

# Intérêt de l'écho-endoscopie en staging systématique



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La Madeleine, 1<sup>er</sup> octobre 2024



# Conflits d'intérêts



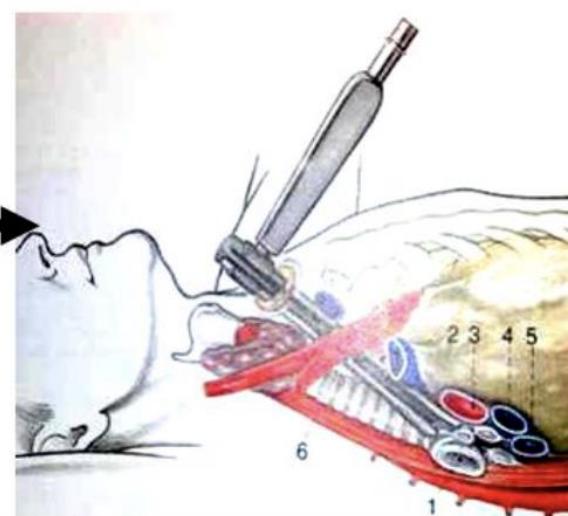
**Liens d'intérêt en rapport  
avec la présentation**



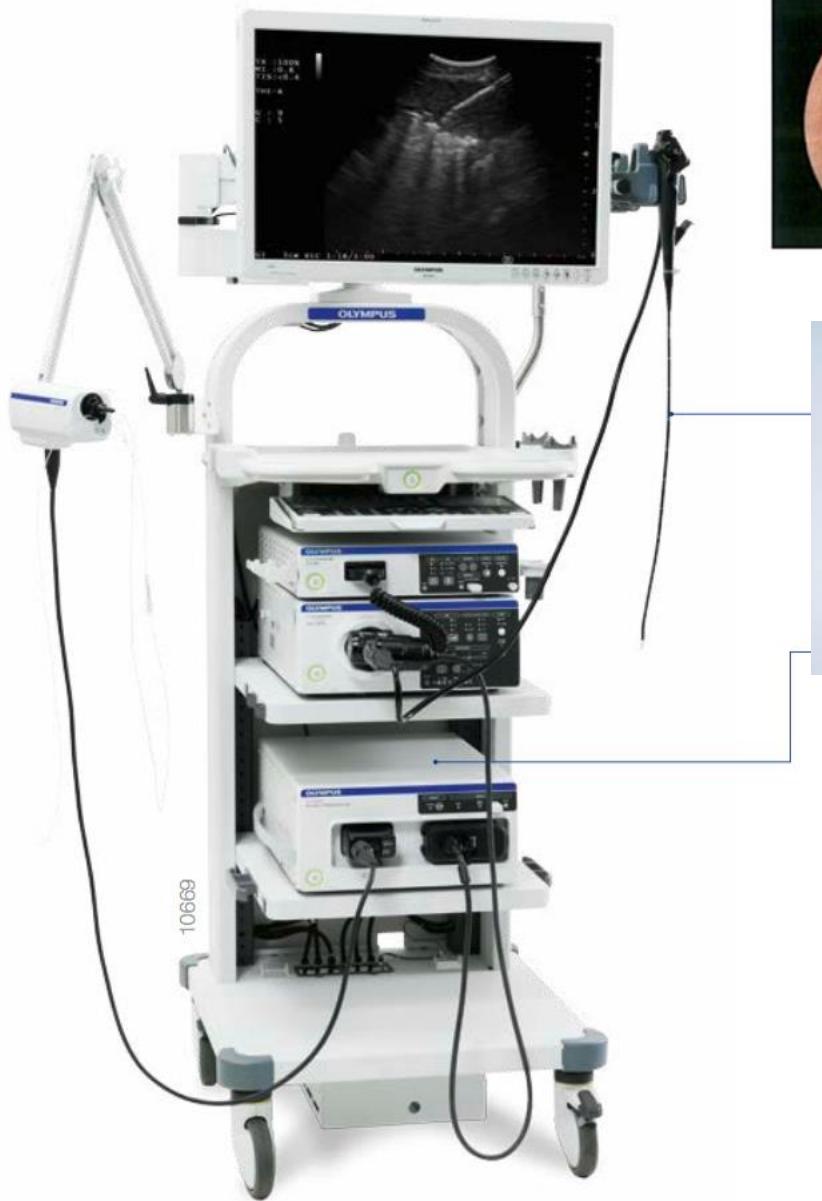
**Amgen, AstraZeneca, Bristol-  
Myers Squibb, Pfizer, Roche**

