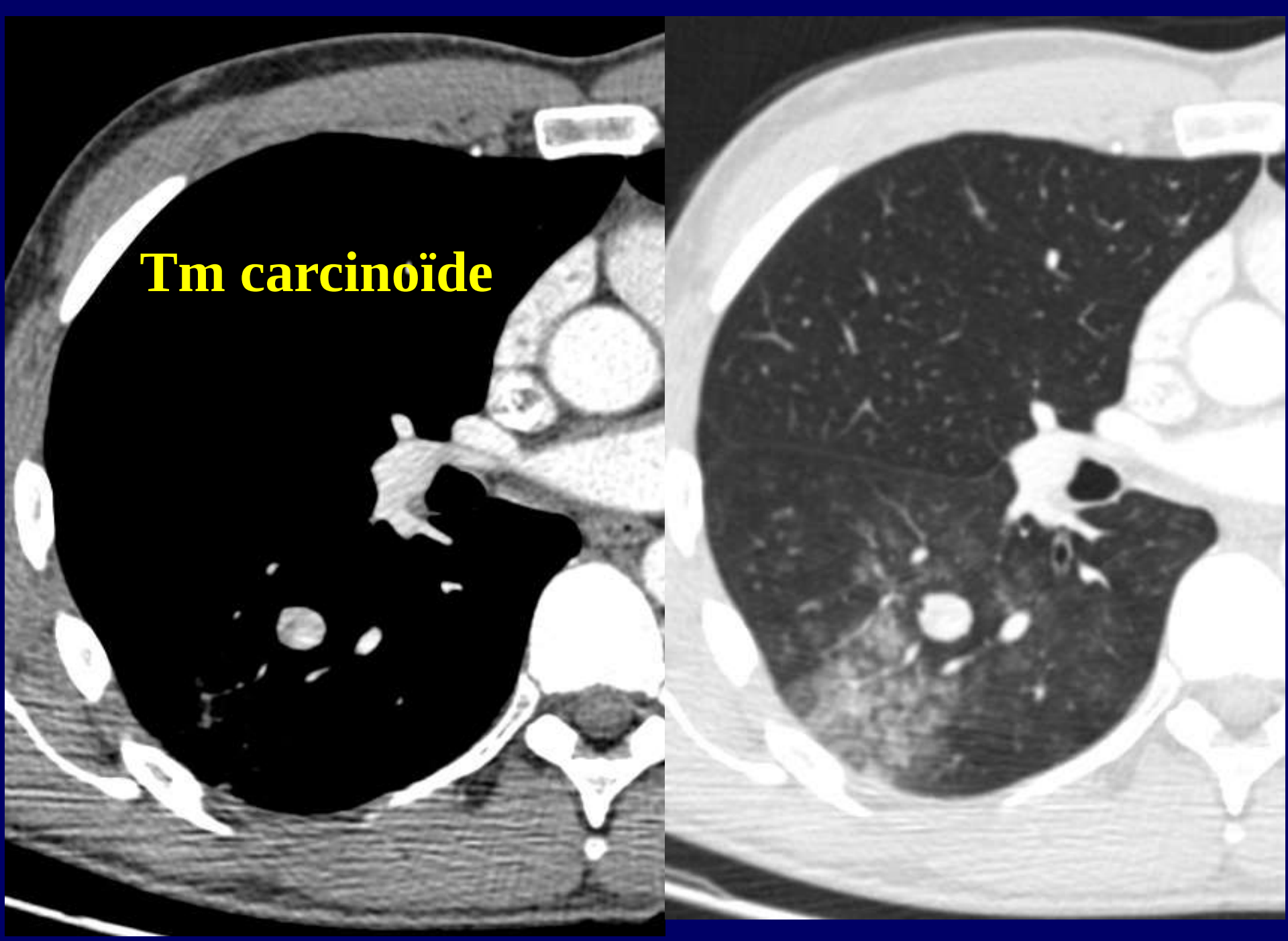
Harpon

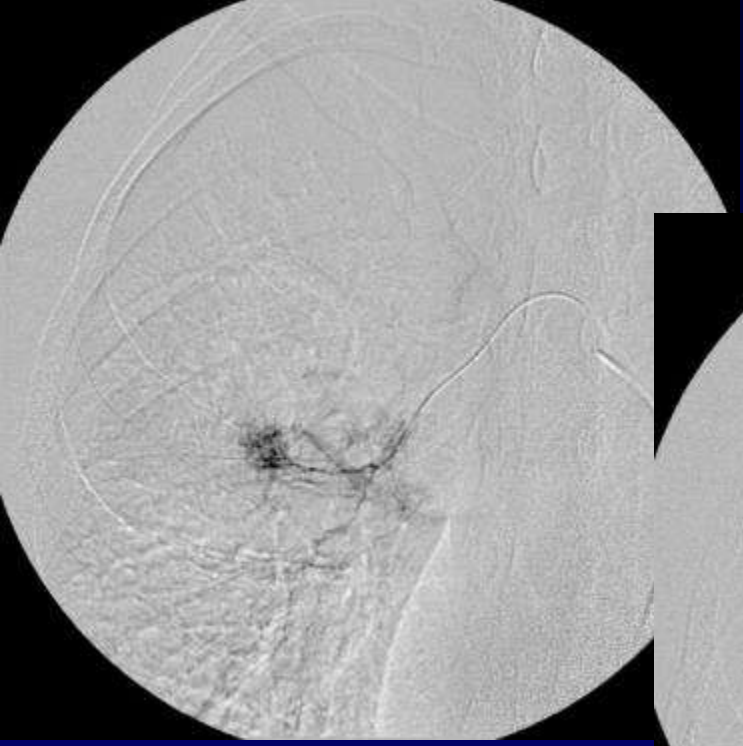
