

Diagnostic clinique de la tuberculose maladie chez le patient VIH.

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Cas clinique-1

- Homme de 49 ans
- Homosexuel
- Découverte de séropositivité VIH mai 2001
- Classification CDC : stade B
- CD4 = 121/mm³
- CV = 6,2 log/ml

- Clinique :
 - hyperthermie
 - altération de l'état général
 - adénopathies axillaires
- Biologie :
 - CRP=63 mg/l,
- Radiographie thoracique :
élargissement médiastinal
- Scanner thoracique : adénopathie latéro-trachéale
- BAAR à l'expectoration : direct -
- Traitement probabiliste anti BK



Culture : *Mycobacterium tuberculosis*

Cas clinique-2

- Femme de 44 ans

- Fièvre + confusion
- PL :
 - 170 éléments/mm³, 85% de lymphocytes
 - Hyperprotéinorachie (1,79 g/L),
 - Hypoglycorachie (0,37 mg/L; glycémie à 1,4 mg/L)
- Scanner cérébral : hypodensité thalamique gauche
- Sérologie VIH : +
- CD4 = 178/mm³
- CV = 5,2 log/ml

Adapted from Gabrielli Int J Tuberc Lung Dis 2010

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- L'examen direct des colorations de Gram, et de Ziehl-Neelsen négatif
 - Les PCR « mycobactéries » : -
 - La PCR à la recherche des virus HSV1 et HSV2 : -
 - Traitement probabiliste anti BK

Culture : *Mycobacterium tuberculosis*

Proportion élevée des patients avec des examens directs négatifs

Bronx, NY – juillet 1992 à juin 1995

Tuberculose pulmonaire : 124 patients

Culture des expectorations + : 117 patients

Examen direct + parmi les patients avec culture + :

Patients HIV + N = 64	Patients HIV – N = 43	OR
54%	75%	2,5 (1,0-6,0)

Examen direct + parmi les culture + si infiltrat ou cavité sur la Rx de Thorax

Patients HIV + N = 39	Patients HIV – N = 41	OR
51%	83%	4,6 (1,5-14,9)

Significant variation in presentation of pulmonary tuberculosis across a high resolution of CD4 strata

G. Chamie,* A. Luetkemeyer,* M. Walusimbi-Nanteza,[†] A. Okwera,[‡] C. C. Whalen,[§] R. D. Mugerwa,[†] D. V. Havlir,* E. D. Charlebois[¶]

*HIV/AIDS Division, San Francisco General Hospital, University of California, San Francisco, California, USA; [†]Makerere University Medical School and [‡]National Tuberculosis and Leprosy Programme, Mulago Hospital Complex, Kampala, Uganda; [§]Department of Epidemiology and Biostatistics, University of Georgia, Athens, Georgia, [¶]Center for AIDS Prevention Studies, Department of Medicine, University of California, San Francisco, California, USA

National Tuberculosis and Leprosy Program clinic in Kampala, Uganda, 2004 - 2008

Tuberculose pulmonaire : 873 patients

Examen direct + parmi les patients avec culture + : 84%

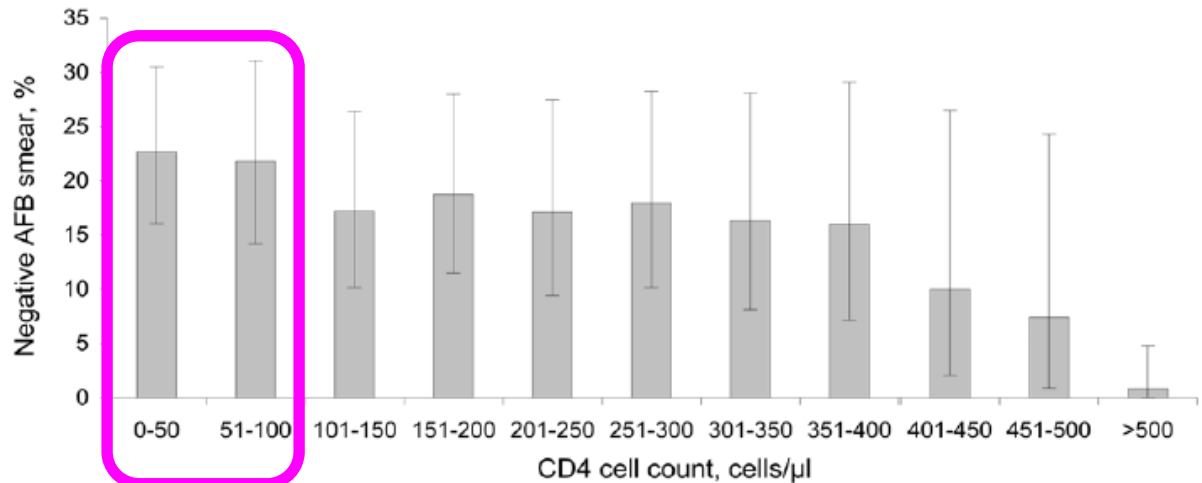


Figure 2 Proportion of HIV-infected patients with culture-confirmed pulmonary TB with negative AFB smear on initial presentation, by CD4 cell count. Error bars: 95% CIs (binomial exact) for the proportion of subjects with AFB smear-negative TB infection by CD4 strata. AFB = acid-fast bacilli; HIV = human immunodeficiency virus; TB = tuberculosis; CI = confidence interval.

