



Traitement médical des cancers bronchiques non à petites cellules avancées  
“Du prêt à porter au sur mesure”

# **LES GRANDES AVANCÉES** **EN PNEUMOLOGIE**



# Cancer Bronchique

Du Prêt à Porter au Sur Mesure

Philippe Girard  
Jacques Cadranel

# Cancer Bronchique

1987-2017: du Prêt à Porter au Sur Mesure

1. TNM

Ph. Girard

2. Traitement médical J. Cadranel



Cadranel

Girard



# Philippe Girard

## **Déclaration de liens d'intérêts**

J'ai actuellement, ou j'ai eu au cours des trois dernières années, une affiliation ou des intérêts financiers ou intérêts de tout ordre avec les sociétés commerciales suivantes en lien avec la santé.

Essais thérapeutiques:

*Leo Pharma*

Invitations à des congrès

*Leo Pharma, Bayer*

Subventions à la recherche

*Leo Pharma, Bayer*



Il était une fois le cancer bronchique...

...en 1987...



1987

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# Journal of Clinical Oncology

*The Official Journal of the American Society of Clinical Oncology*

**Vol 5, No 11**

**November 1987**

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## **EDITORIAL**

**Advanced Non-Small-Cell Lung Cancer:  
To Treat or not to Treat?**

« Experts (...) would not accept these treatments for themselves »

*Hansen, JCO 1987, 5:1711-2*

# Cancer Bronchique: du Prêt à Porter au Sur Mesure

Le sur mesure en 1987...





Will Rogers  
1879-1935



1985



1604

THE NEW ENGLAND JOURNAL OF MEDICINE

June 20, 1985

# THE WILL ROGERS PHENOMENON

Stage Migration and New Diagnostic Techniques as a Source of Misleading Statistics for Survival in Cancer

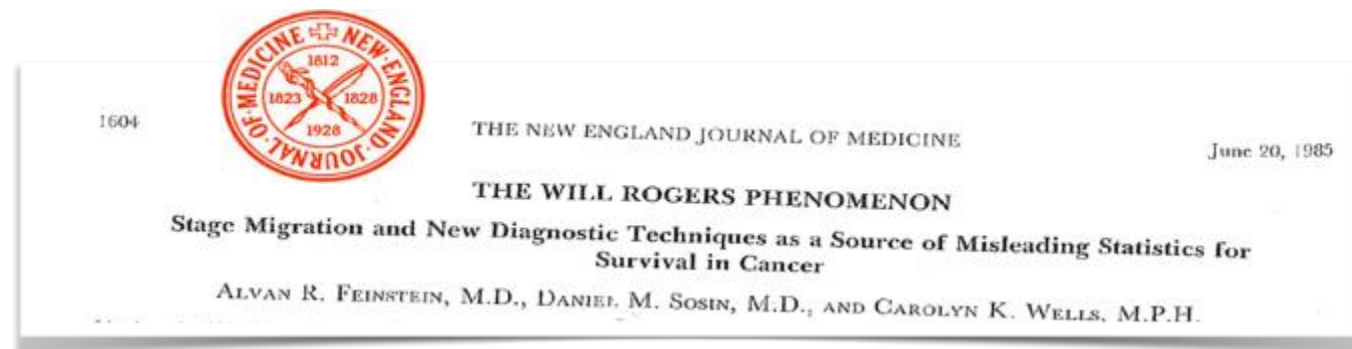
ALVAN R. FEINSTEIN, M.D., DANIEL M. SOSIN, M.D., AND CAROLYN K. WELLS, M.P.H.

Table 3. Six-Month Survival Rates and Composition of Cohorts, Using All Available Data for TNM Stages in the Two Cohorts.\*

TNM	Survie à 6 mois	
	1953-1964 (n=1266)	1977 (n=131)
Stade I	75%	92%
Stade II	57%	72%
Stade III	30%	42%
Total	44%	55%

\*TNM denotes tumor, nodes, and metastases.<sup>16</sup>

1985



## Bilan pré-thérapeutique du cancer bronchique en 1977

Table 2. Frequency and Results of New Diagnostic Imaging Techniques in the 1977 Cohort.\*

	% de patients qui ont eu le test (n=131)
Scintigraphie foie et rate	75%
Scintigraphie cérébrale	60%
Scintigraphie osseuse	56%
Scanner cérébral	9%
Echographie abdominale	11%
Scintigraphie au Gallium	24%
Autres	7%

\*CT scan of a part of the body other than the head or ultrasound outside the abdomen.

Feinstein, NEJM 1985, 312:1604-8



1985



1604

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Table 4. Effects of Stage Migration on Six-Month Survival Rates in the 1977 Cohort.\*

OLD-DATA TNM STAGE *	STAGE MIGRATION	NEW-DATA TNM STAGE *
	<i>six-month survival</i>	
I: 32/42 (76)	→ I: 22/24 (92)	I: 22/24 (92)
	↗ II: 1/1 (100)	
	↘ III: 9/17 (53)	
II: 17/25 (68)	→ II: 12/17 (71)	II: 13/18 (72)
	↘ III: 5/8 (63)	
III: 23/64 (36)	→ III: 23/64 (36)	III: 37/89 (42)

1985

1604



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### THE WILL ROGERS PHENOMENON

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ALVAN R. FEINSTEIN, M.D., DANIEL M. SOSIN, M.D., AND CAROLYN K. WELLS, M.P.H.

opher, Will Rogers, about a geographic migration during the American economic depression of the 1930s. Rogers said, "When the Okies left Oklahoma and moved to California, they raised the average intelligence level in both states." We have not been able to find the exact citation for this remark, and we have

« Les habitants de l'Oklahoma qui ont émigré en Californie ont amélioré le niveau moyen d'intelligence dans les deux états »





# Will Rogers 2017...

2017



« Des canadiens qui émigreraient aux Etats-Unis amélioreraient le niveau moyen d'intelligence dans les 2 pays »

1986

# A New International Staging System for Lung Cancer\*

Clifton F. Mountain, M.D., F.C.C.P.