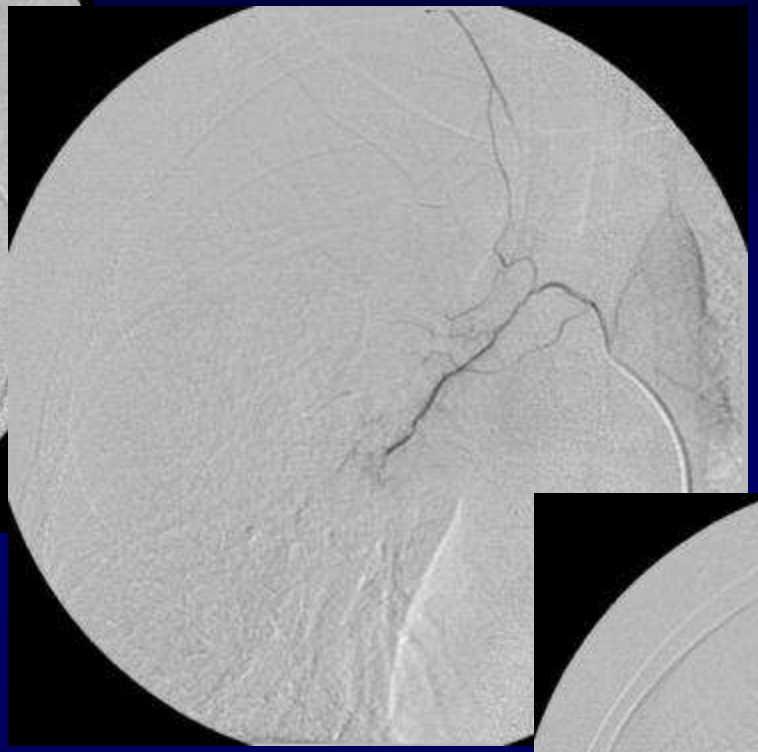
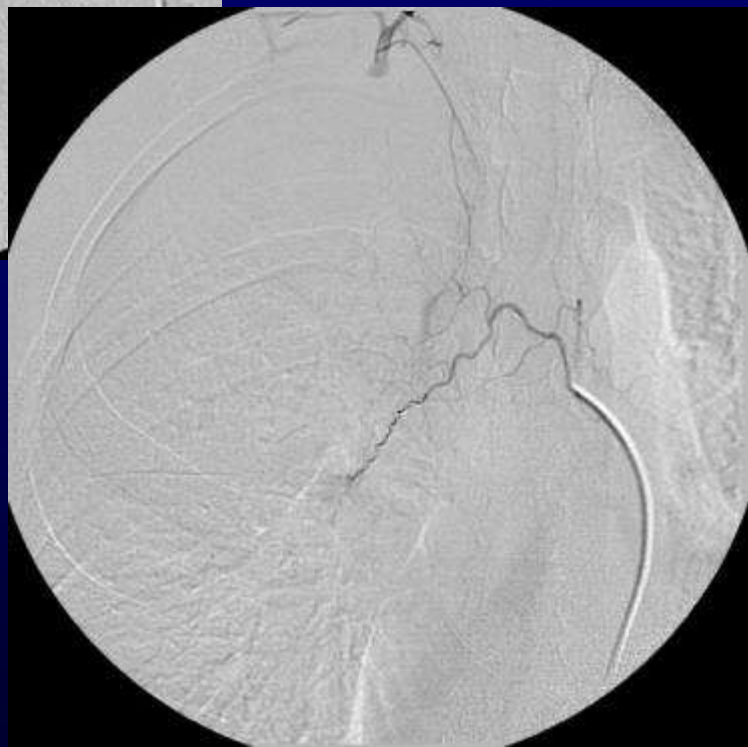