Significant variation in presentation of pulmonary tuberculosis across a high resolution of CD4 strata

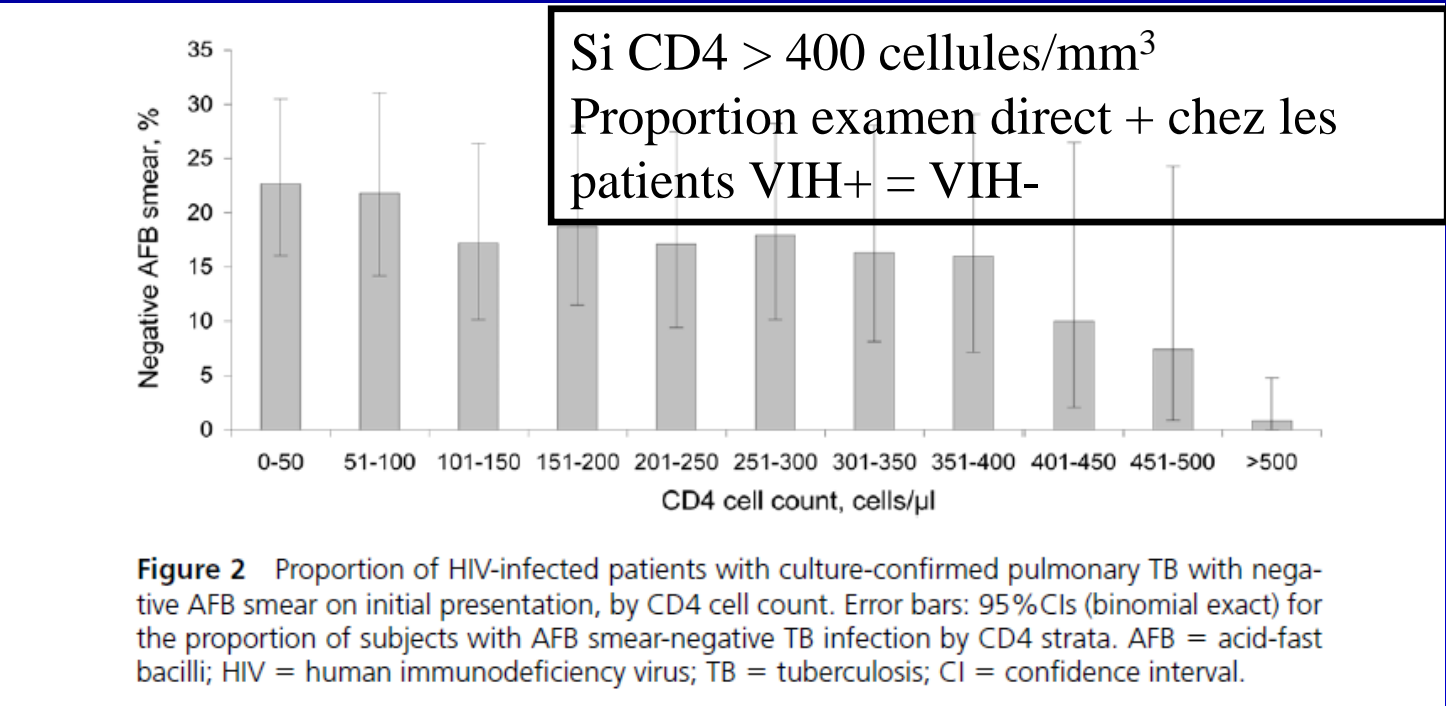
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Proportion élevée des patients avec des formes extrapulmonaires

Bronx, NY – juillet 1992 à juin 1995

Tuberculose : 216 patients

	Patients HIV + N = 102	Patients HIV – N = 70
Formes pulmonaire	44%	64%
Formes extrapulmonaire	22%	26%
Formes mixtes	35%	7%

Changing Sociodemographic and Clinical Characteristics of Tuberculosis among HIV-Infected Patients, New York City, 1992–2005

Tiffany G. Harris,¹ Jiehui Li,¹ David B. Hanna,¹ and Sonal S. Munsiff^{1,2}

¹New York City Department of Health and Mental Hygiene, New York, New York; and ²Centers for Disease Control and Prevention, Atlanta, Georgia

NYC – janvier 1992 à décembre 2005

	Avant HAART 1992-1995 N = 4345	Early HAART 1996-2000 N = 1943	Late HAART 2001-2005 N = 851
Formes pulmonaires	68%	58%	54%
Formes extrapulmonaires	12%	15%	18%
Formes mixtes	20%	27%	28%

Proportion élevée des patients avec Rx Thorax nl

Bronx, NY – juillet 1992 à juin 1995

Tuberculose pulmonaire : 124 patients

Table 2. Radiographic findings for patients with pulmonary tuberculosis, according to HIV status.