CHEST / 89 / 4 / APRIL, 1986 / Supplement

2258

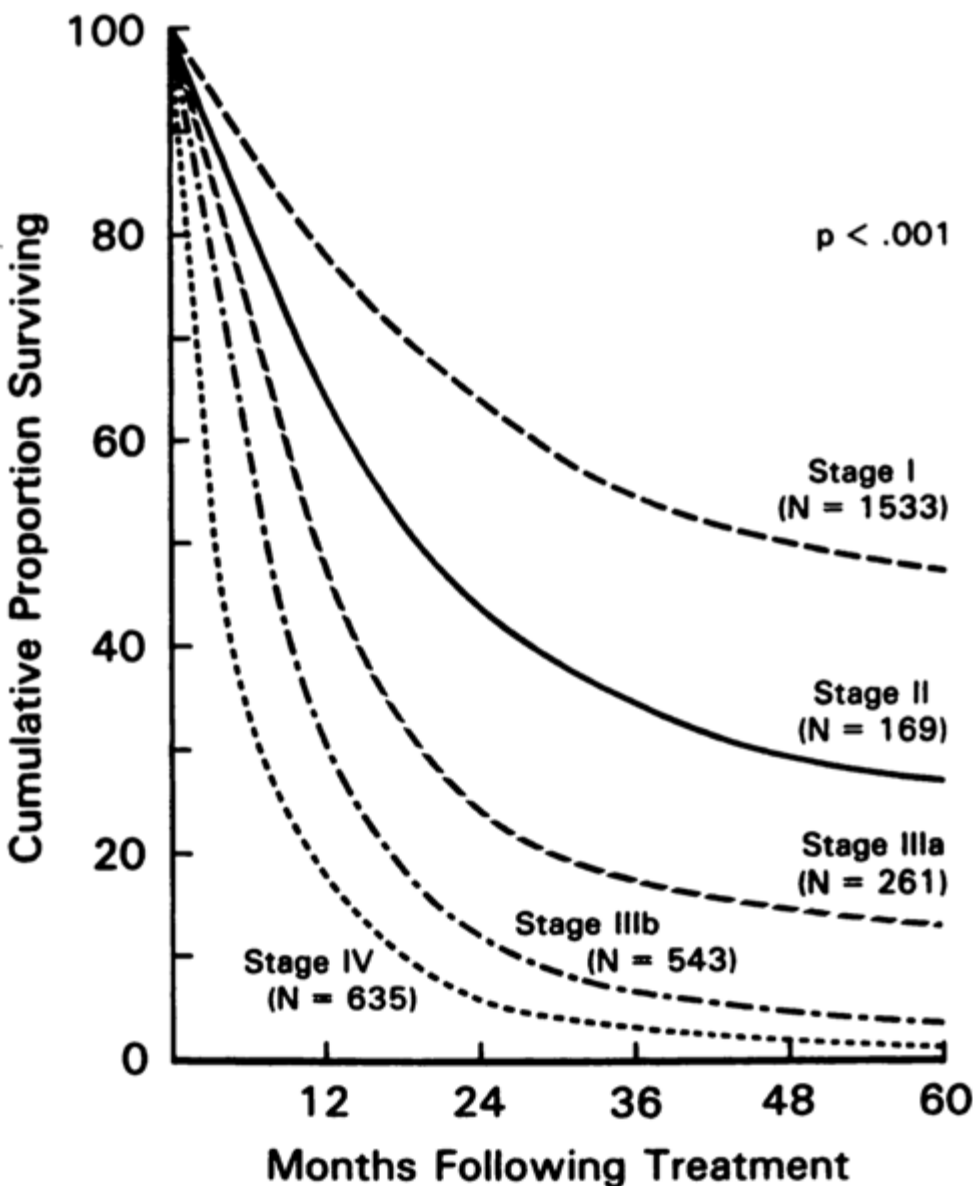
**Table 1—New Stage Data Base for Classification Research  
1975-82**

University of Texas M. D. Anderson Hospital*	2,749
Reference Center for Anatomic and Pathologic Classification of Lung Cancer†	1,004
Total cases	3,753

\*Consecutive patients treated for primary lung cancer 1975-80;  
surgical patients only 1981-82.