a
b
c

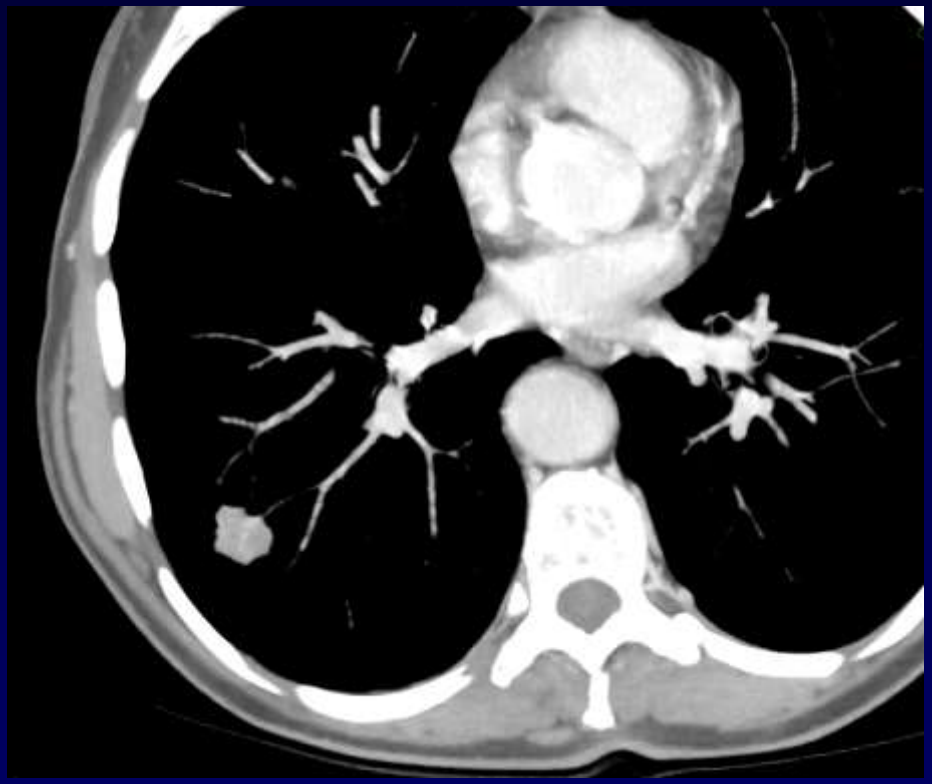

Microcoil
Lung parenchyma
Stretched microcoil

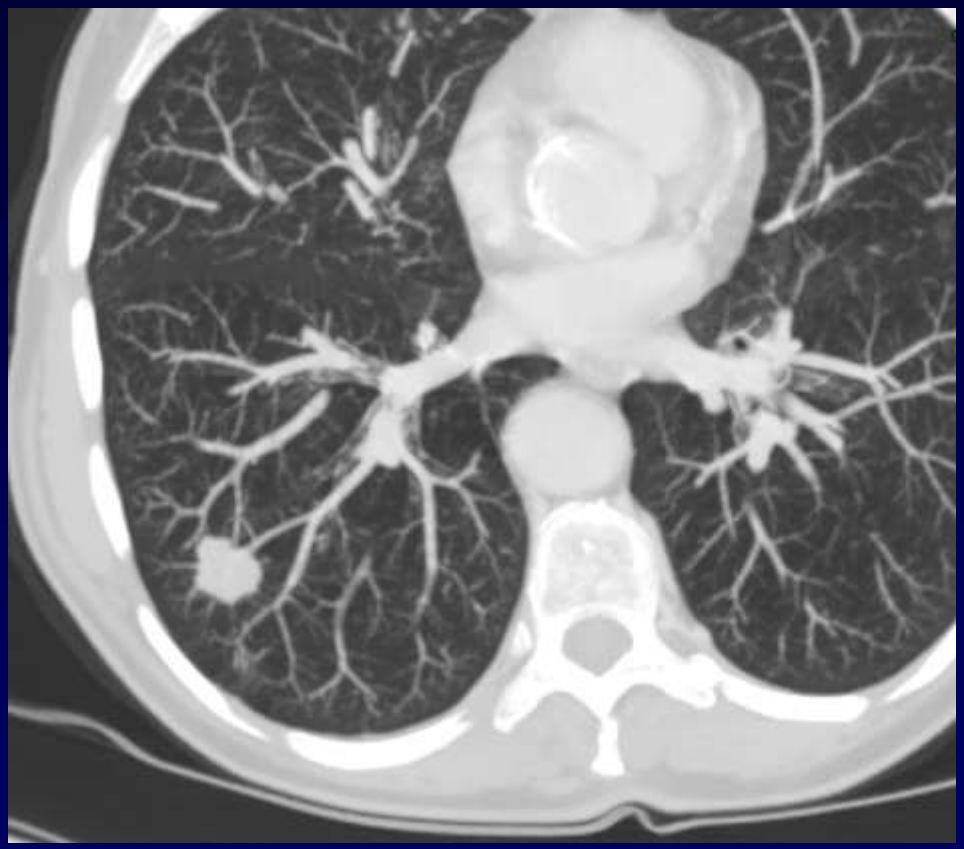