Finding	HIV status		P value
	Seropositive (n = 72)	Seronegative (n = 52)	
Focal infiltrate	38 (53)	46 (89)	<.01
Upper-lobe infiltrate	19 (26)	32 (62)	<.01
One or more cavities	5 (7)	23 (44)	<.01
Hilar or mediastinal lymphadenopathy	28 (39)	6 (12)	<.01
Normal	8 (11)	3 (6)	NS

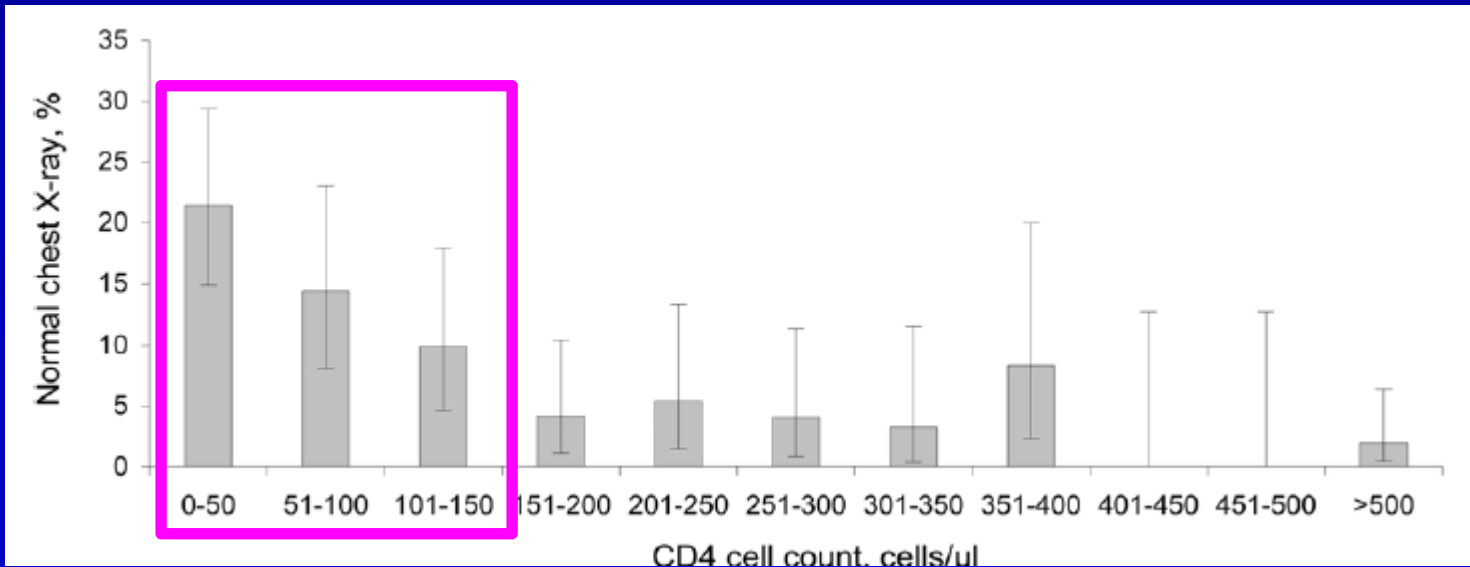
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Proportion des patients avec une Rx de thorax normale



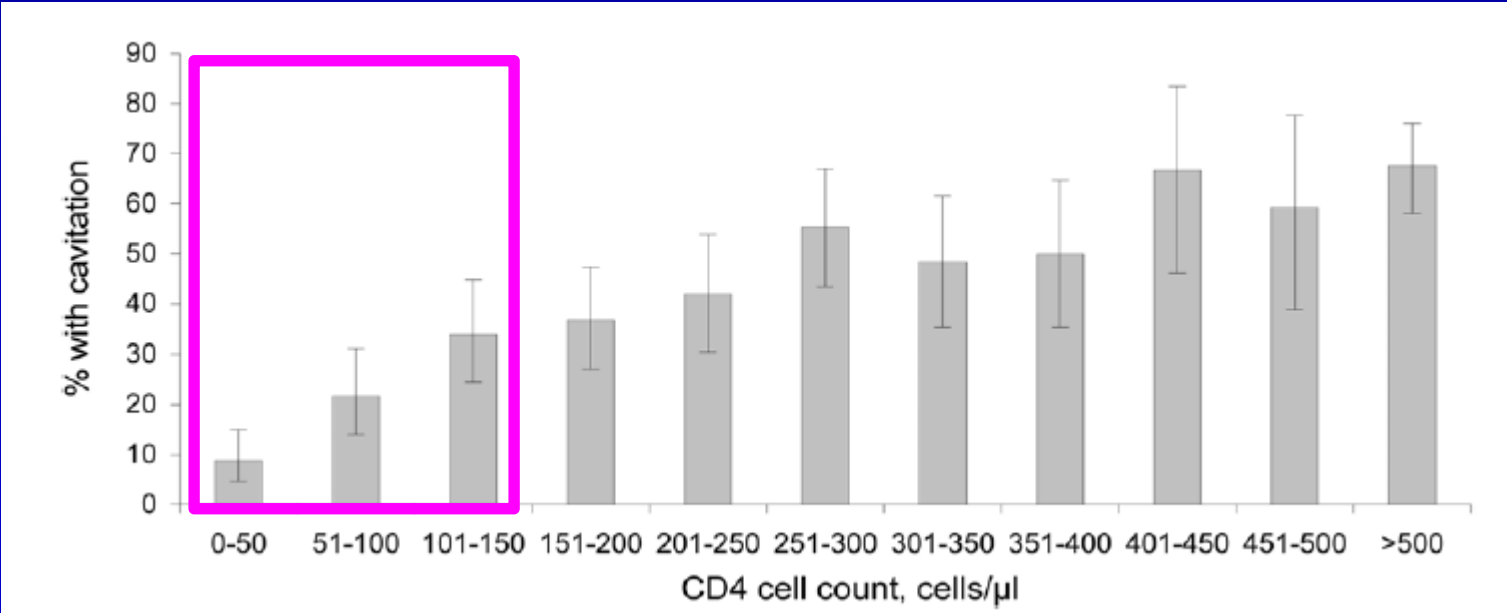
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Proportion des patients avec une caverne sur la Rx de thorax



