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The definition of oligometastatic disease.

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Disclosures.

I have no relevant financial relationships to disclose.



Clinical Practice Guidelines.

Evidence-based clinical practice guidelines 2013 :

5.3.4.3.2. In patients with NSCLC and a contralateral lobe tumor nodule(s) (and no mediastinal or distant metastases), resection of each lesion is suggested, provided the patient has adequate pulmonary reserve (Grade 2C).

6.3.2. In patients with no other sites of metastases and a *synchronous* resectable N0,1 primary NSCLC, resection or radiosurgical ablation of an isolated brain metastasis is recommended (as well as resection of the primary tumor) (Grade 1C).

7.2.2. In patients with a *synchronous* resectable N0,1 primary NSCLC and an isolated adrenal metastasis with no other sites of metastases, resection of the primary tumor and the adrenal metastasis is recommended (Grade 1C).

No clear recommendations can be made regarding isolated distant metastases other than those involving the brain or adrenal gland.

Five-year survival rates of 10-20% have consistently been reported in patients who have undergone resection of a solitary metastasis (as well as resection of primary tumour).

Kozower B, et al. Chest 2013;143(5)(Supl):e369S-399S.

Terminology.

Editorial 1995 : proposal of a new clinical concept :

“Oligometastases”

- **Intermediate** biologic state of restricted metastatic capacity
- **Limited** number and organ sites of metastases
- **Transitional** state to dissemination

Weichselbaum & Hellmann. J Clin Oncol 1995;13:8.

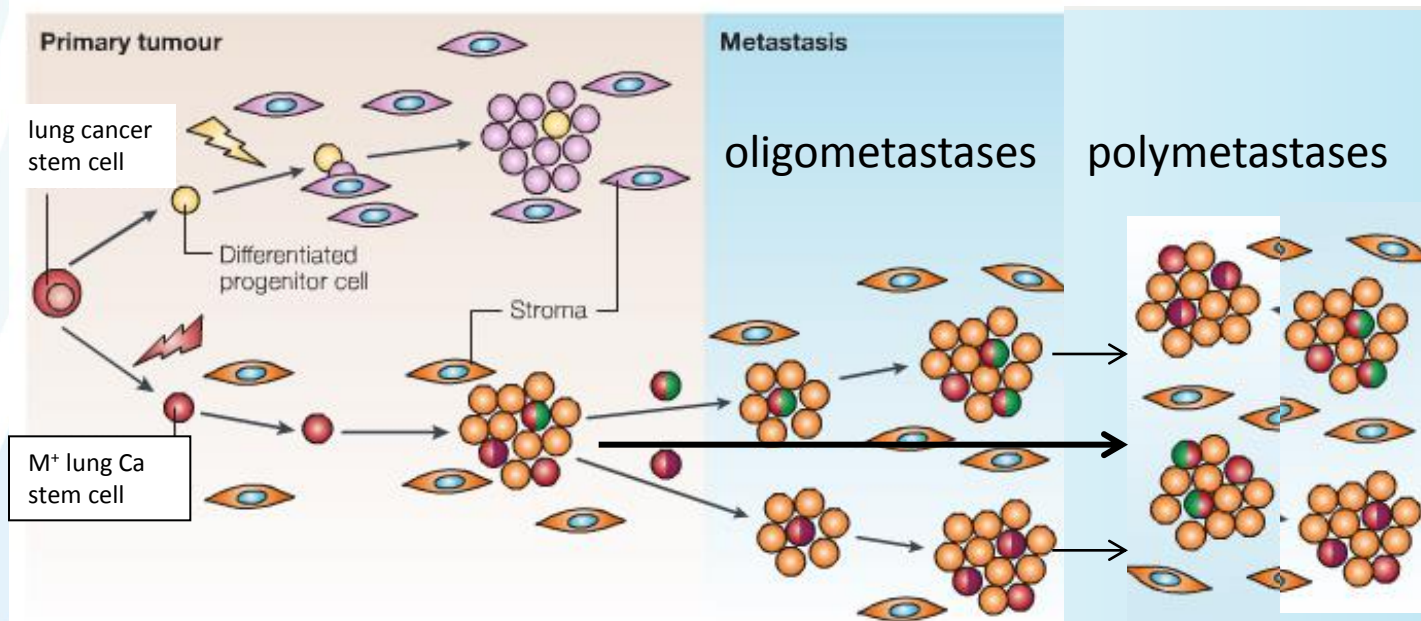
Weichselbaum & Hellmann. Nat Rev Clin Oncol 2011;8:378.