NPS
Interventionnel vasculaire

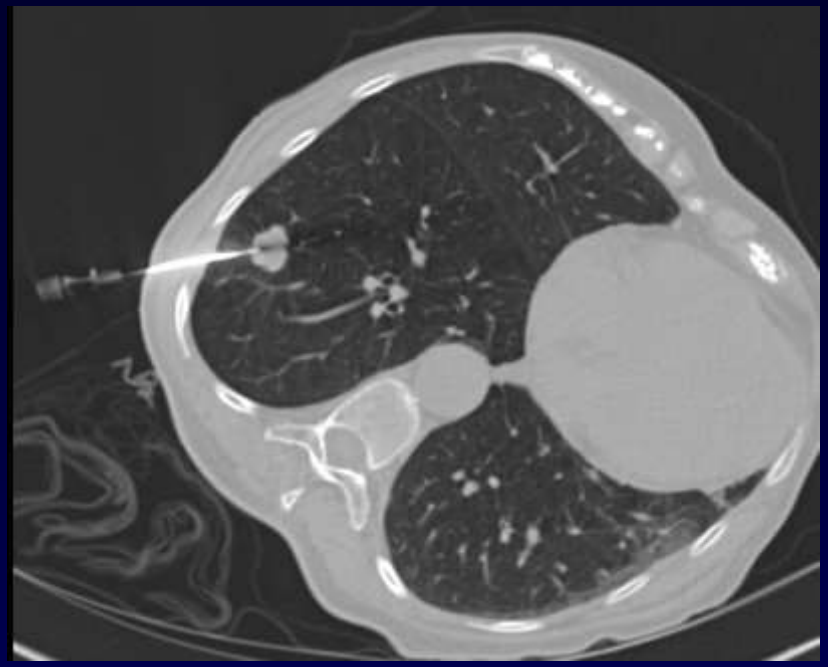

Tm carcinoïde