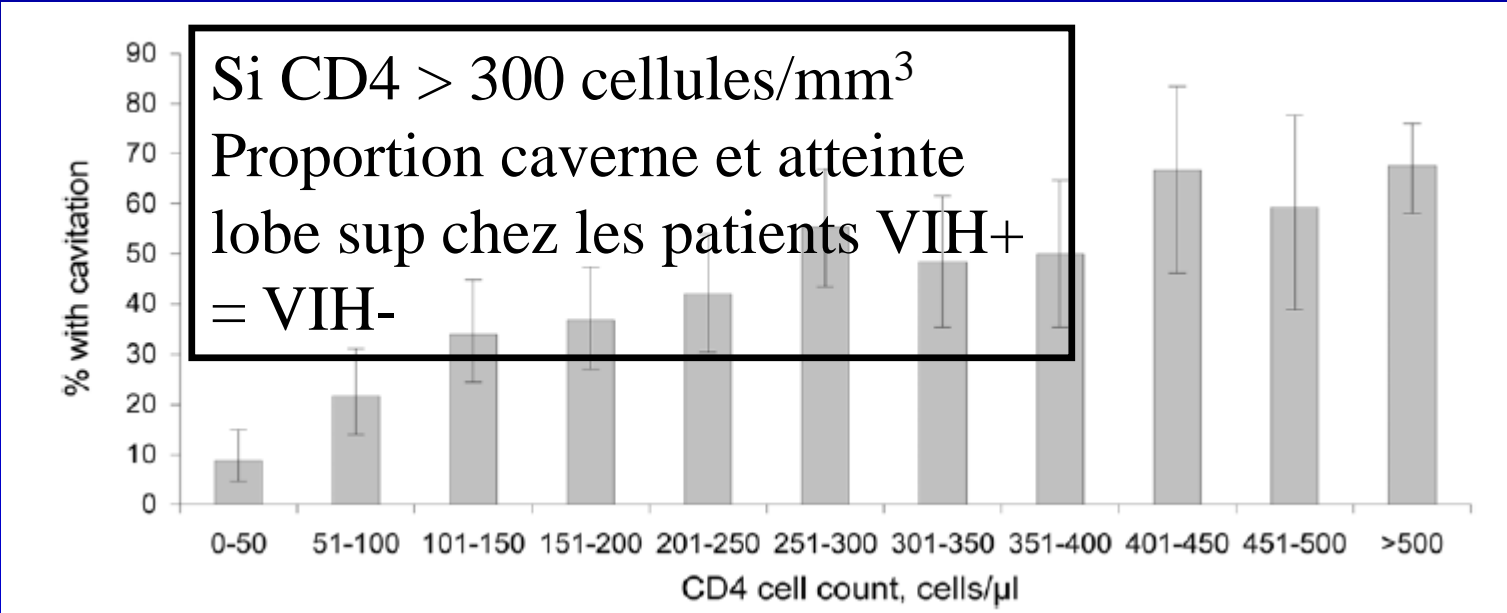
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Proportion des patients avec une caverne sur la Rx de thorax



Diagnostic de la
tuberculose maladie difficile chez le
patient VIH surtout si CD4 bas