# Avant: ....

## Médiastinoscopie

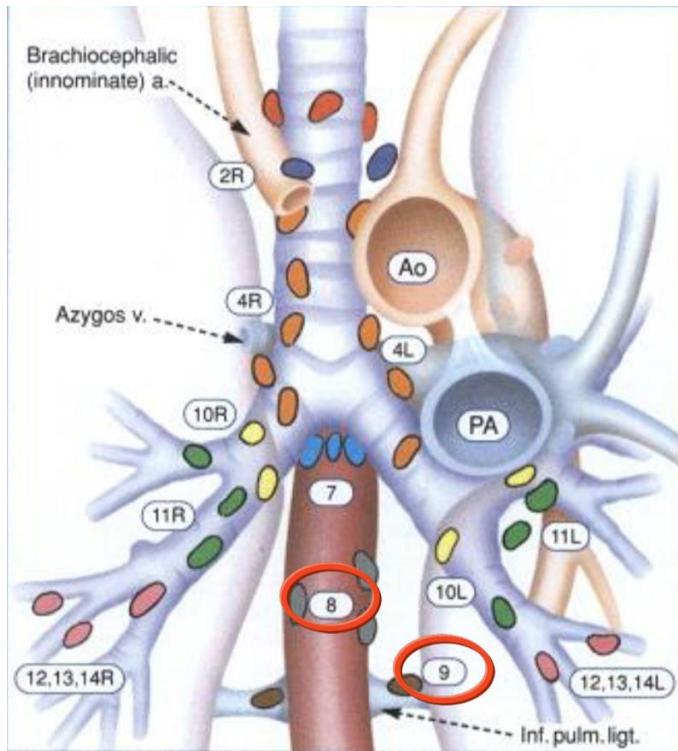


## EBUS: Echo-endoscope bronchique

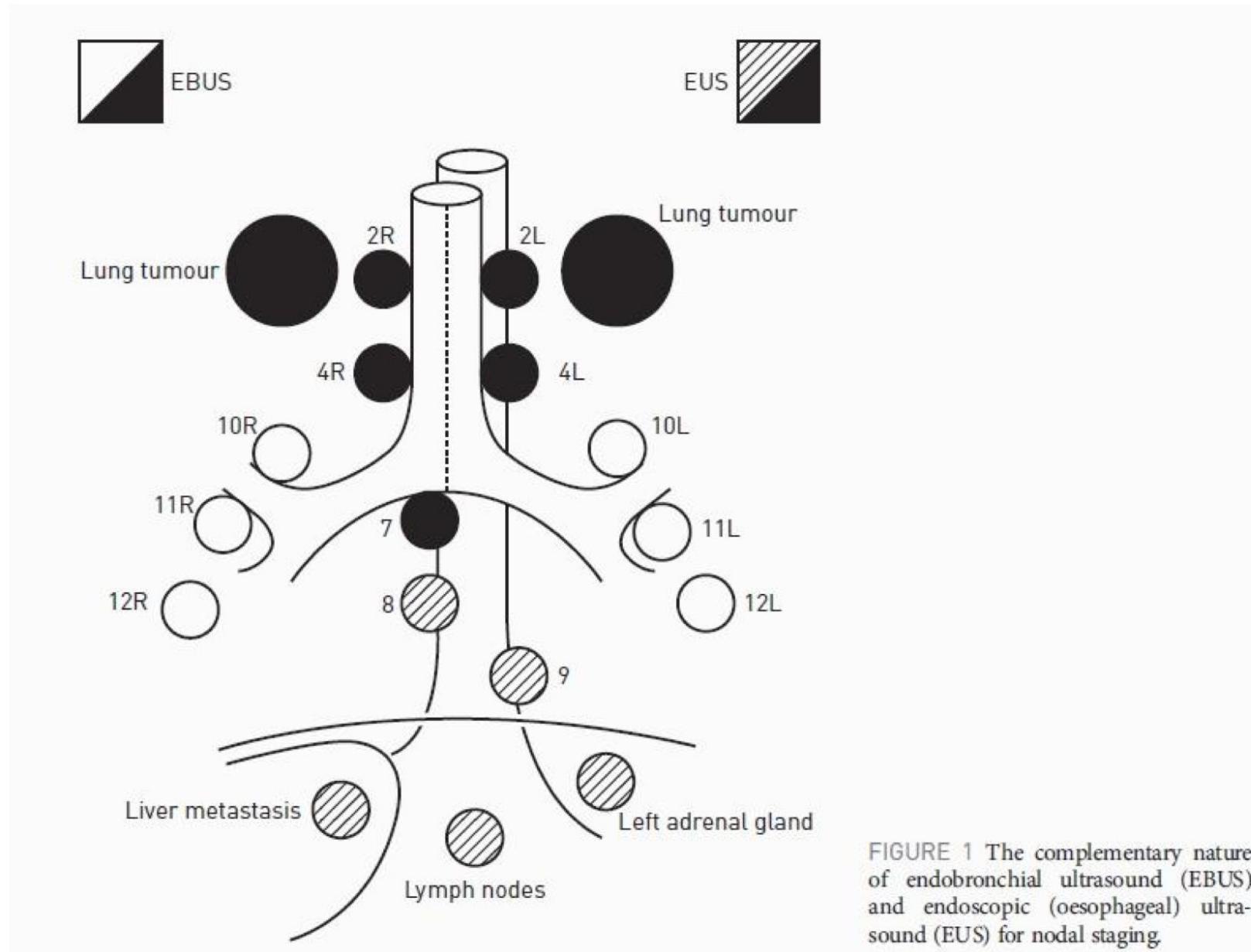


# Qu'est ce que c'est? A quoi ça sert?

- Exploration échographique des bronches segmentaires et donc du médiastin
- Permet de faire un staging médiastinal ou un diagnostic de lésion au contact d'une bronche



**Combined endobronchial and oesophageal endosonography for the diagnosis and staging of lung cancer. Vilman P And Col. Eur respir J 2015**