**Table 7—Stage Grouping of TNM Subsets**

Stage Grouping			
Occult Carcinoma	TX	N0	M0
Stage 0	TIS	Carcinoma in situ	
Stage I	T1	N0	M0
	T2	N0	M0
Stage II	T1	N1	M0
	T2	N1	M0
Stage IIIa	T3	N0	M0
	T3	N1	M0
	T1-3	N2	M0
Stage IIIb	Any T	N3	M0
	T4	Any N	M0
Stage IV	Any T	Any N	M1



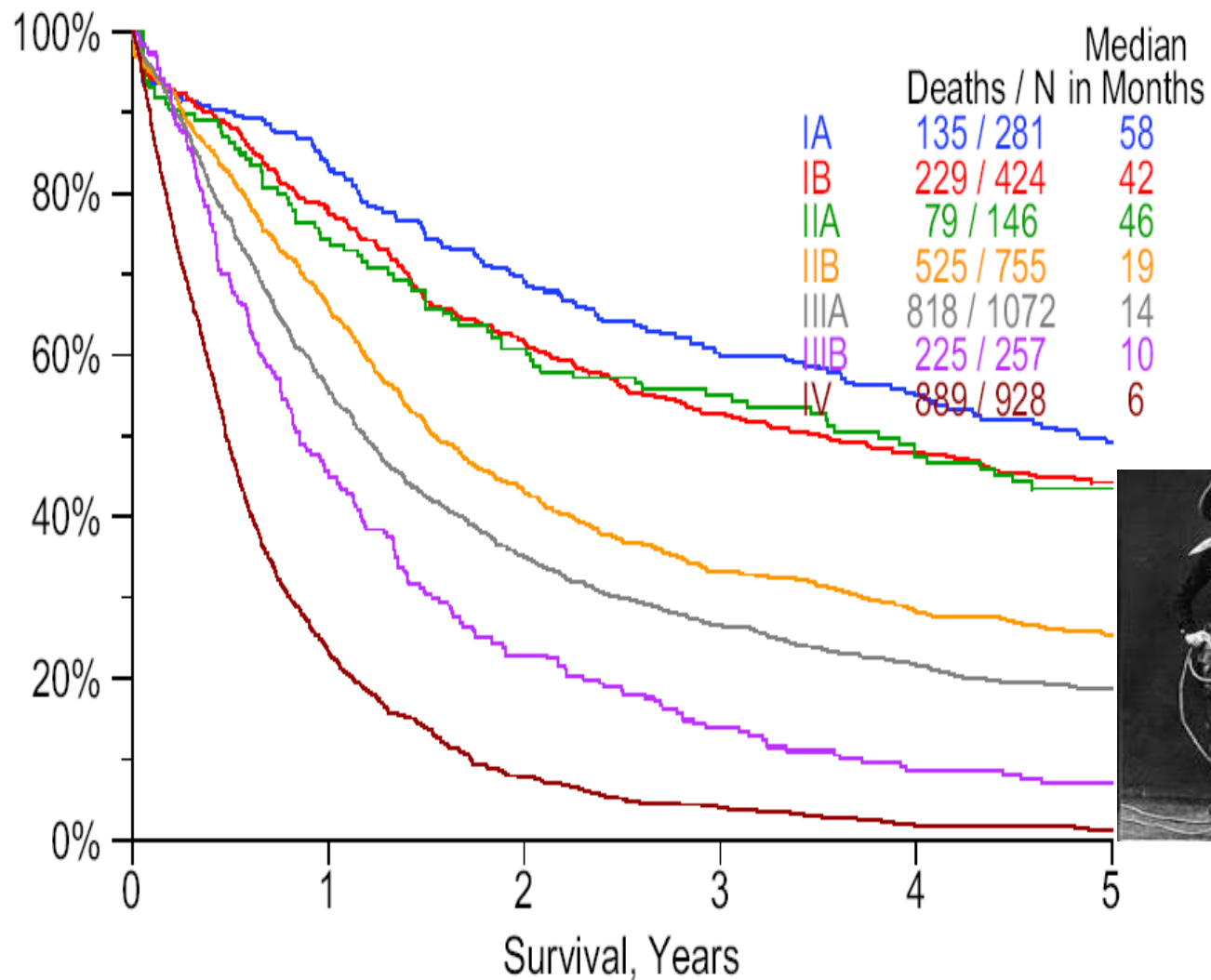
CF Mountain 1985

3.753 patients  
1975-1982

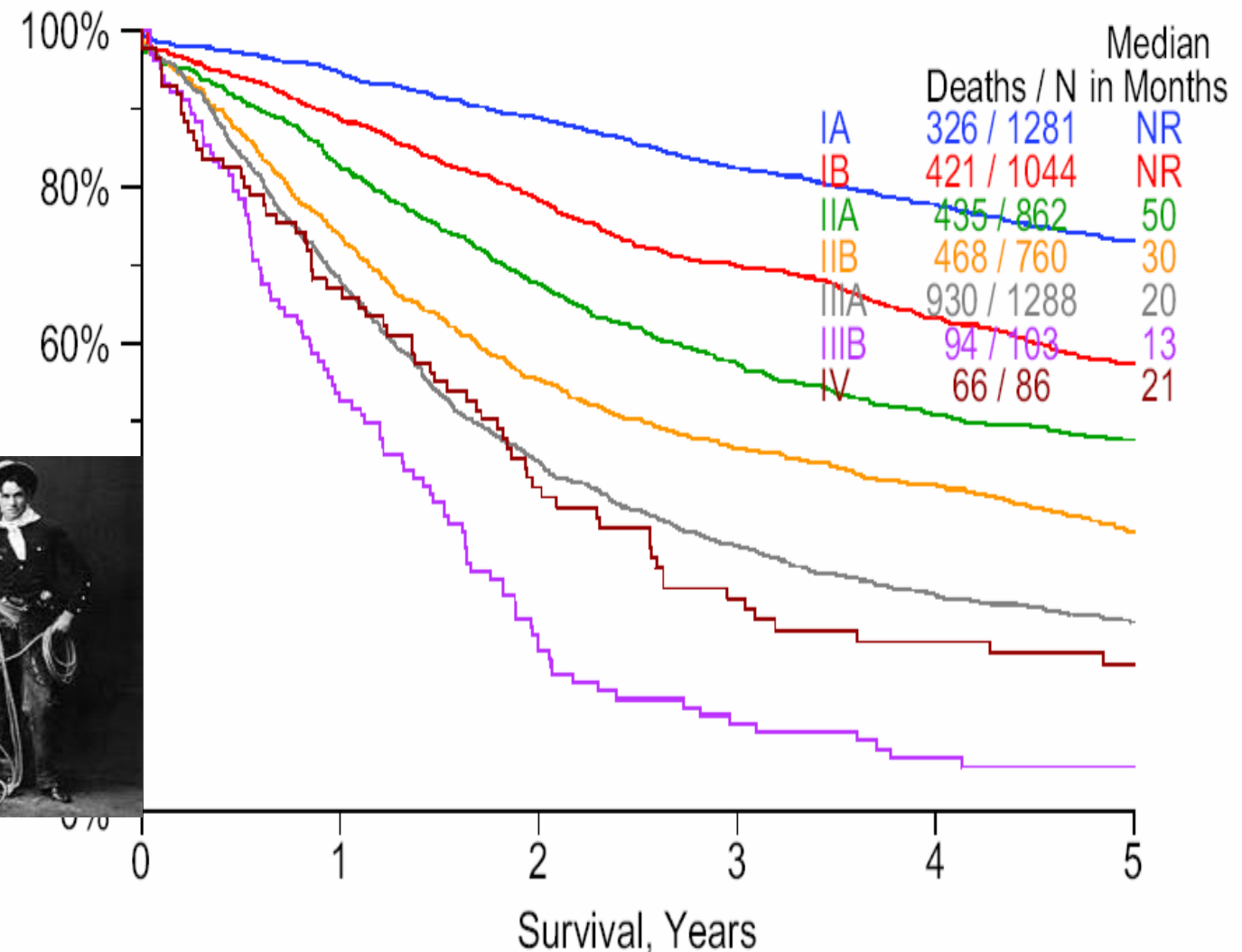
# Le Phénomène de Will Rogers cTNM vs pTNM

2007

## Stades CLINIQUES



## Stades PATHOLOGIQUES



67.725 patients  
CBNPC  
1990-2000