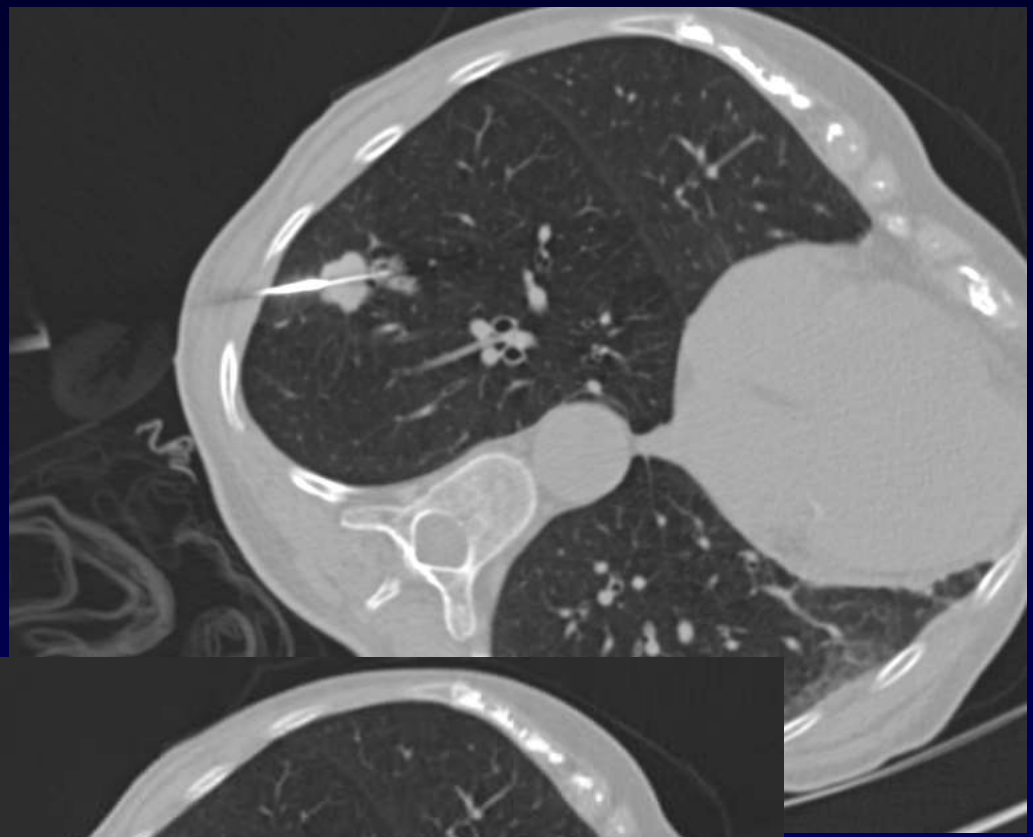




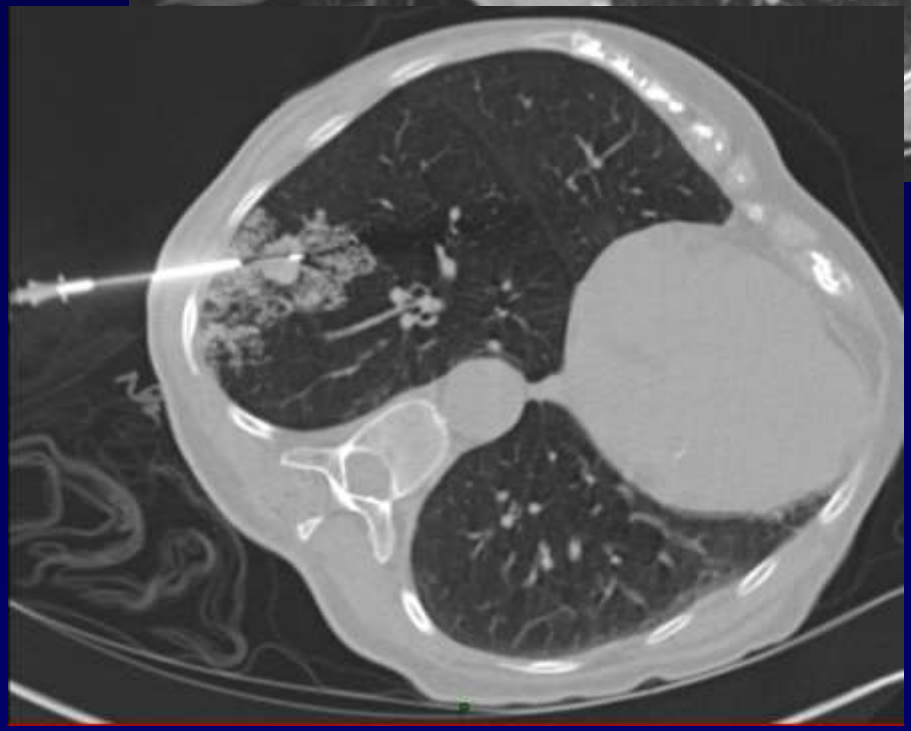
Tumeur carcinoïde
Embolisation artérielle bronchique