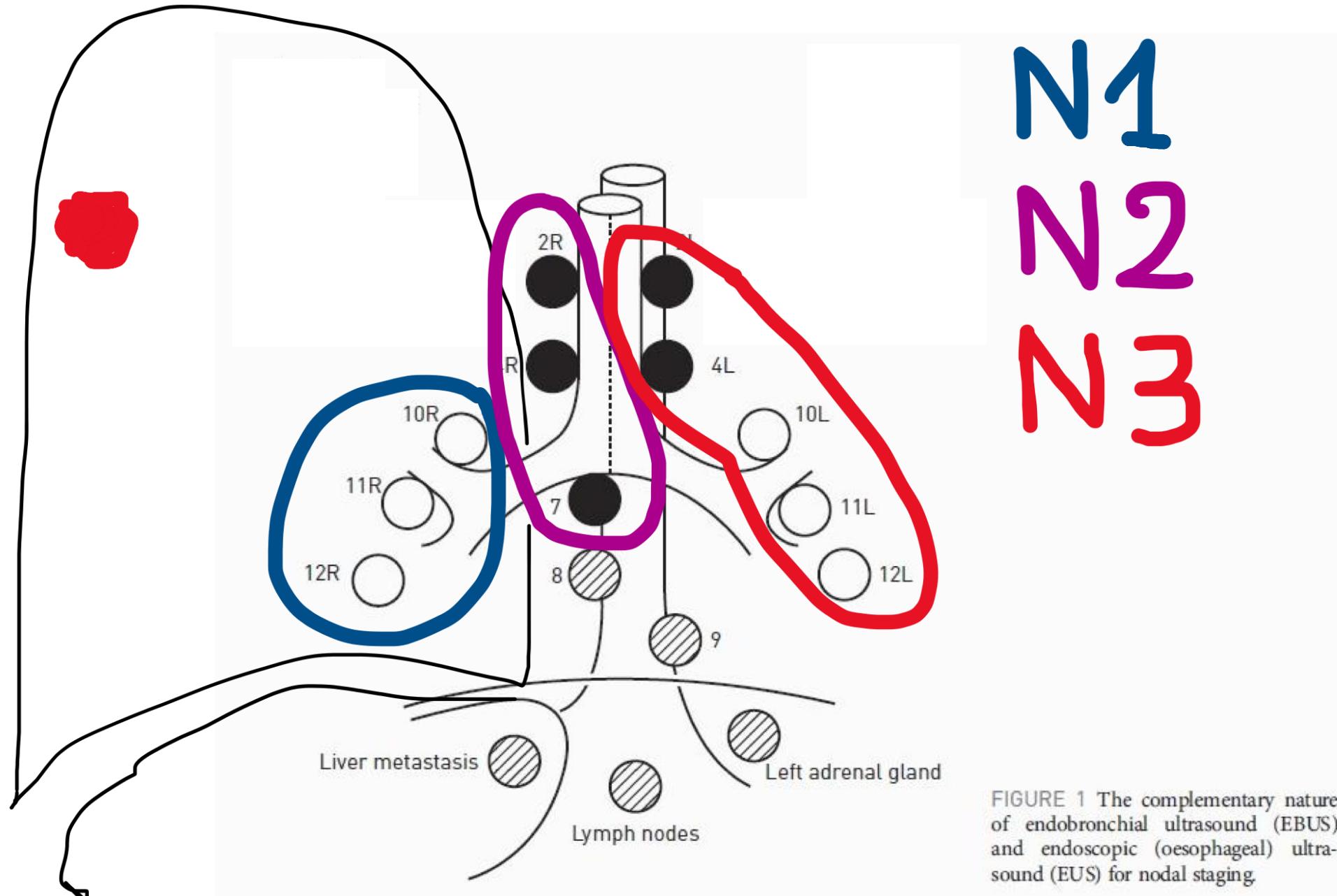


# Un bon staging = une bonne classification

	N0	N1	N2	N3	M1a-b <i>Tout N</i>	M1c <i>Tout N</i>
T1a	IA-1	IIB	IIIA	IIIB	IV-A	IV-B
T1b	IA-2	IIB	IIIA	IIIB	IV-A	IV-B
T1c	IA-3	IIB	IIIA	IIIB	IV-A	IV-B
T2a	IB	IIB	IIIA	IIIB	IV-A	IV-B
T2b	IIA	IIB	IIIA	IIIB	IV-A	IV-B
T3	IIB	IIIA	IIIB	IIIC	IV-A	IV-B
T4	IIIA	IIIA	IIIB	IIIC	IV-A	IV-B