Symptoms	HIV- positive		HIV- negative		<i>P</i> value
	<i>n</i>	%	<i>n</i>	%	
<i>N</i>	873		1141		
Cough >3 weeks	841	96	1091	96	0.713
Duration of cough, mean, days	99.22		112.81		0.001
Subjective fever	651	75	737	65	<0.001
Sweats	582	67	669	59	<0.001
Weight loss (subjective)	705	81	823	72	<0.001
Malaise	159	18	150	13	0.002
Arthralgias	146	17	133	12	0.001
Hemoptysis	63	7	126	11	0.003
Loss of appetite	574	66	544	48	<0.001
Diarrhea	59	7	29	3	<0.001
Productive sputum	813	93	1072	94	0.068
Signs					
Temperature >37.5°C	321	37	363	32	0.019
Abnormal chest examination	630	72	898	79	<0.001
Abnormal lymph node exam	252	29	142	12	<0.001

Chamie et al.
Int J Tuberc Lung Dis
2010

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- Méconnaître le diagnostique
 - Trt empirique par excès

An Algorithm for Tuberculosis Screening and Diagnosis in People with HIV

Kevin P. Cain, M.D., Kimberly D. McCarthy, M.M., Charles M. Heilig, Ph.D., Patama Monkongdee, M.Sc., Theerawit Tasaneeyapan, M.Sc., Nong Kanara, M.D., Michael E. Kimerling, M.D., M.P.H., Phalkun Chheng, M.D., M.P.H., Sopheak Thai, M.D., Borann Sar, M.D., Ph.D., Praphan Phanuphak, M.D., Ph.D., Nipat Teeratakulpisarn, M.D., Nittaya Phanuphak, M.D., Nguyen Huy Dung, M.D., Hoang Thi Quy, M.D., Le Hung Thai, M.D., and Jay K. Varma, M.D.

- Cambodia, Vietnam, Thailand; 2006 - 2008
- Patients infectés par le VIH consultant pour la première fois dans 8 hôpitaux (n=1836)
- Examen clinique, Expectoration (*3), Rx Thorax, si adénopathie cytoponction
- Tuberculose diagnostiquée chez 267 patients (15%)
 - Rx Thorax nl : 32%
 - ADP : 30%

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Indicator	Prevalence	Sensitivity	Specificity
	<i>no. (%)</i>	%	%
Cough			
In previous 24 hr	622 (36)	58	68
In previous 4 wk			
Any	890 (51)	71	53
Lasting ≥ 2 wk	355 (20)	33	82
Lasting ≥ 3 wk	241 (14)	22	88
Lasting ≥ 4 wk	194 (11)	17	90
With sputum production	688 (39)	52	63
Fever			
In previous 24 hr	374 (21)	42	82
In previous 4 wk			
Any	867 (50)	74	55
Lasting ≥ 2 wk	297 (17)	39	87
Lasting ≥ 3 wk	199 (11)	25	91
Lasting ≥ 4 wk	165 (9)	21	93
In previous 4 wk	56 (3)	4	97
In previous 4 wk	510 (29)	35	72
Night sweats			
In previous 24 hr	285 (16)	33	87
In previous 4 wk			
Any	490 (28)	48	75
Lasting ≥ 2 wk	188 (11)	20	91
Lasting ≥ 3 wk	141 (8)	16	93
Lasting ≥ 4 wk	118 (7)	11	94
Weight loss in previous 4 wk	879 (50)	73	54
Loss of appetite			
In previous 24 hr	445 (25)	51	79
In previous 4 wk	591 (34)	58	71
Fatigue in previous 4 wk	993 (57)	75	46