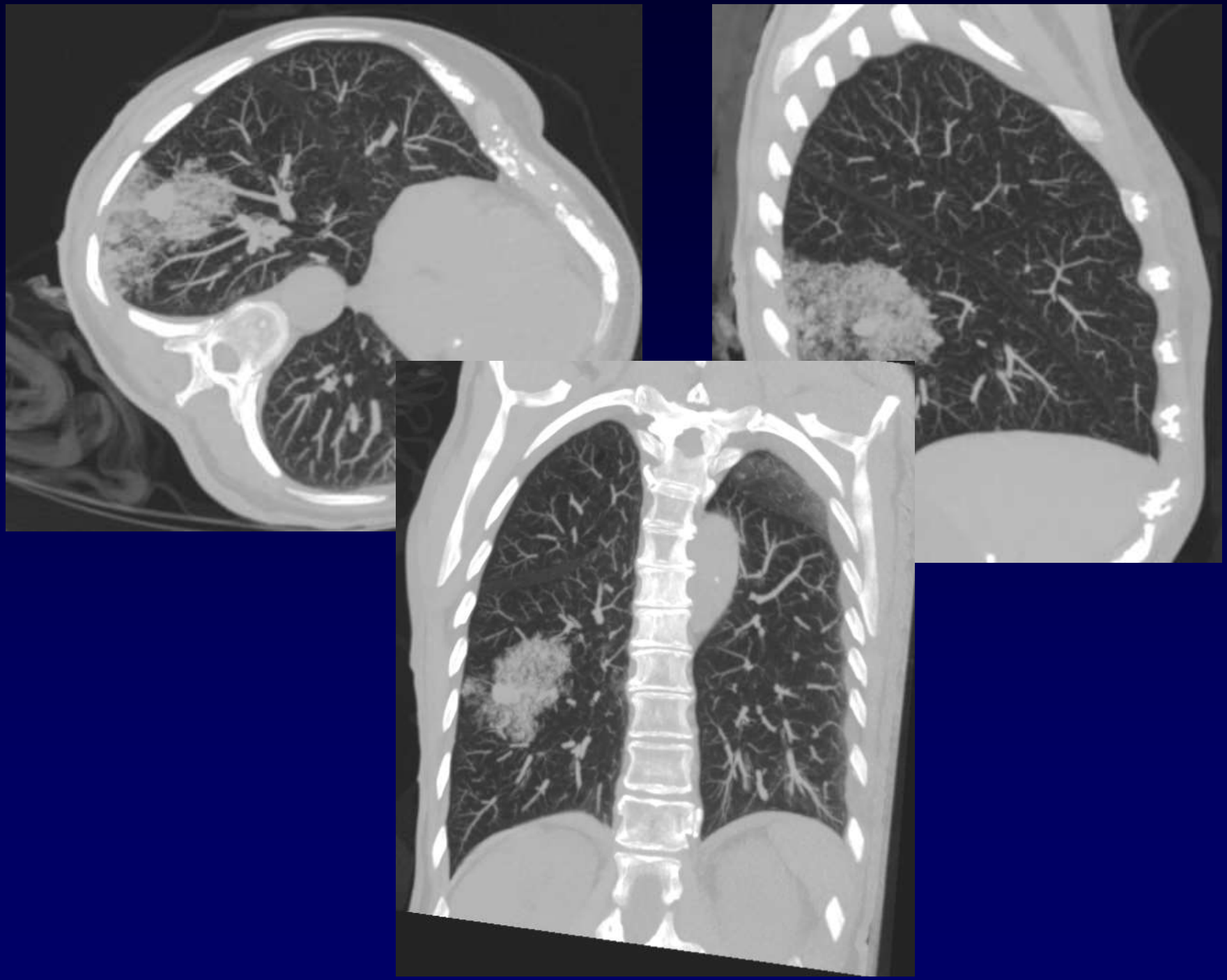


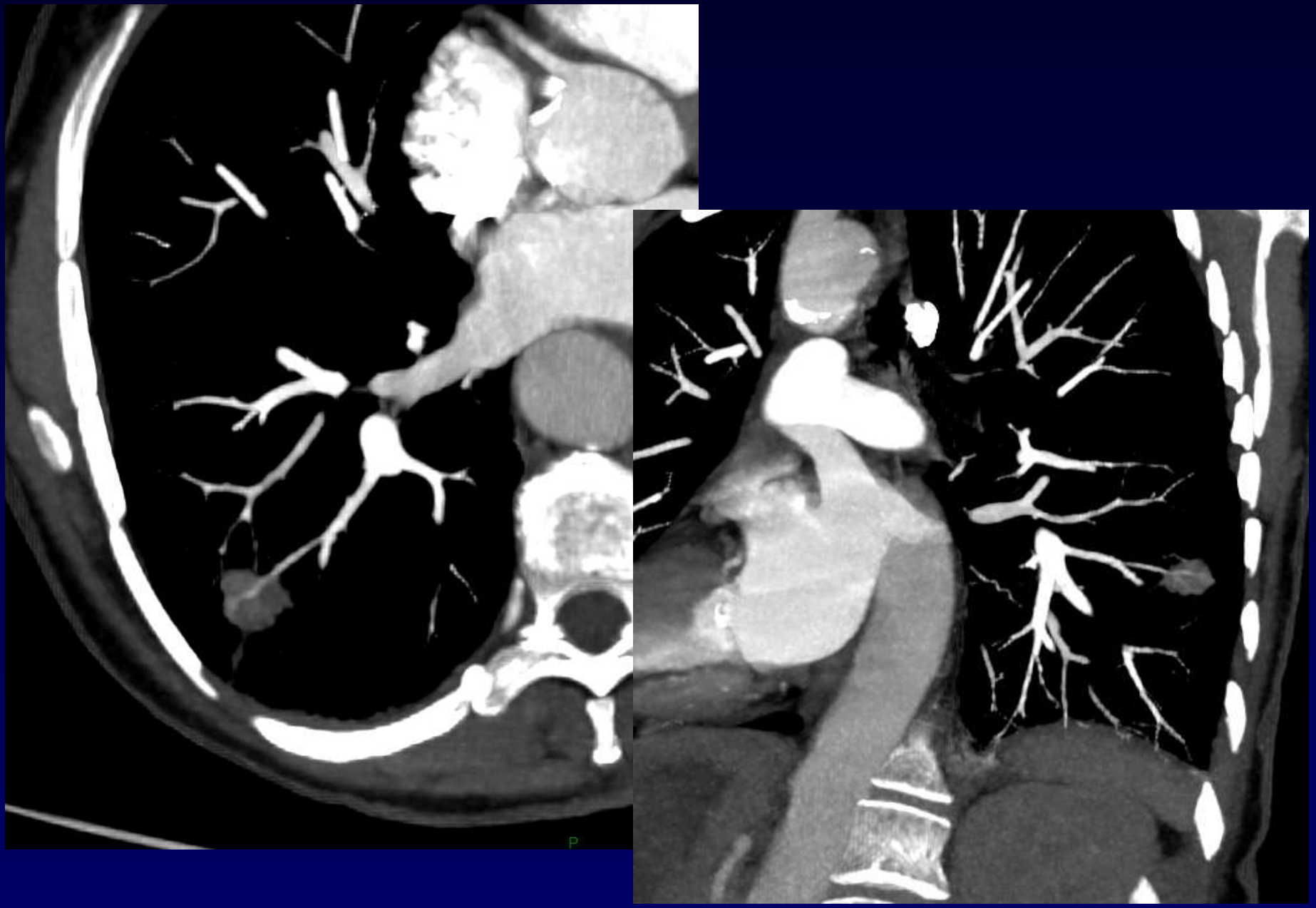






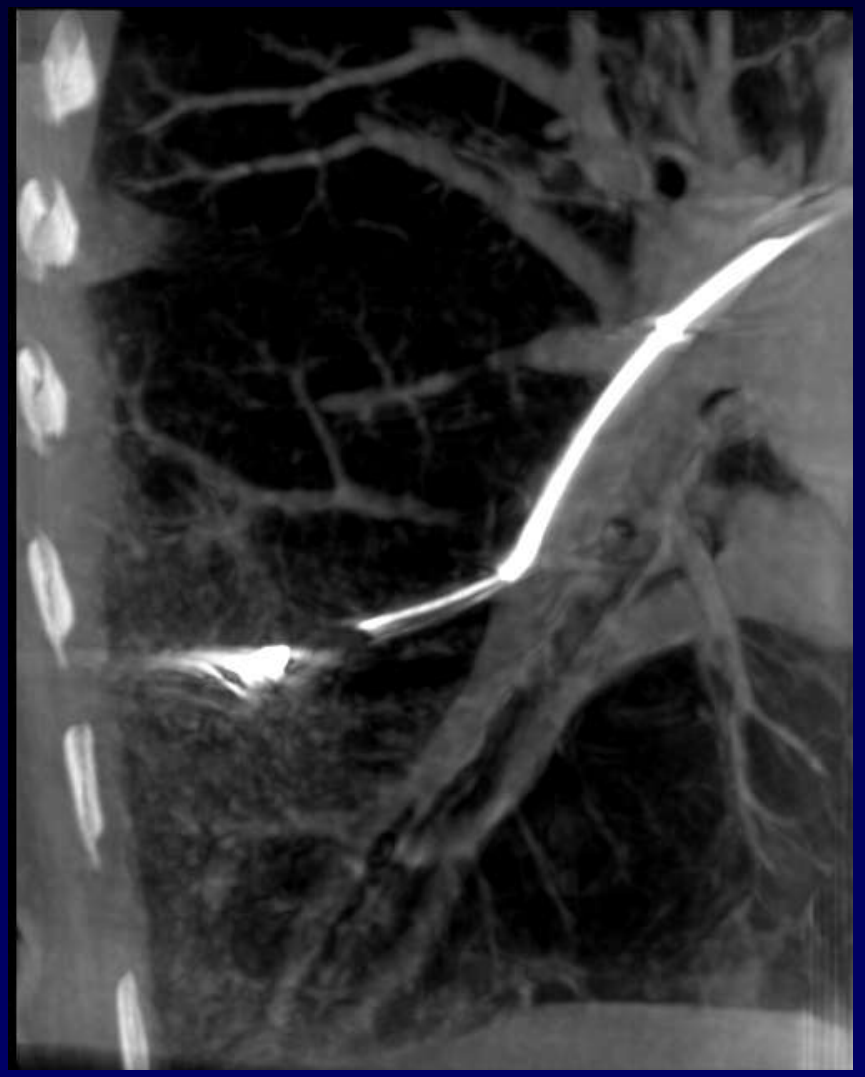