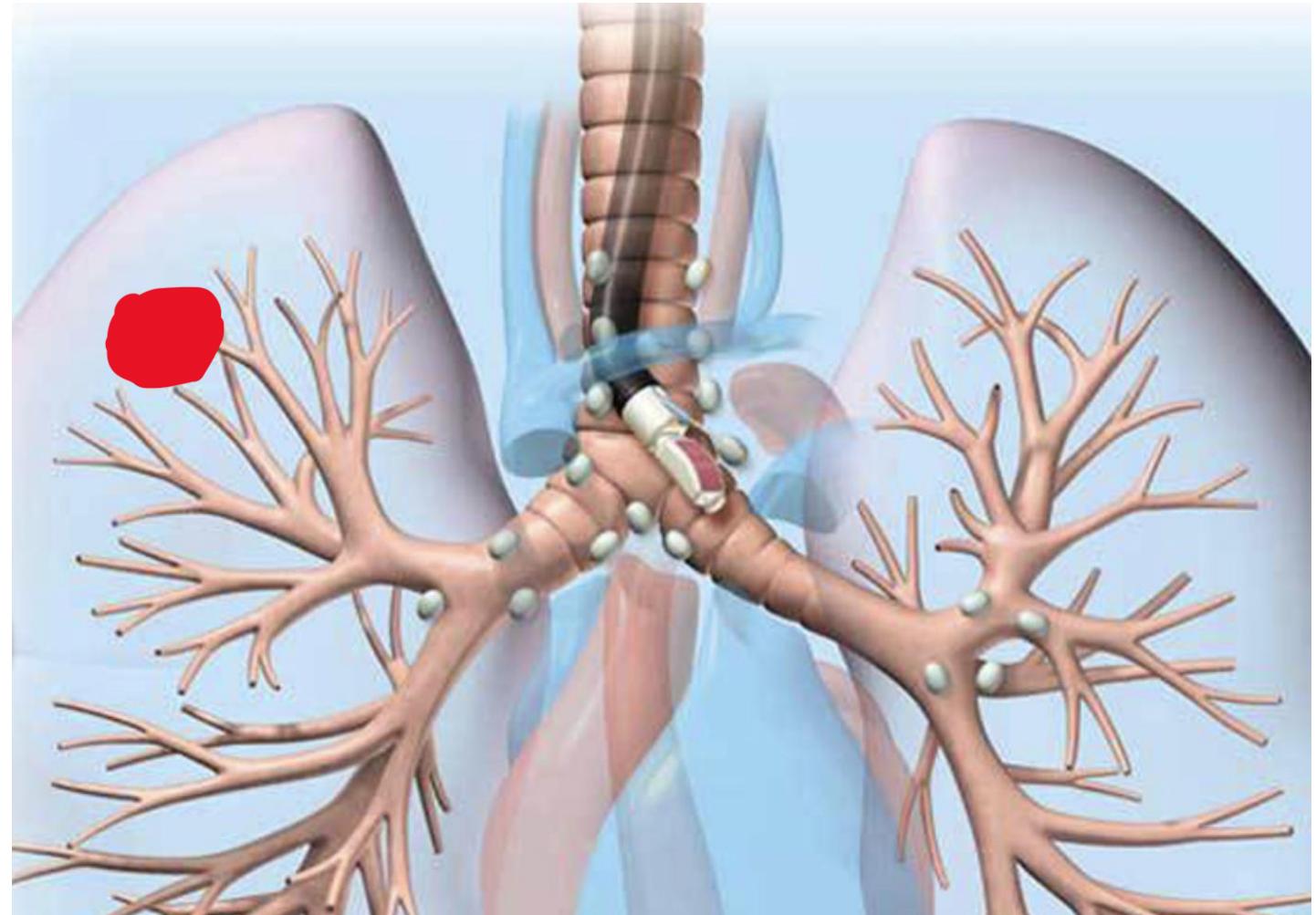
8ème TNM poumon

**Combined endobronchial and oesophageal endosonography for the diagnosis and staging of lung cancer. Vilman P And Col. Eur respir J 2015**



**FIGURE 1** The complementary nature of endobronchial ultrasound (EBUS) and endoscopic (oesophageal) ultrasound (EUS) for nodal staging.

En pratique  
N3 > N2 > N1