Terminology.

Editorial 1995 : proposal of a new clinical concept :

“Oligometastases”

→ Spectrum model for oligometastases :



Incidence.

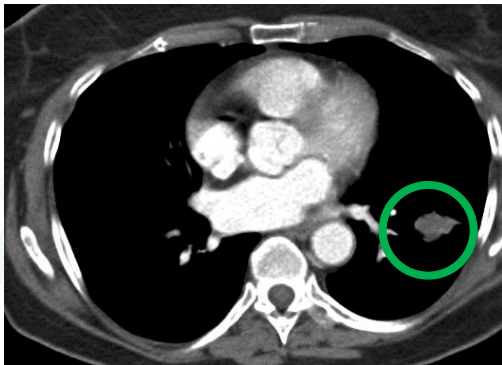
**10-15% of all NSCLC
=
single organ oligometastatic disease**

Incidence.

CT

cM0

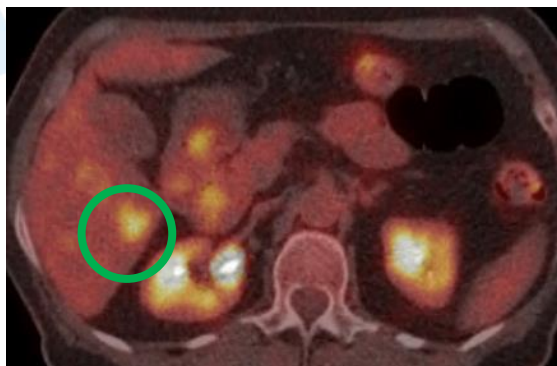
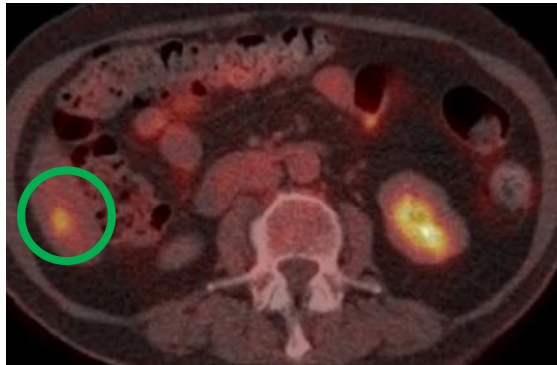
No lesions



PET-CT

cM1b (liver)

