


XXXII CONGRESSO NAZIONALE AIRO
XXXIII CONGRESSO NAZIONALE AIRB
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AIRO2022

Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE
PALAZZO DEI CONGRESSI

 Associazione Italiana
Radioterapia e Oncologia clinica

 Società Italiana di Radiobiologia

 Associazione
Italiana
Radioterapia
e Oncologia
clinica




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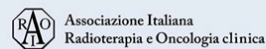
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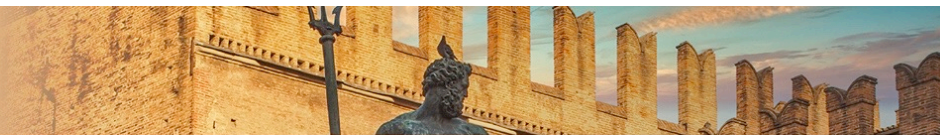
Radioterapia di precisione per un'oncologia innovativa e sostenibile

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A pREDictive model of polymetastatic disease from a multicenter Large retrospective daTabase on colorectal lung metastases treated with Stereotactic ABlative Radiotherapy: final results of the **RED LaIT-SABR**

Luca Nicosia, MD





DICHIARAZIONE

Relatore: LUCA NICOSIA

Come da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e dei rapporti con soggetti portatori di interessi commerciali in campo sanitario.

- Posizione di dipendente in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Consulenza ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Fondi per la ricerca da aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazione ad Advisory Board **(NIENTE DA DICHIARARE)**
- Titolarità di brevetti in compartecipazione ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazioni azionarie in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Altro

A multicenter LArge retrospective daTabase on the personalization of stereotactic Ablative radiotherapy use in lung metastases from colon-rectal cancer: The LaIT-SABR study
 L. Nicosia^{1,2*}, D. Franceschini³, F. Perrone-Congedi⁴, F. Casamassima⁵, M.A. Gerardi⁶, M. Rigò⁷, R. Mazza⁸, M. Perna⁹, V. Scotti¹⁰, A. Fodor¹¹, A. Iurato¹², F. Pasqualetti¹³, G. Gadducci¹⁴, S. Chiesa¹⁵, R.M. Niespolo¹⁶, A. Bruni¹⁷, G. Alicino¹⁸, L. Frassinelli¹⁹, P. Borghetti²⁰, A. Di Marzo²¹, A. Ravasio²², B. De Bari²³, M. Sepulcri²⁴, D. Aiello²⁵, G. Mortellaro²⁶, C. Sangalli²⁷, M. Franceschini²⁸, G. Montesi²⁹, F.M. Aquilanti³⁰, G. Lunardi³¹, R. Valdagni³², I. Fazio³³, L. Corti³⁴, V. Vavassori³⁵, E. Maranzano³⁶, S.M. Magrini³⁷, S. Arcangeli³⁸, V. Valentini³⁹, F. Paiar⁴⁰, S. Ramella⁴¹, N.G. Di Muzio⁴², L. Livi⁴³, B.A. Jereczek-Fossa⁴⁴, M.F. Osti⁴⁵, M. Scorsetti⁴⁶, F. Alongi⁴⁷



The LaIT-SABR study group:

1. [Bergamo](#) – Humanitas Gavezzani, Department of Radiation Oncology
2. [Besançon](#) - University Hospital of Besançon, France
3. [Brescia](#) - ASST Spedali Civili, Radiation Oncology Department
4. [Cosenza](#) – Radiology & Radiotherapy, Marelli Hospital
5. [Empoli](#) - Istituto di Ricerche Cliniche Ecomedica
6. [Firenze](#) - Azienda Ospedaliera Universitaria Careggi, Radiation Oncology Unit
7. [Milano](#) - European Institute of Oncology (IEO) IRCCS, Division of Radiation Oncology
8. [Milano](#) - Fondazione IRCCS Istituto Nazionale dei Tumori, Department of Radiation Oncology 1
9. [Milano](#) – Ospedale San Raffaele, UO di Radioterapia
10. [Modena](#) - University Hospital of Modena, Radiotherapy Unit
11. [Monza](#) – Azienda Ospedaliera S. Gerardo, Radiation Oncology
12. [Negrar](#) – IRCCS Sacro Cuore Don Calabria Hospital, Advanced Radiation Oncology Department (ARO)
13. [Neuchâtel](#) – University Hospital, Switzerland
14. [Padova](#) - Veneto Institute of Oncology IOV-IRCCS, Radiation Oncology Unit
15. [Palermo](#) – Casa di Cura Macchiarella, Radiotherapy Unit
16. [Palermo](#) – Ospedale Civile
17. [Pisa](#) – Azienda Ospedaliero-Universitaria, UO Radioterapia
18. [Roma](#) - Campus Bio-Medico University, Radiation Oncology, Rome
19. [Roma](#) - Fondazione Policlinico A. Gemelli IRCCS, Radiation Oncology
20. [Roma](#) - Sant'Andrea Hospital, «Sapienza» University, Department of Radiation Oncology
21. [Rovigo](#) - Radiotherapy Unit ULSS5
22. [Rozzano](#) - Humanitas Clinical and Research Hospital, Radiotherapy and Radiosurgery Department
23. [Terni](#) – S. Maria Hospital, Radiation Oncology Centre