# Une bonne classification = LE bon traitement

CHIRURGIE

TT SYSTEMIQUE

	N0	N1	N2	N3	M1a-b <i>Tout N</i>	M1c <i>Tout N</i>
T1a	IA-1	IIB	IIIA	IIIB	IV-A	IV-B
T1b	IA-2	IIB	IIIA	IIIB	IV-A	IV-B
T1c	IA-3	IIB	IIIA	IIIB	IV-A	IV-B
T2a	IB	IIB	IIIA	IIIB	IV-A	IV-B
T2b	IIA	IIB	IIIA	IIIB	IV-A	IV-B
T3	IIB	IIIA	IIIB	IIIC	IV-A	IV-B
T4	IIIA	IIIA	IIIB	IIIC	IV-A	IV-B

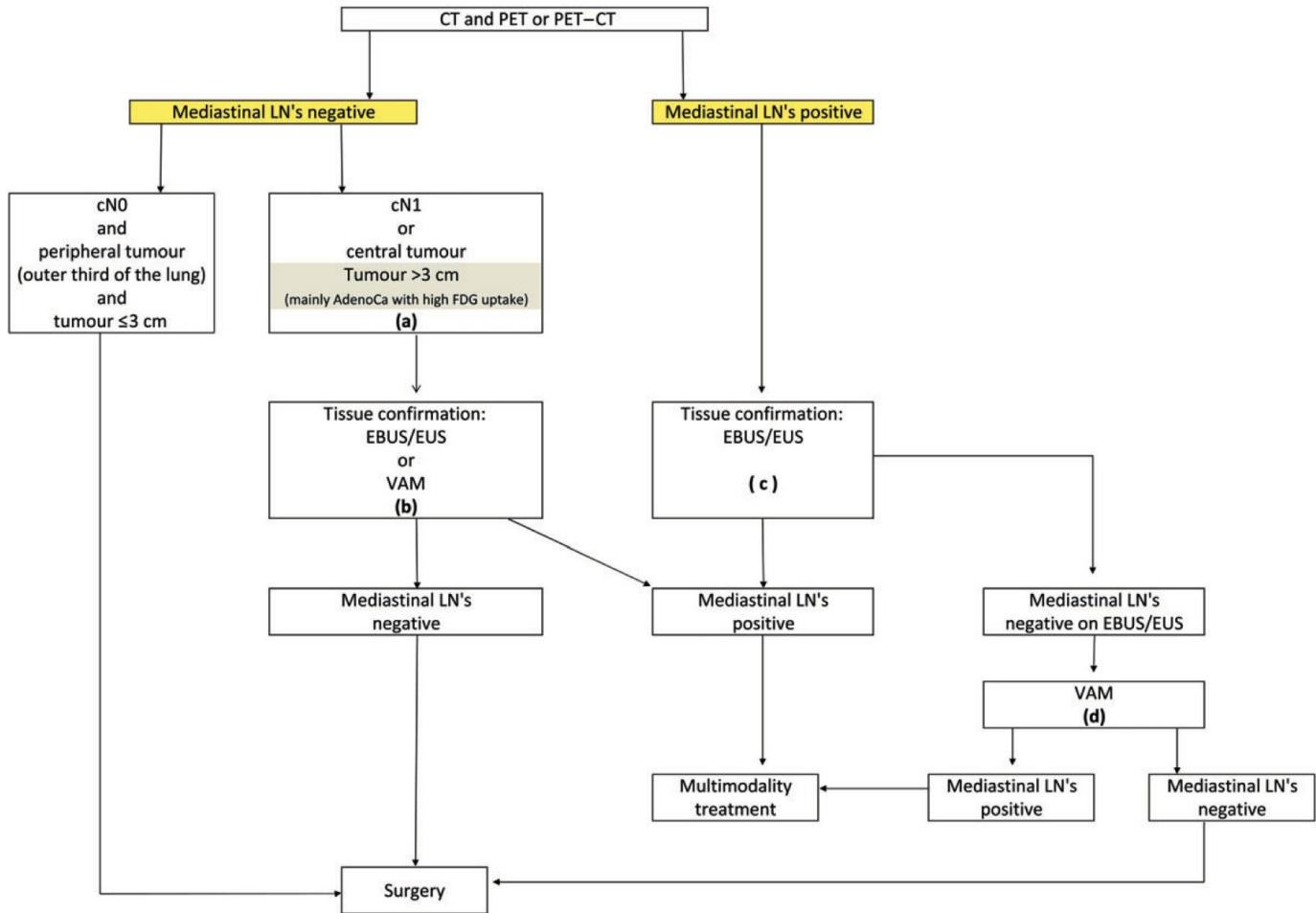
MULTIMODAL...