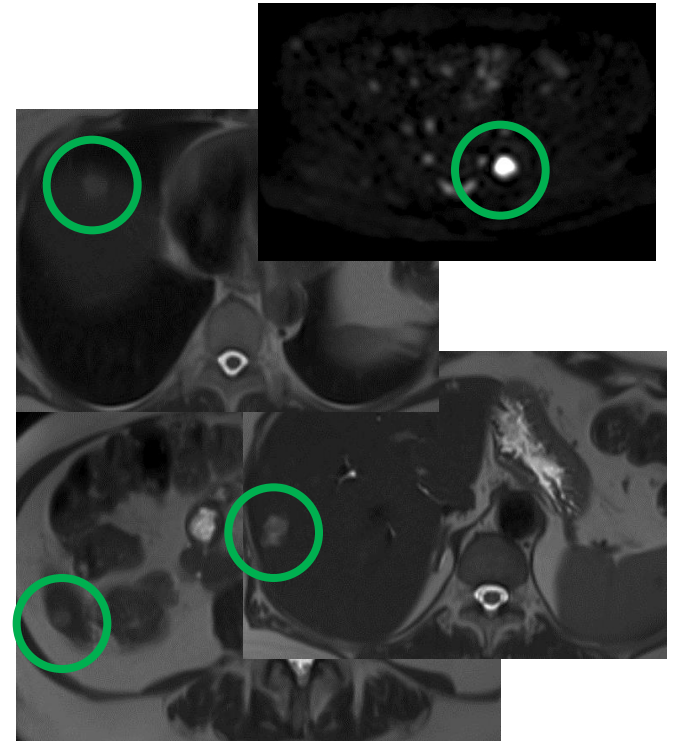
2 lesions



WB-MRI

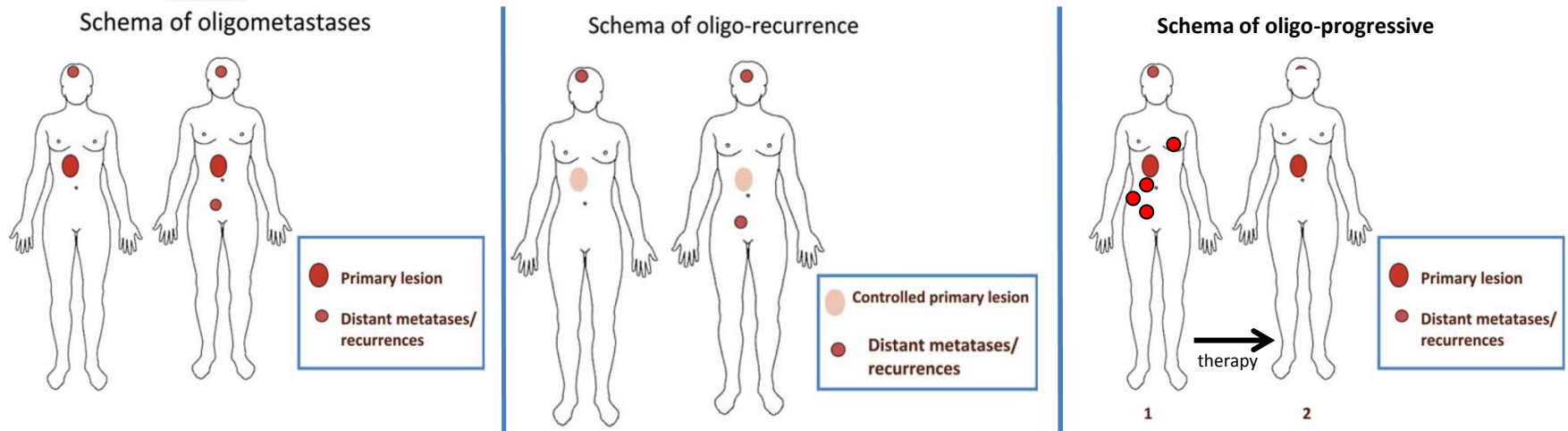
cM1b(liver and bone)

≥ 5 lesions



Distinct cohorts.

- 'oligometastases' = diagnosed with oligometastatic disease
- 'oligorecurrence' = relapsed oligometastatic disease
- 'oligoprogressive' = status after cytoreductive therapy



→ These cohorts have probably different prognoses

Inclusion criteria used in clinical trials.

Published	N	RCT	Inclusion : N of metastases	Endpoint
Salama 2011	62	no	1 in 55% ; 2 in 18% ; ≥ 3 in 27%	22% PFS at 2 yr
De Ruysscher 2012	39	no	1 in 87% ; 2 in 10% ; 3 in 3%	14% PFS at 3 yr
Milano 2012	17	no	1-2 in 89% ; 3-5 in 11%	12% OS at 5 yr
Griffoen 2013	61	no	1 in 82% ; 2 in 15% ; 3 in 3%	38% OS at 2 yr

Prospective ongoing	N	RCT	Inclusion : N of metastases	Endpoint
NCT00776100	98	yes	≤ 3 lesions	OS
NCT01185639	45	yes	≤ 3 extracranial lesions	PFS
NCT01345539	44	no	≤ 5 lesions in ≤ 3 organs	feasibility
NCT01446744	99	yes	≤ 5 lesions	OS
NCT01725165	94	yes	≤ 3 lesions (N1-3 counted as 1 lesion)	PFS
NCT01796288	200	yes	≤ 5 extracranial lesions	PFS
NCT02054819	20	no	≤ 5 lesions	OS
NCT02076477	420	yes	≤ 5 lesions	RR

Prognostic factors ~ outcome.

Clinical features :

- Fit patient : PS 0-1
- Limited nodal involvement : N0/1.
- Disease radically treatable by surgery.
- Gross Tumour Volume <125cm³.
- Lung Planned Tumour Volume <639cm³.
- Lack of progression on systemic therapy.
- ≤3 distant metastases.