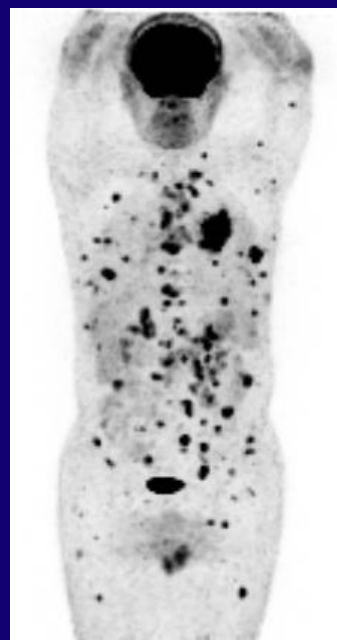
Pas de PET-scan et IRM cérébrale...

*Groome, IASLC Lung Cancer staging project, JTO 2007;2:694-705  
(The Will Rogers phenomenon, Feinstein, NEJM 1985, 312:1604)*

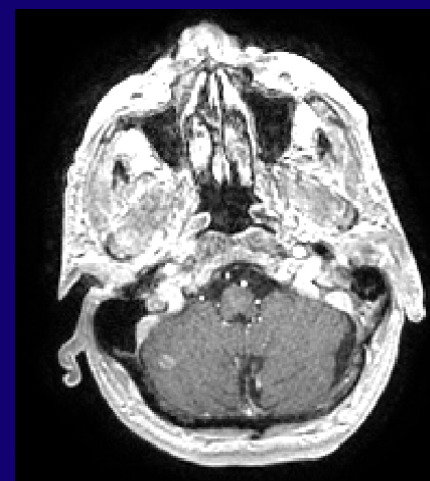
2017

## Le staging « moderne »

### cTNM: PET-scan



### cTNM : Imagerie cérébrale



- Sensibilité IRM > Scanner
- Valeur pronostique (M1b)
- Patients asymptomatiques: Impact sur la survie ??

Stades I-II:  
Stades III-IV:

0-10% métastases asymptomatiques  
30%?.... « we suggest » (grade 2C)