Either of first 2 sputum smears positive for acid-fast bacilli 120 (7) 38

Abnormal chest radiograph 390 (22) 65

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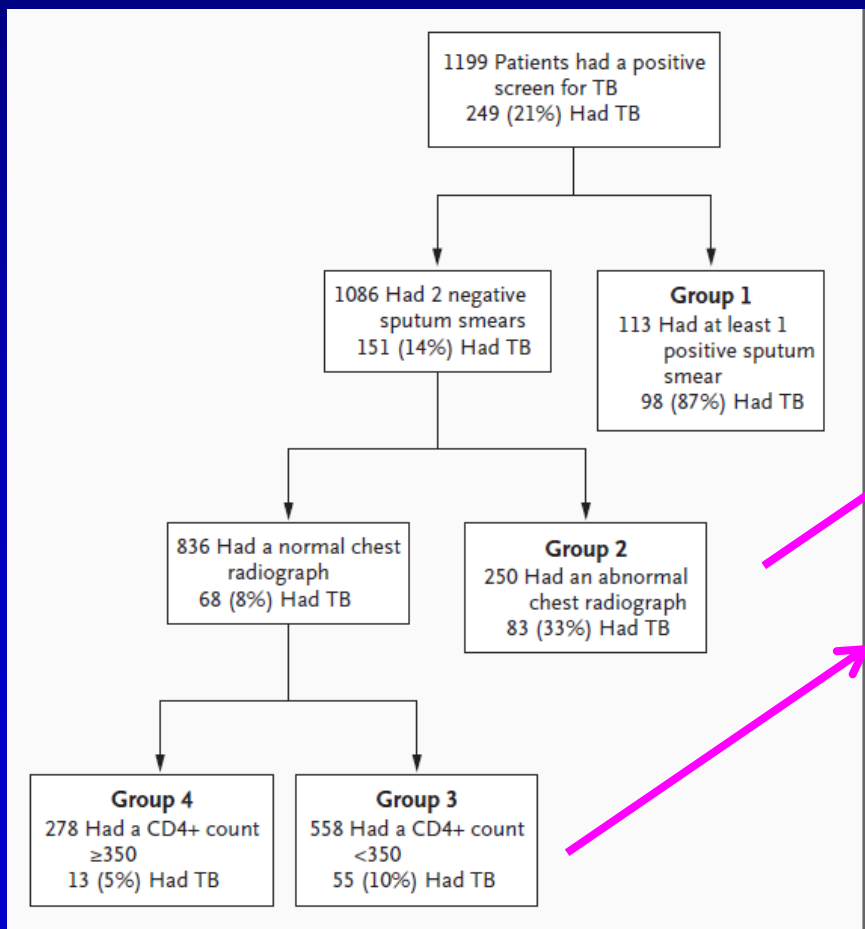
Predictors	Sensitivity	Specificity
Combination of 2 predictors		
Cough or fever of any duration in previous 4 wk	91	37
Cough in previous 24 hr or fever of any duration in previous 4 wk	88	44
Combination of 3 predictors		
Cough or fever of any duration or drenching night sweats for ≥ 3 wk in previous 4 wk	93	36
Cough, drenching night sweats, or loss of appetite of any duration in previous 4 wk	93	35
Cough in previous 24 hr or fever of any duration or drenching night sweats for ≥ 3 wk in previous 4 wk	90	43
Cough in previous 24 hr or drenching night sweats or loss of appetite of any duration in previous 4 wk	89	44
Combination of 4 predictors		
Cough of any duration or fever for ≥ 2 wk or drenching night sweats in previous 24 hr or loss of appetite of any duration in previous 4 wk	93	37
Cough or drenching night sweats or loss of appetite in previous 24 hr or lymphadenopathy of the head or neck in previous 4 wk	88	50

Objectif : identifier une combinaison de symptômes ayant une sensibilité $> 85\%$ pour détecter la tuberculose maladie

Si absence de fièvre ou toux qq soit la durée, ou sueurs nocturnes > 3 semaines/ 97% de chance que cela ne soit pas un tuberculose maladie

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Trt anti-BK

Trt anti-BK

Trt anti-BK

Patients originaires d'Afrique sub-
Saharienne

Fibroscopie bronchique (Am J Respir Crit Care Med. 2007)

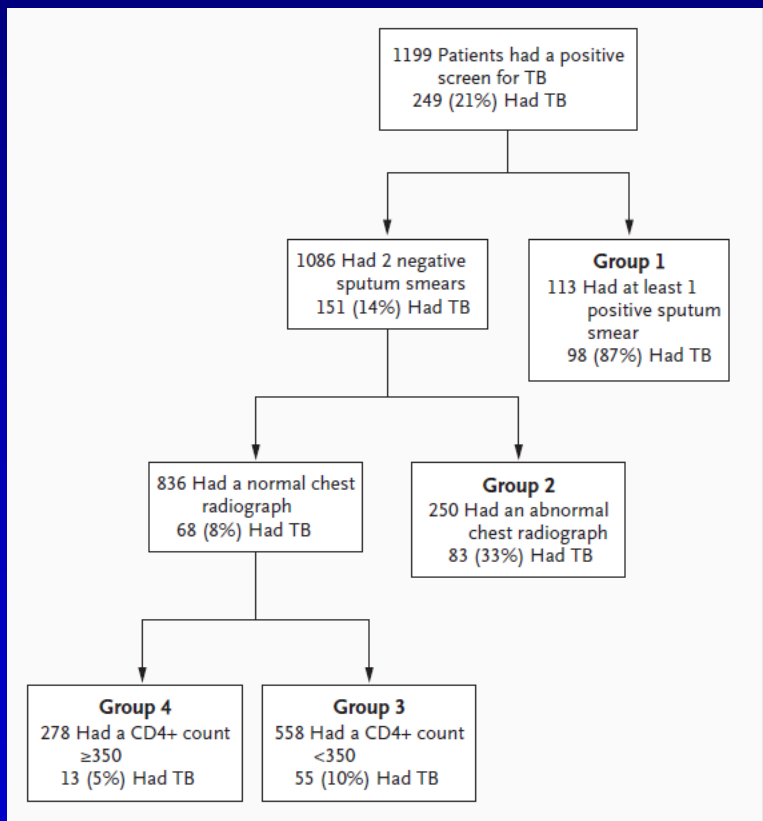
Diagnostic Yield of Sputum, Induced Sputum, and Bronchoscopy after Radiologic Tuberculosis Screening

Otto D. Schoch, Philippe Rieder, Claudia Tueller, Ekkehardt Altpeter, Jean-Pierre Zellweger, Hans L. Rieder, Martin Krause, and Robert Thurnheer

Pneumology, Kantonsspital St. Gallen, St. Gallen; Hospital Saint Loup, Pompaples; University Hospital Basel, Basel; Swiss Federal Office of Public Health; Swiss Lung Association, Bern; Tuberculosis Consultant Services, Kirchliedach; and Kantonsspital Münsterlingen, Münsterlingen, Switzerland

Rx Thorax anl : Diag différentiel TDM Thoarcique/abdo

..