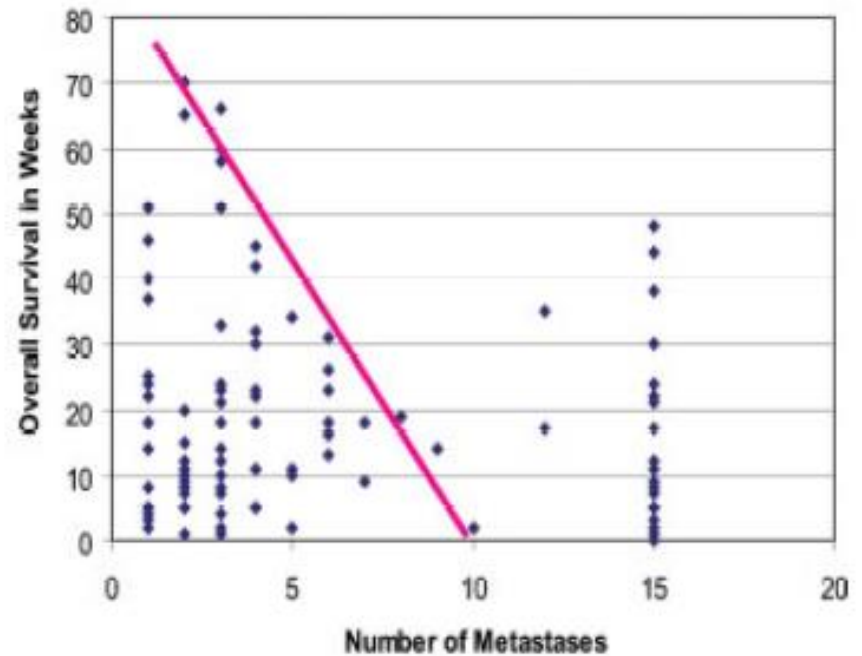
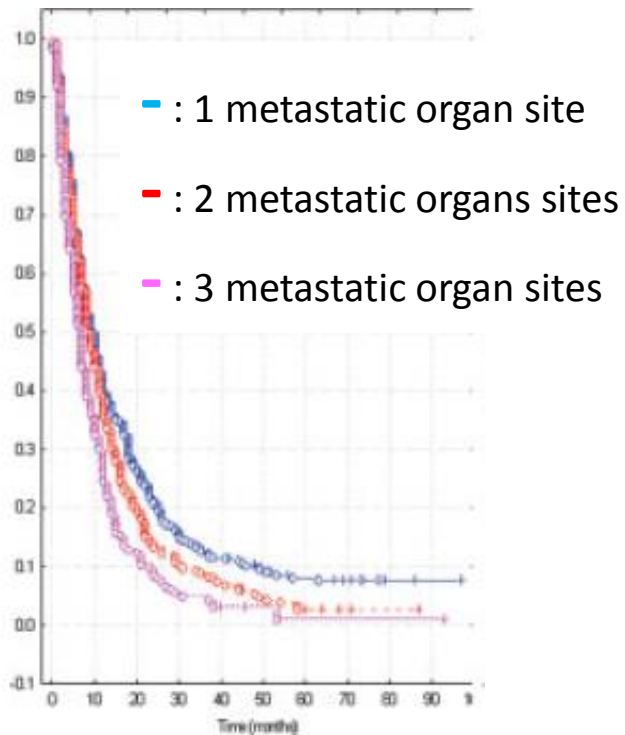
Griffoen et al. Lung Cancer 2013;82:95.

Ashworth et al. Lung Cancer 2013;82:197.

Lopez Guerra et al. IJROBP 2012;84:61.

Hasselle et al. J Thorac Oncol 2012;7:376.

Prognostic factors ~ outcome.



Oh et al. Cancer 2009;115:2930.

Oligometastatic disease.

Guidelines : none.



Oligometastatic disease.

Guidelines : none.

Recommendations : none.

Multidisciplinary

Oligometastatic disease.

Guidelines : none.

Recommendations : none.

Multidisciplinary board : yes, but ...

“Multidisciplinary Tumour Board”

Oligometastatic NSCLC: a simulation expert multidisciplinary tumour board.

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University Hospitals Leuven Belgium¹, University Medical Center Maastricht Netherlands², Thoraxklinik Heidelberg Germany³, Aberdeen University Medical School Aberdeen United Kingdom⁴, VU Medical Center Amsterdam Netherlands⁵, Virgen del Rocio University Hospital Sevilla Spain⁶, Mutua Terrassa University Hospital Barcelona Spain⁷.