*Silvestri, ACCP guidelines, Chest. 2013;143(5 Suppl):e211S-50S.*



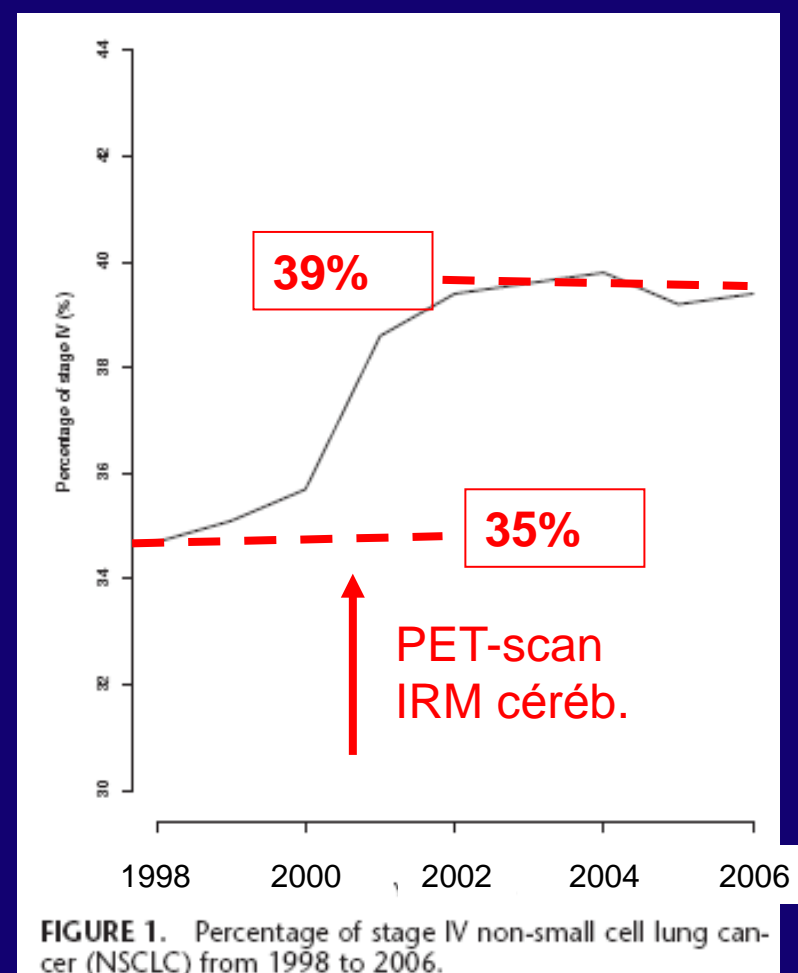
2017

## Le staging « moderne »

### cM1b: Impact des « nouveaux » outils

National Cancer Database (USA)

- 812.000 patients
- Diagnostic **CBNPC** 1998-2006
- **M1** synchrones



*Morgensztern, JTO 2010;5:29-33*

# TNM 2016 (8è édition): « T »

2016

« 94,708 cases donated from 35 sources in 16 countries »  
2000-2010

T: Primary tumor	
Tx	Primary tumor cannot be assessed or tumor proven by presence of malignant cells in sputum or bronchial washings but not visualized by imaging or bronchoscopy
T0	No evidence of primary tumor
Tis	Carcinoma in situ
T1	Tumor ≤3 cm in greatest dimension surrounded by lung or visceral pleura without bronchoscopic evidence of invasion more proximal than the lobar bronchus (i.e., not in the main bronchus) <sup>a</sup>
T1a(mi)	Minimally invasive adenocarcinoma <sup>b</sup>
T1a	Tumor ≤1 cm in greatest dimension <sup>a</sup>
T1b	Tumor >1 cm but ≤2 cm in greatest dimension <sup>a</sup>
T1c	Tumor >2 cm but ≤3 cm in greatest dimension <sup>a</sup>
T2	Tumor >3 cm but ≤5 cm or tumor with any of the following features <sup>c</sup> : <ul style="list-style-type: none"><li>- Involves main bronchus regardless of distance from the carina but without involvement of the carina</li><li>- Invades visceral pleura</li><li>- Associated with atelectasis or obstructive pneumonitis that extends to the hilar region, involving part or all of the lung</li></ul>
T2a	Tumor >3 cm but ≤4 cm in greatest dimension
T2b	Tumor >4 cm but ≤5 cm in greatest dimension
T3	Tumor >5 cm but ≤7 cm in greatest dimension or associated with separate tumor nodule(s) in the same lobe as the primary tumor or directly invades any of the following structures: chest wall (including the parietal pleura and superior sulcus tumors), phrenic nerve, parietal pericardium
T4	Tumor >7 cm in greatest dimension or associated with separate tumor nodule(s) in a different ipsilateral lobe than that of the primary tumor or invades any of the following structures: diaphragm, mediastinum, heart, great vessels, trachea, recurrent laryngeal nerve, esophagus, vertebral body, and carina

opérable



inopérable

# TNM 2016 (8è édition): Stades

1986

**Table 7—Stage Grouping of TNM Subsets**

	Stage Grouping		
Occult Carcinoma	TX	N0	M0
Stage 0	TIS	Carcinoma in situ	
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Stage II	T1	N1	M0
	T2	N1	M0
Stage IIIa	T3	N0	M0
	T3	N1	M0
	T1-3	N2	M0
Stage IIIb	Any T	N3	M0
	T4	Any N	M0
Stage IV	Any T	Any N	M1