8ème TNM poumon

Revised ESTS guidelines for preoperative mediastinal lymph node staging for non-small-cell lung cancer  
De Leyn,  
European Journal of Cardio-Thoracic Surgery (2014)

792

P. De Leyn et al. / European Journal of Cardio-Thoracic Surgery



# Preoperative Staging by EBUS in cN0/N1 Lung Cancer

J Bronchol Intervent Pulmonol 2018

## Systematic Review and Meta-Analysis

Tracy L. Leong, FRACP,\*† Paula M. Loveland, MBBS,‡  
 Alexandra Gorelik, MSc,†§ Louis Irving, FRACP,†||  
 and Daniel P. Steinfort, PhD†||

1146 patients

1 pour 14 pts

EBUS-TBNA detected radiologically occult N2/N3 disease in 88 of 1146 patients.

The number needed to test with EBUS- TBNA to upstage cN0/N1 patients was 14

References	cN0/N1 Patients (n)	Study Design	Age (y)	Prevalence of N2/N3 (%)	EBUS-TBNA Staging				
					Radiologic Staging	No. LN Sampled Per Person	Mean LN Size (mm ± SD)	Sedation	Reference Standard Staging
Herth et al <sup>21</sup>	97 (all cN0)	Prospective	52.9	6.19	PET-CT	1.61	7.9±0.7	GA	Mediastinoscopy or surgical LN dissection
Hwangbo et al <sup>22</sup>	61 (cN0/N1)	Prospective	UC	14.75	PET-CT	1.91	7.9*	CS	Surgical LN dissection or clinical follow-up
Szlugowski et al <sup>23</sup>	120 (cN0/N1)	Prospective	61.8	23.33	CT	1.32	7.4±2.8	CS	TEMLA
Yasufuku et al <sup>24</sup>	97 (cN1/N0)	Prospective	UC	UC	CT	3.00	UC	GA	Mediastinoscopy
Cornwell et al <sup>25</sup>	62 (cN0/N1)	Retrospective	64.25	8.06	PET-CT	4.16	8.7±3.8	CS or GA	Surgical LN dissection
Sakairi et al <sup>26</sup>	126 (cN0/N1)	Retrospective	UC	18.25	CT and/or PET-CT	NR	NR	CS	Surgical staging unspecified
Yasufuku et al <sup>27</sup>	163 (cN0/N1)	Retrospective	68.0	9.82	PET-CT	2.78	NR	CS	Surgical LN dissection or clinical follow-up
Clementsen et al <sup>28</sup>	55 (cN0/N1)	Retrospective	UC	UC	CT and/or PET-CT	3.00	UC	GA	Surgical LN dissection
Liberman et al <sup>29</sup>	81 (cN0/N1)	Prospective	UC	UC	PET-CT	UC	UC	GA	Mediastinoscopy and anterior mediastinotomy
Oki et al <sup>30</sup>	146 (cN0/N1)	Prospective	68.3	22.60	PET-CT	2.12	8.2*	CS	Surgical LN dissection or clinical follow-up
Shingyogi et al <sup>31</sup>	113 (all cN0)	Retrospective	67.0	17.70	PET-CT	1.70	NR	CS	Surgical LN dissection
Dooms et al <sup>32</sup>	100 (all cN1)	Prospective	65.0	24.00	PET-CT	2.30	6.9±2.2	CS or GA	Mediastinoscopy or surgical LN dissection
Ong et al <sup>33</sup>	220 (all cN0)	Retrospective	67.5	7.73	PET-CT	3.25	7.2*	GA	Surgical LN dissection or clinical follow-up