Patients non originaires d'Afrique sub-Saharienne

Predictors	Sensitivity	Specificity
Combination of 2 predictors		
Cough or fever of any duration in previous 4 wk	91	37
Cough in previous 24 hr or fever of any duration in previous 4 wk	88	44
Combination of 3 predictors		
Cough or fever of any duration or drenching night sweats for ≥ 3 wk in previous 4 wk	93	36
Cough, drenching night sweats, or loss of appetite of any duration in previous 4 wk	93	35
Cough in previous 24 hr or fever of any duration or drenching night sweats for ≥ 3 wk in previous 4 wk	90	43
Cough in previous 24 hr or drenching night sweats or loss of appetite of any duration in previous 4 wk	89	44
Combination of 4 predictors		
Cough of any duration or fever for ≥ 2 wk or drenching night sweats in previous 24 hr or loss of appetite of any duration in previous 4 wk	93	37
Cough or drenching night sweats or loss of appetite in previous 24 hr or lymphadenopathy of the head or neck in previous 4 wk	88	50

Si prévalence = 0,28%
(vs. 15%)

VPN = 99,9% (vs. 97%)

VPP = 0,4% (vs. 21%)

Patients non originaires d'Afrique sub-Saharienne

NYC – janvier 1992 à décembre 2005

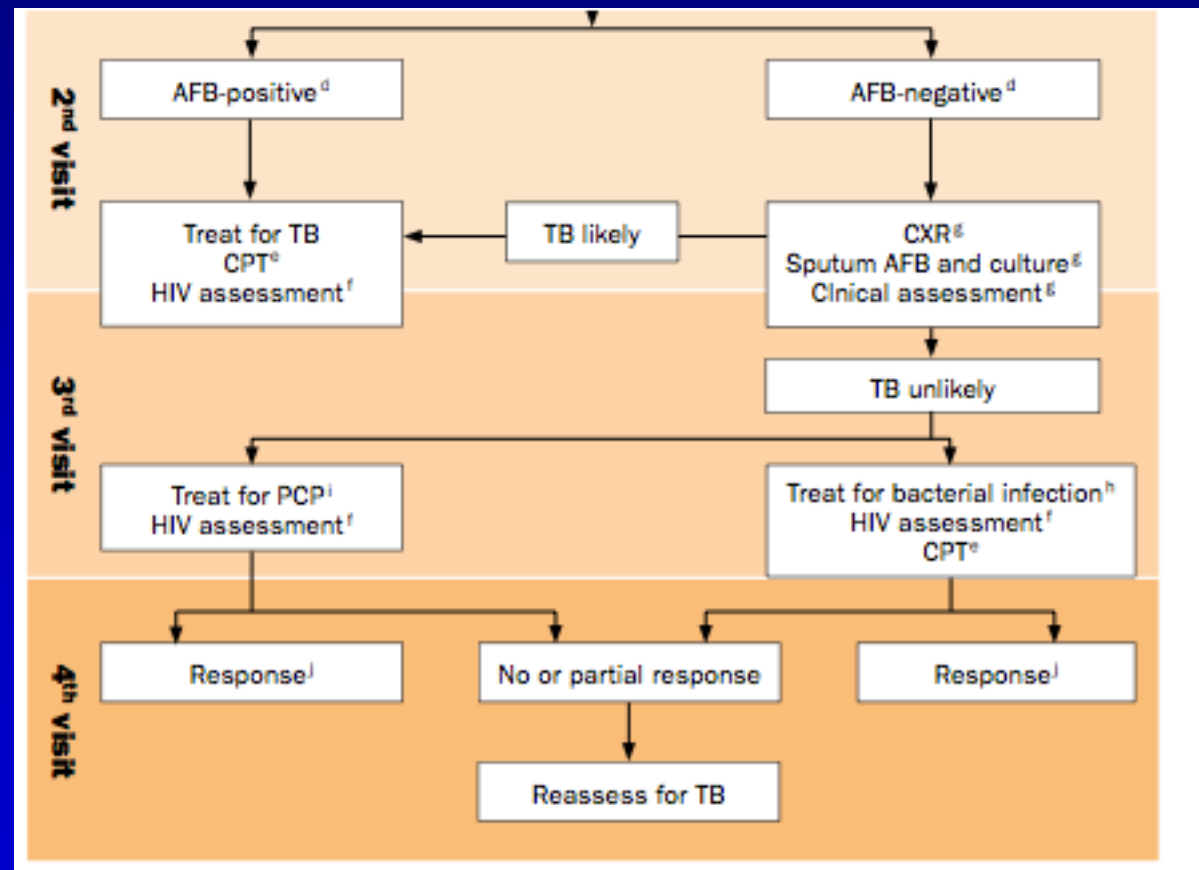
	Late HAART 2001- 2005 N = 851
Formes pulmonaires	54%
Formes extrapulmonaires	18%
Formes mixtes	28%