7 different centers

Radiation oncologist : 3

Thoracic Surgeon : 3

Pulmonologist : 3

Pathologist : 1

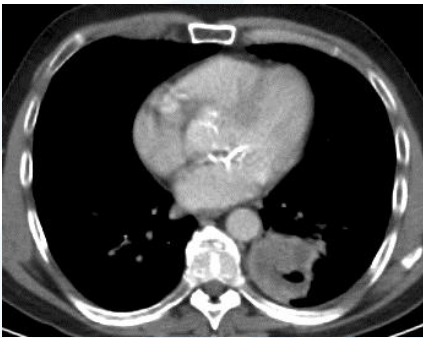
Nuclear medicine physician : 1

“Multidisciplinary board meeting”

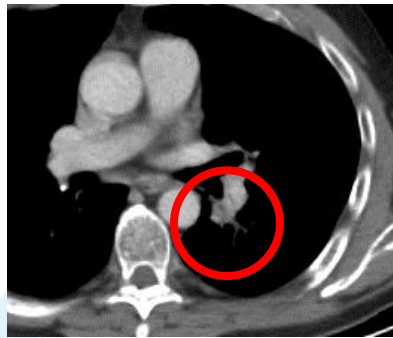
Case	Oligometastatic Yes (%)	Treatment proposals (N)
1	55	2
2	36	5
3	91	5
4	73	4
5	55	3
6	64	4
7	91	4
8	91	3
9	82	6
10	100	3
Median	78% (36-100%)	4 (2-6)

Male 54 yrs, PS 0, ex-smoker.

- TBLB + US-guided biopsy adrenal R & ischiorectal node :
all proven EGFR-Wt ALK-negative lungadenocarcinoma
- Staging LLL cT2bN1M1b(adrenal R + pelvic node)



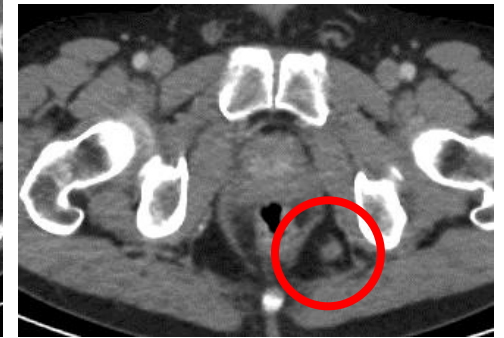
LLL 56mm



N1 station 11L



adrenal 24mm

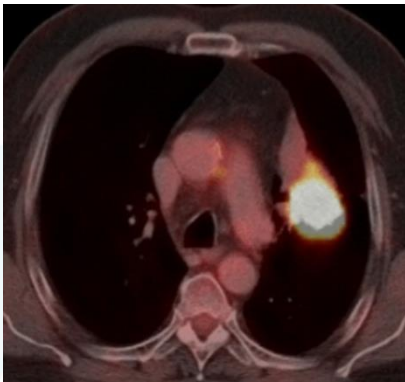


pelvic node 14mm

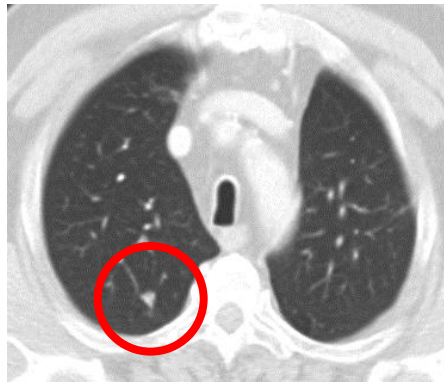
- Oligometastatic disease ? **55% Yes**

Male 63 yrs, PS 0, ex-smoker.

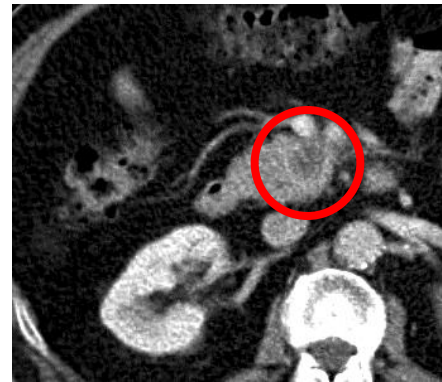
- Lungadenoca LUL cT2aN0_(mediastino neg)M1b(1 RUL; 1 pancreas)