*Mountain, Chest 1986*

2016

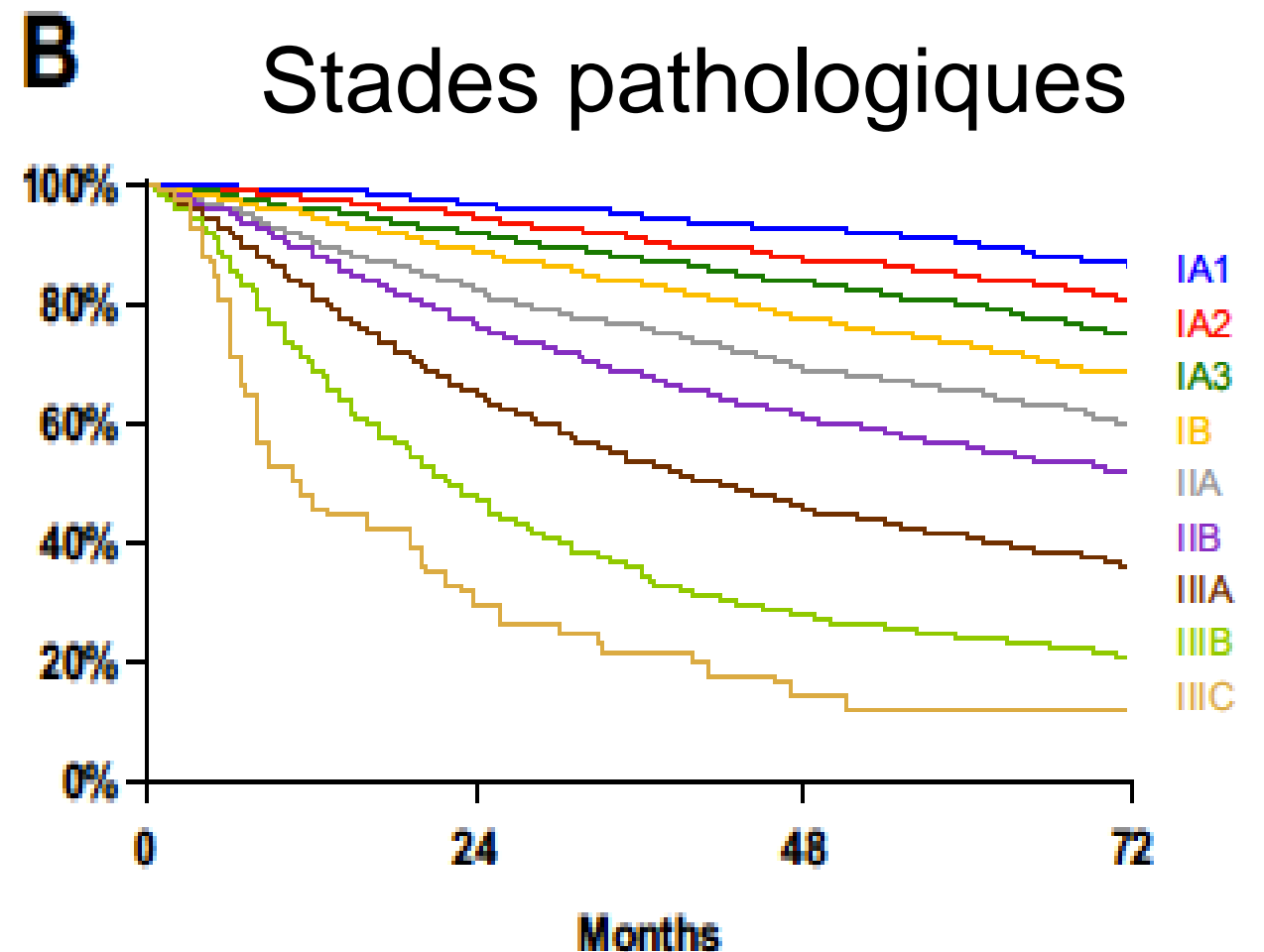
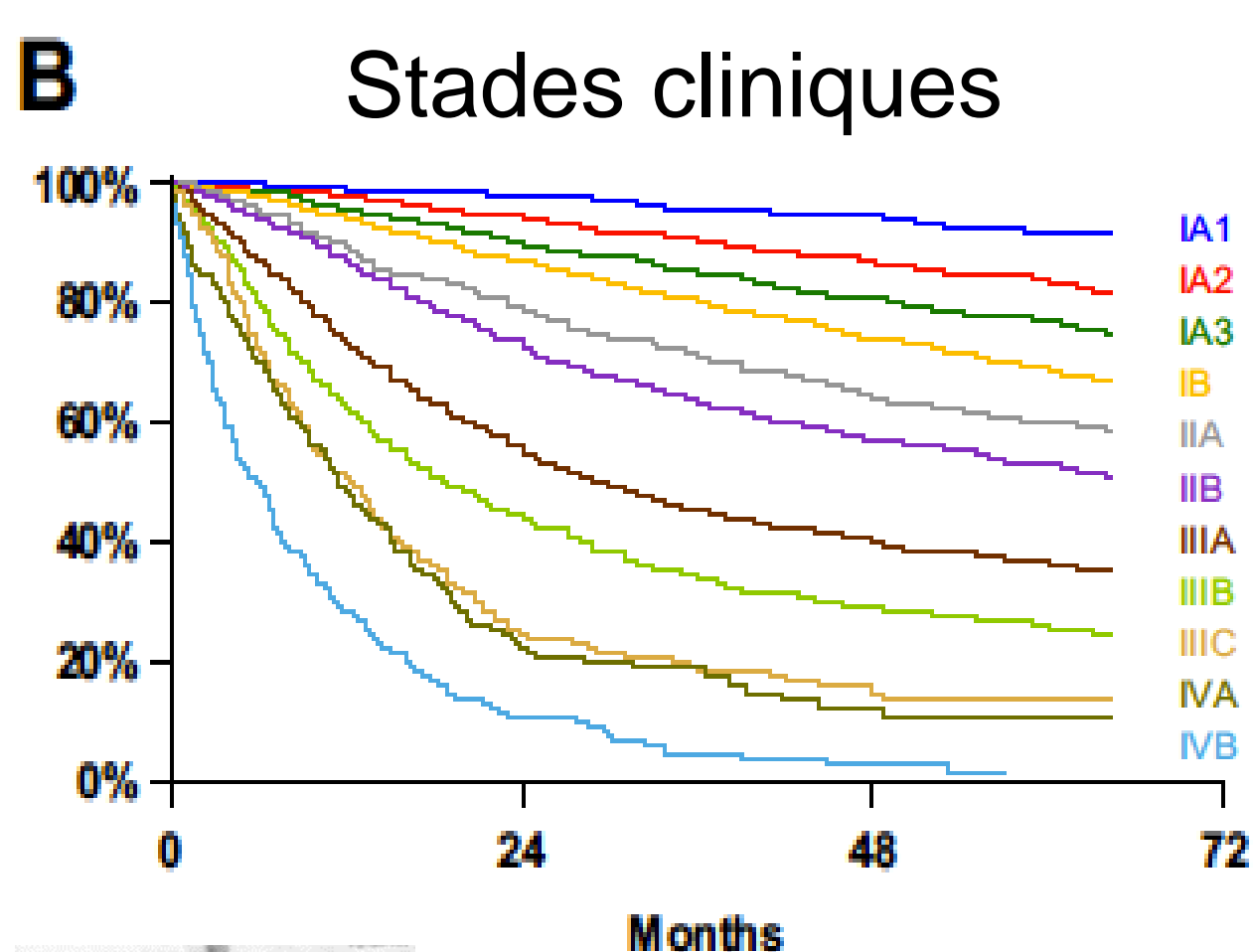
**Table 9. Proposed stage groupings for the eighth edition of the TNM classification for lung cancer**