Systematic endoscopic staging of mediastinum to guide radiotherapy planning in patients with locally advanced non-small-cell lung cancer (SEISMIC): an international, multicentre, single-arm, clinical trial

Steinfeld, Lancet Respiratory, 2024

155 patients

- 37% divergence PET / EBUS sur l'atteinte médiastinale

cN0-N2

- PET occult Lymph Node 12% pts

EBUS systématique

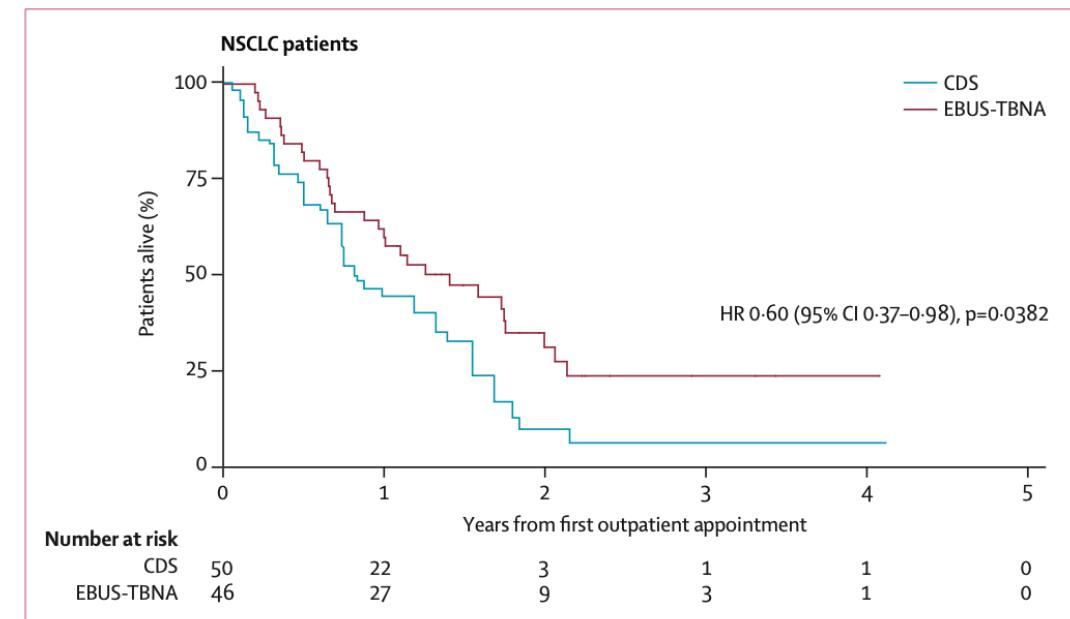
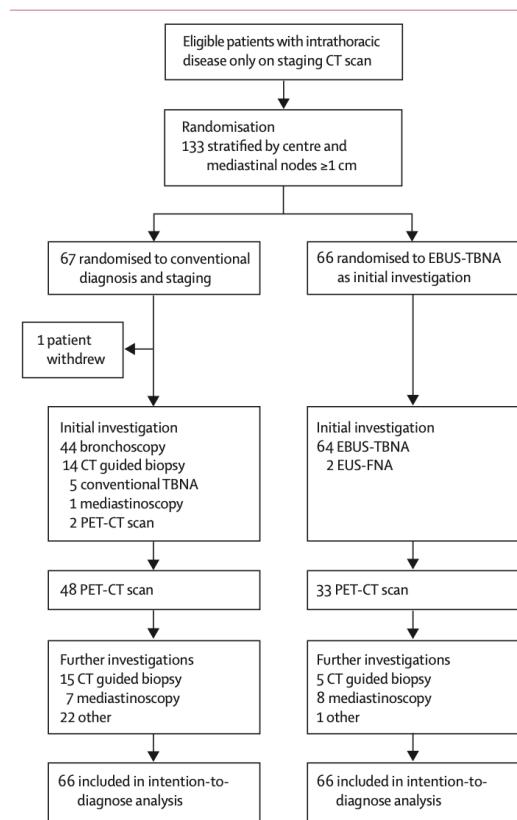
- Contralat PET occult LN 7% des cN0-cN2

Changement majeur de traitement pour 18 pts soit 12%...