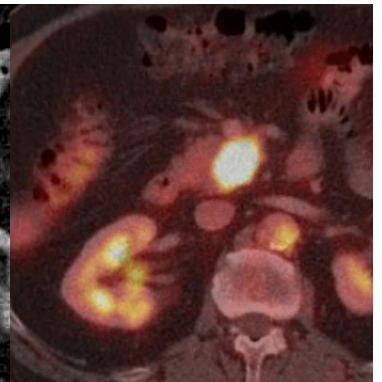
LUL 44mm



lesion RUL 8mm



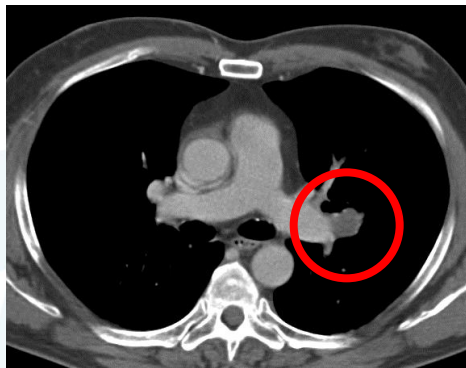
pancreas 18mm



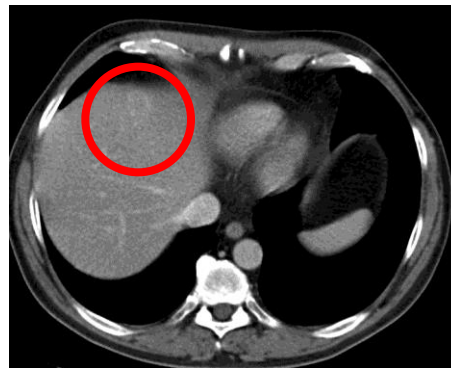
- Oligometastatic disease ? **82% Yes**

Male 56 yrs, PS 0, smoker.

- TBLB LUL : squamous cell Ca
- Staging LUL cT2aN0M1b(liver: CT one ; KST three)



LUL 20mm



liver 25mm (CT scan)

Whole body MRI :

3 liver metastases :

One in segment 8 of 25mm

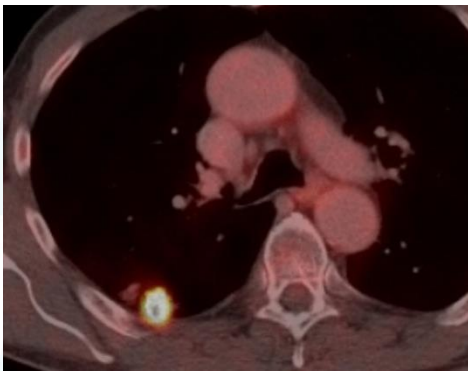
One in segment 5 of 1mm

One in segment 2 of 1mm

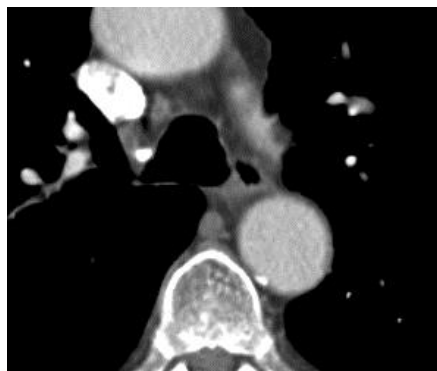
- Oligometastatic disease ? **64% Yes**

Male 67 yrs, PS 0, ex-smoker.

- TBLB RLL lungadenoCa ; EBUS station 11R(i) positive; mediastinoscopy micrometastasis in station 4R.
- Staging RLL adenoCa cT2aN2M1b(scapula R)



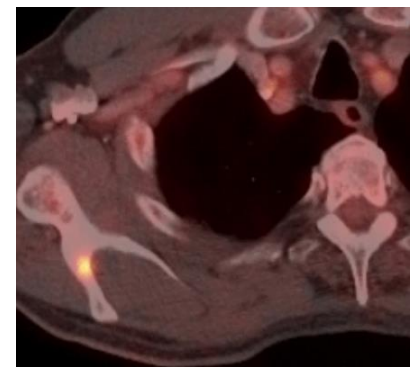
RLL 34mm



station 4R



station 11R (inferior)



scapula R

- Oligometastatic disease ? **91% Y**

Definition.

“Synchronous” Oligometastases

- Definition has been merely based on personal opinion.
- At present : precise definition is lacking.
- Turning point between oligo-M⁺ and poly-M⁺ is somewhere between 1 and 5 distant metastases in ≤ 2 organs.
- Prerequisite : fit patient & disease radically treatable by surgical and/or radiotherapy modalities.



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Thank you for your attention !

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