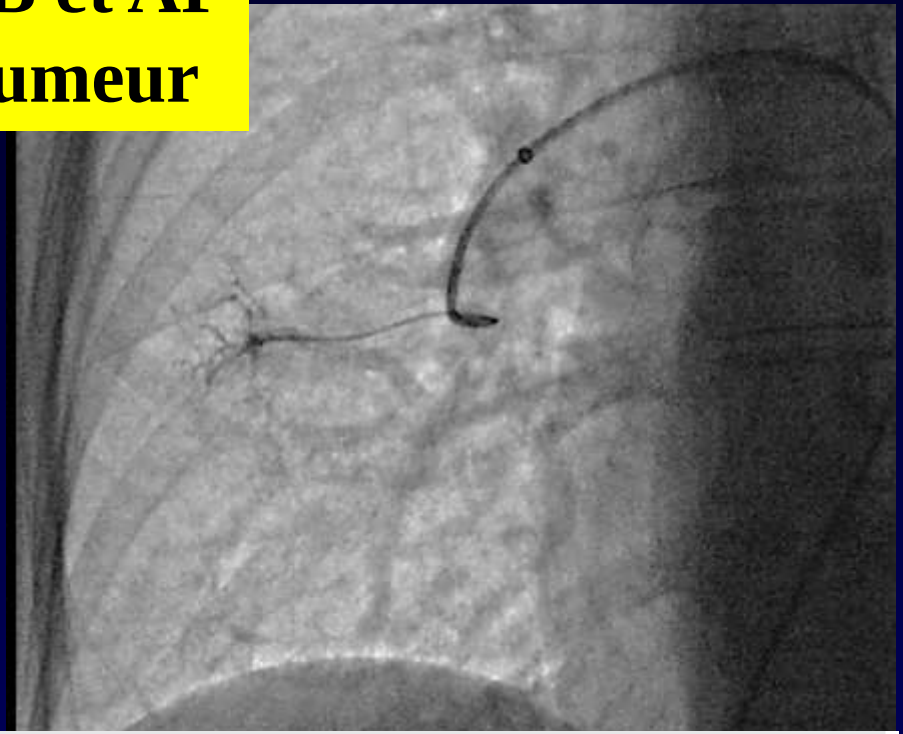


CBCT

CTRL par CBCT



Routes AB et AP
Vers la tumeur



Embolization of Chest Neoplasms: The Next Frontier in Interventional Oncology?

TACE -TARE

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