Improving the diagnosis and treatment of smear-negative pulmonary and extrapulmonary tuberculosis among adults and adolescents

Recommendations for HIV-prevalent and resource-constrained settings



-Considérer un Trt antibiotique classique avant d'envisager un Trt anti-BK empirique (en évitant les quinolones)



Prendre en compte d'autres arguments cliniques

NYC – janvier 1992 à décembre 2005

ADP ferme,
fluctuante,
fistulisée,
asymétrique

	Late HAART 2001- 2005 N = 851
Formes pulmonaires	54%
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Formes mixtes	28%

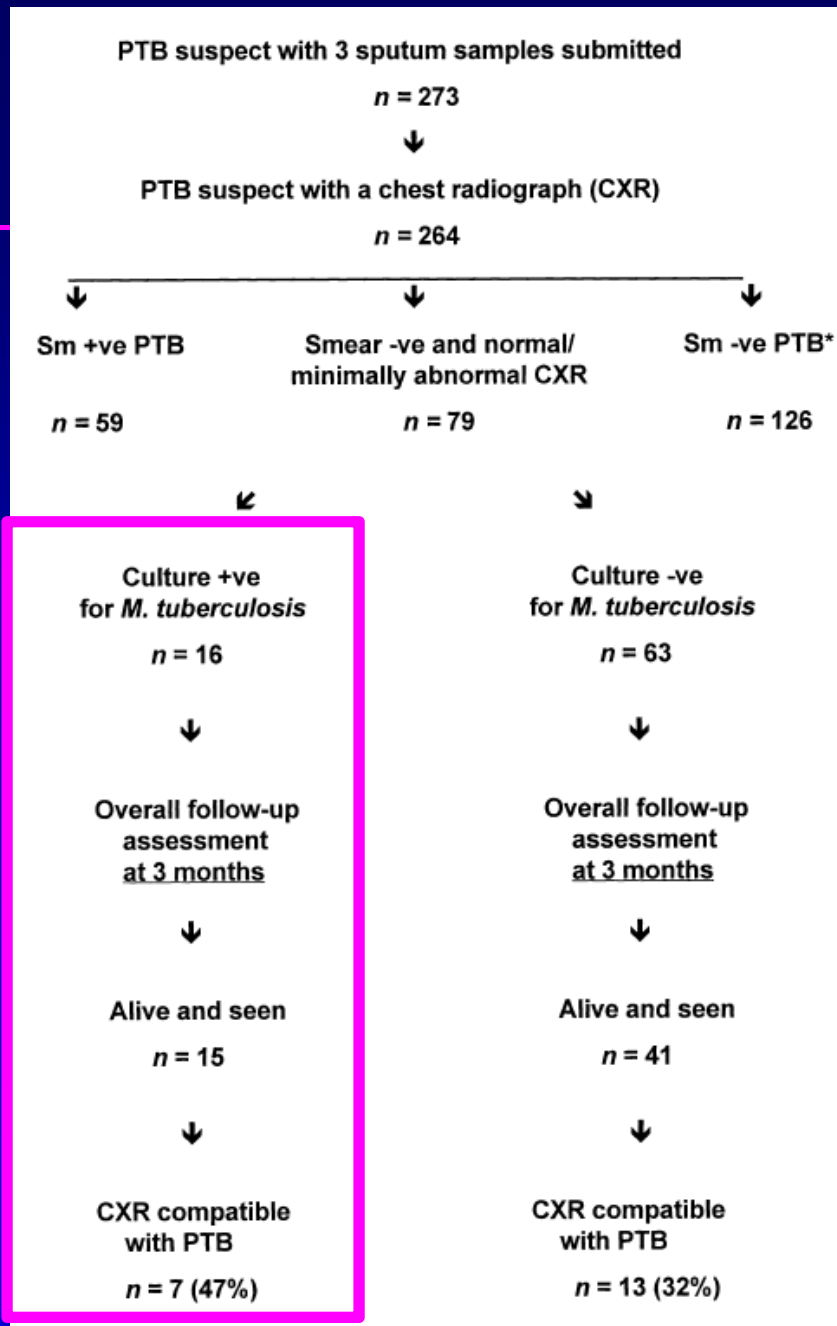


Ganglionnaire	39%
Méningée	12%
Pleurale	11%
Miliaire	8%
Ostéo-articulaire	6%

Management of pulmonary tuberculosis suspects with negative sputum smears and normal or minimally abnormal chest radiographs in resource-poor settings

A. D. Harries,* H. T. Banda,* M. J. Boeree,* S. Welby,† J. J. Wirima,* V. R. Subramanyam,‡ D. Maher,§ P. Nunn§

Répéter les examens et notamment le Rx de Thorax



Lors de la prise de décision, « Trt empirique ou non », prendre en compte le :

- Taux des CD4
- Caractère urgent ou non de l'intervention