Occult carcinoma	TX	N0	M0
Stage 0	Tis	N0	M0
Stage IA1	T1a(mi)	N0	M0
	T1a	N0	M0
Stage IA2	T1b	N0	M0
Stage IA3	T1c	N0	M0
Stage IB	T2a	N0	M0
Stage IIA	T2b	N0	M0
Stage IIB	T1a-c	N1	M0
	T2a	N1	M0
	T2b	N1	M0
	T3	N0	M0
Stage IIIA	T1a-c	N2	M0
	T2a-b	N2	M0
	T3	N1	M0
	T4	N0	M0
	T4	N1	M0
Stage IIIB	T1a-c	N3	M0
	T2a-b	N3	M0
	T3	N2	M0
	T4	N2	M0
Stage IIIC	T3	N3	M0
	T4	N3	M0
Stage IVA	Any T	Any N	M1a
	Any T	Any N	M1b
Stage IVB	Any T	Any N	M1c

*Goldstraw, JTO 2016, 11:39-51*

2016

# cTNM vs pTNM



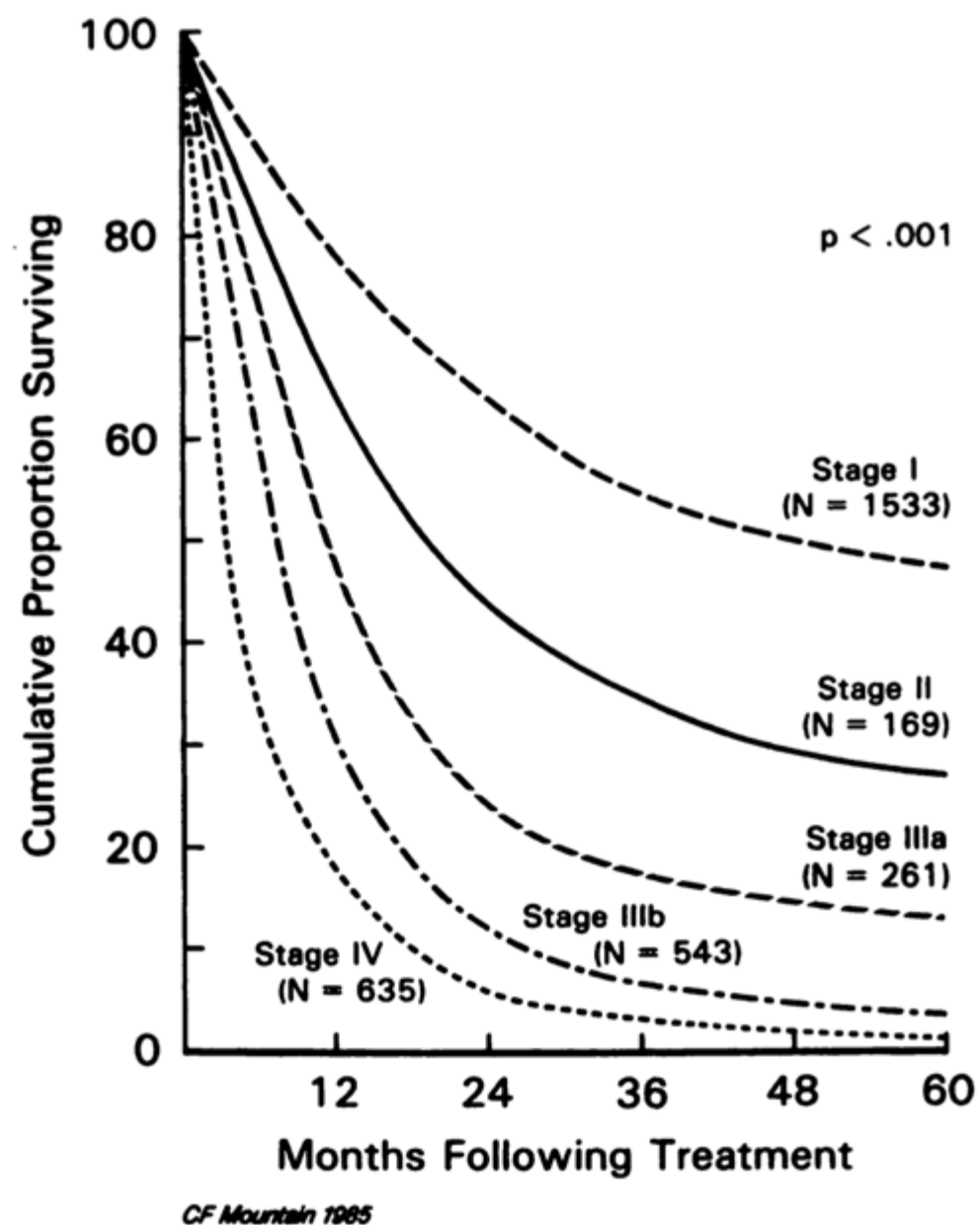
*Goldstraw, JTO 2016, 11:39-51*

Quasi-disparition du phénomène de Will Rogers

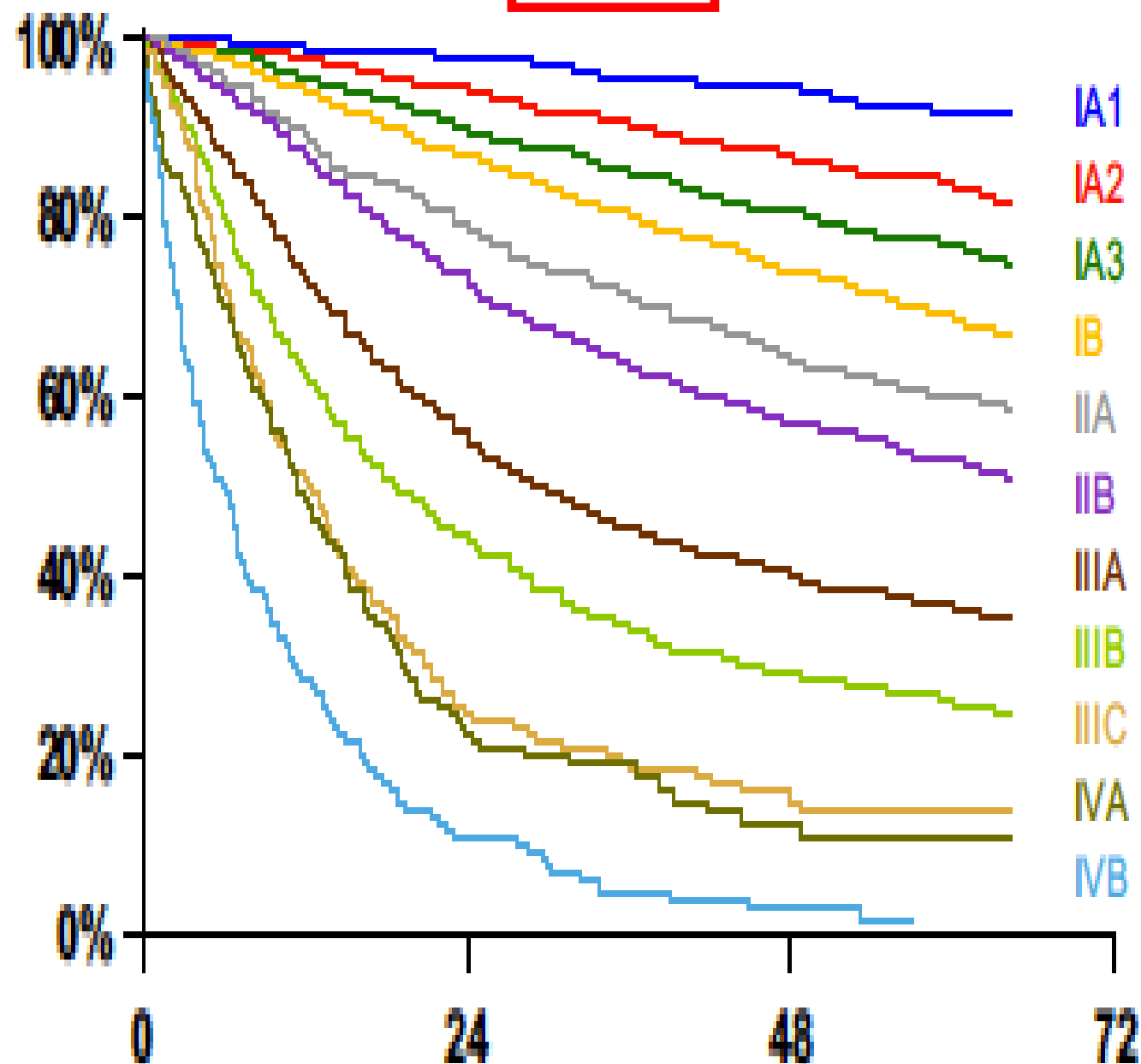




1986



2016



Amélioration du pronostic, ou Will Rogers ?...