0 complication de la procédure EBUS

# Lung Boost trial, Navani, Lancet respir Med, 2015

- The results from our trial suggest that routine use of EBUS-TBNA as an initial investigation after a staging CT for suspected lung cancer scan results in a faster treatment decision, with fewer investigations at no significant difference in cost, and, in post-hoc analysis, seems to improve survival, compared with conventional diagnosis and staging methods



**Figure 3: Overall survival of patients with non-small-cell lung cancer**

Survival of patients with non-small-cell lung cancer undergoing CDS or EBUS-TBNA. NSCLC=non-small-cell lung cancer. CDS=conventional diagnosis and staging. EBUS-TBNA=endobronchial ultrasound-guided transbronchial

## RESEARCH SUMMARY

**Neoadjuvant Nivolumab plus Chemotherapy in Resectable Lung Cancer**

Forde PM et al. DOI: 10.1056/NEJMoa2202170

## CLINICAL PROBLEM

In phase 2 studies involving patients with resectable non-small-cell lung cancer (NSCLC), nivolumab-based neoadjuvant regimens showed promising clinical activity with respect to pathological complete response, survival, and safety. Additional data confirming those results are needed.

## CLINICAL TRIAL

**Design:** An international, phase 3, randomized, open-label trial examined the efficacy and safety of neoadjuvant nivolumab plus chemotherapy, as compared with chemotherapy alone, in adult patients with stage IB to IIIA NSCLC.

**Intervention:** 358 patients were randomly assigned to receive either neoadjuvant nivolumab (360 mg) plus platinum-doublet chemotherapy (every 3 weeks for three cycles) or platinum-doublet chemotherapy alone, followed by resection. The two primary end points were event-free survival and pathological complete response.

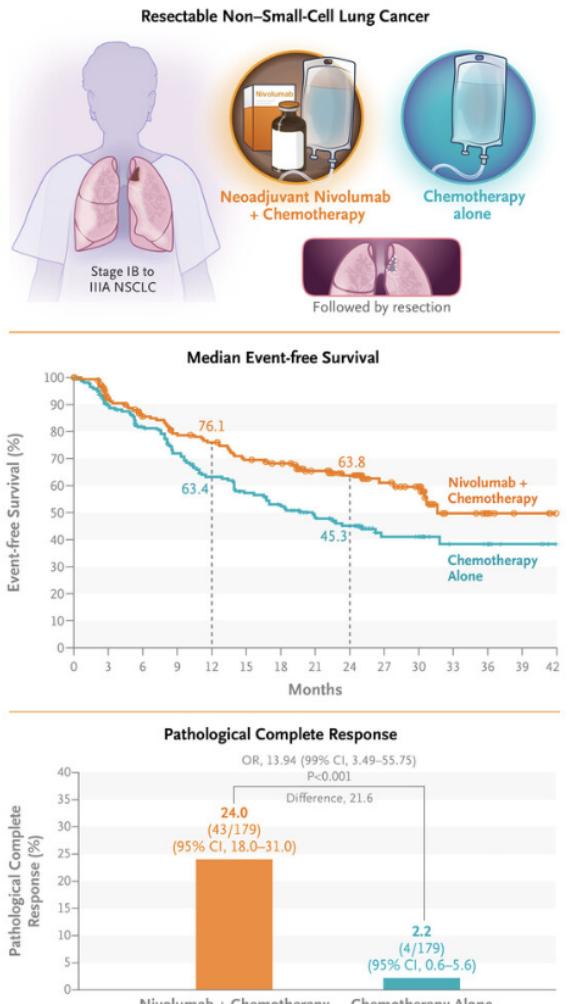
## RESULTS

**Efficacy:** During a minimum follow-up of 21 months, median event-free survival was significantly longer with nivolumab plus chemotherapy than with chemotherapy alone. The percentage of patients with a pathological complete response also favored nivolumab plus chemotherapy.

**Safety:** The incidence of grade 3 or 4 treatment-related adverse events was similar in the two groups; neutropenia and decreased neutrophil count were the most common events.

## LIMITATIONS AND REMAINING QUESTIONS

- More than 60% of the patients had stage IIIA disease; longer follow-up may be warranted to assess the benefits of neoadjuvant nivolumab in patients with NSCLC with a better prognosis.
- Continued follow-up is needed to evaluate the benefits with respect to overall survival, a key secondary end point.



## CONCLUSIONS

Among patients with resectable NSCLC, neoadjuvant nivolumab plus chemotherapy was superior to chemotherapy alone with respect to event-free survival and pathological complete response, with no increase in adverse events.

- Vu les résultats des récents essais péri-opératoire avec immunoT, du occult LN
- INDISPENSABLE d'avoir aujourd'hui un staging complet

## CONCLUSION:

**EBUS FOR ALL !!!**