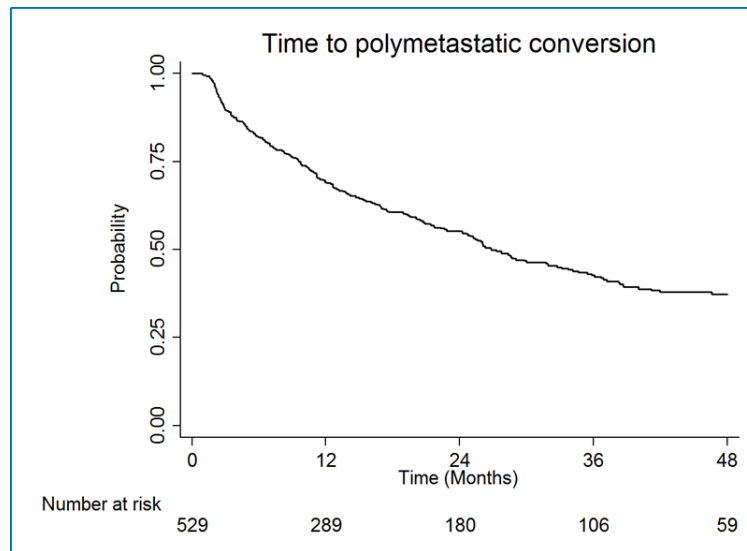


A multicenter LARge retrospective daTabase on the personalization of stereotactic ABLative radiotherapy use in lung metastases from colorectal cancer: The LaIT-SABR study

L. Nicosia^{a,c}, D. Franceschini^b, F. Perrone-Congedi^c, F. Casamassima^d, M.A. Gerardi^e, M. Rigo^a, R. Mazzola^a, M. Perna^f, V. Scotti^f, A. Fodor^g, A. Iurato^h, F. Pasqualettiⁱ, G. Gadducciⁱ, S. Chiesa^l, R.M. Niespolo^k, A. Bruni^l, G. Alicino^l, L. Frassinelli^l, P. Borghetti^m, A. Di Marzoⁿ, A. Ravasio^o, B. De Bari^{p,q}, M. Sepulcri^r, D. Aiello^s, G. Mortellaro^t, C. Sangalli^u, M. Franceschini^u, G. Montesi^v, F.M. Aquilanti^w, G. Lunardi^x, R. Valdagni^{y,z}, I. Fazio^s, L. Corti^f, V. Vavassori^o, E. Maranzano^h, S.M. Magrini^m, S. Arcangeli^k, V. Valentini^{h,z}, F. Paiar^l, S. Ramella^h, N.G. Di Muzio^{h,a,d}, L. Livi^f, B.A. Jerezek-Fossa^{h,a,b}, M.F. Osti^c, M. Scorsetti^{b,a,c}, F. Alongi^{a,d}



- Multicenter study (1033 lung metastases in 529 colorectal cancer patients)
- Median FUP 26 months



Median time: 26.8 months

Pattern of progression after SABR:

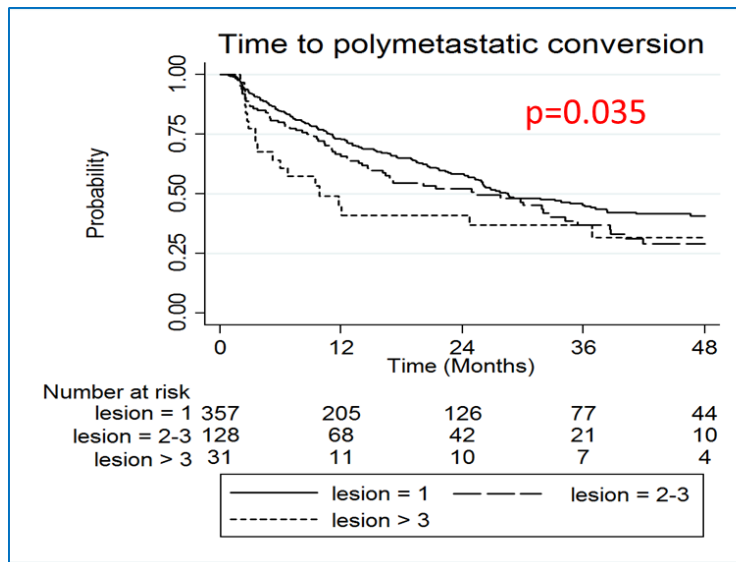
Disease-free: 24,5%

Oligometastatic: 39,5%

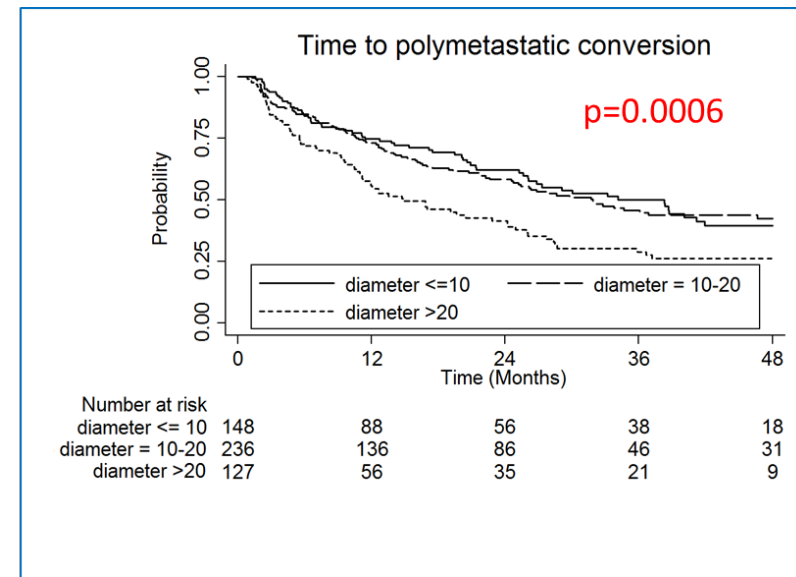
Polymetastatic: 36%

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2y: 58.2% versus 50% versus 37.6%



2y: 61.7% vs 57% vs 41.6%

Methods

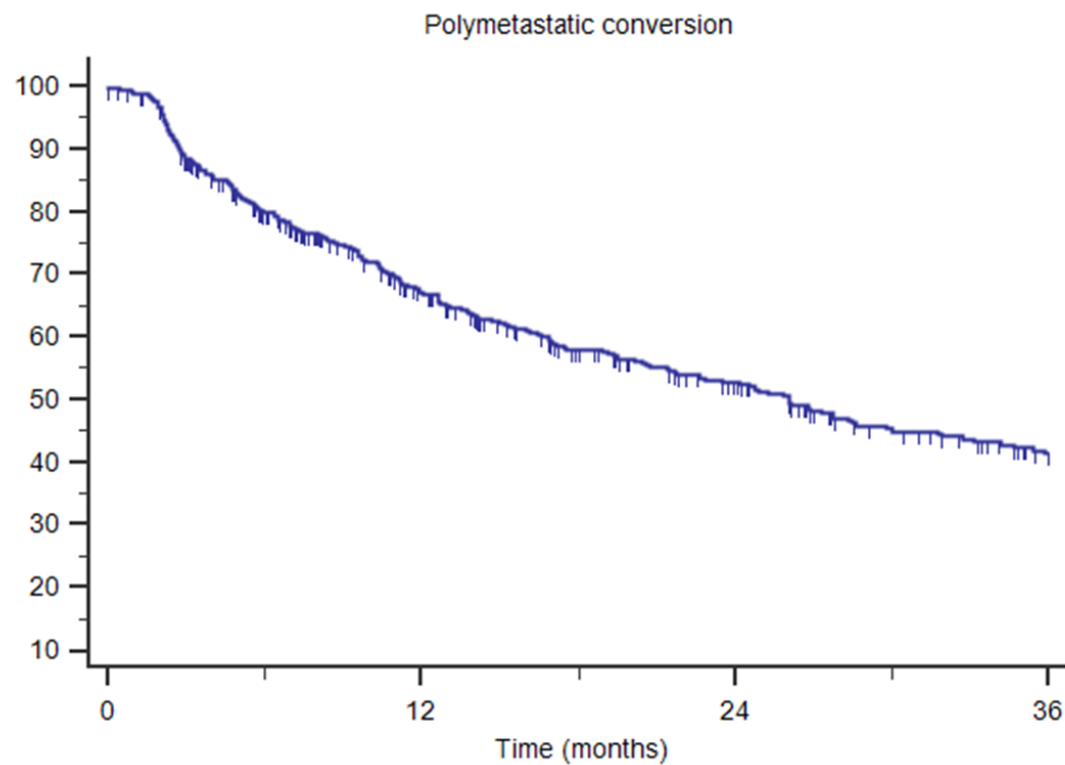
- Secondary analysis of the LaIT-SABR study
- 450 colorectal cancer patients with ≤ 5 lung oligometastases
- EC approved (Prot. Negrar 2019-ZT)

Mts number	cumGTV threshold
1 (301)	10 cc
2-3 (120)	
4-5 (29)	

- End-point:

Definition of polymetastatic conversion rate based on combined metastases number and total tumor volume (cumGTV)

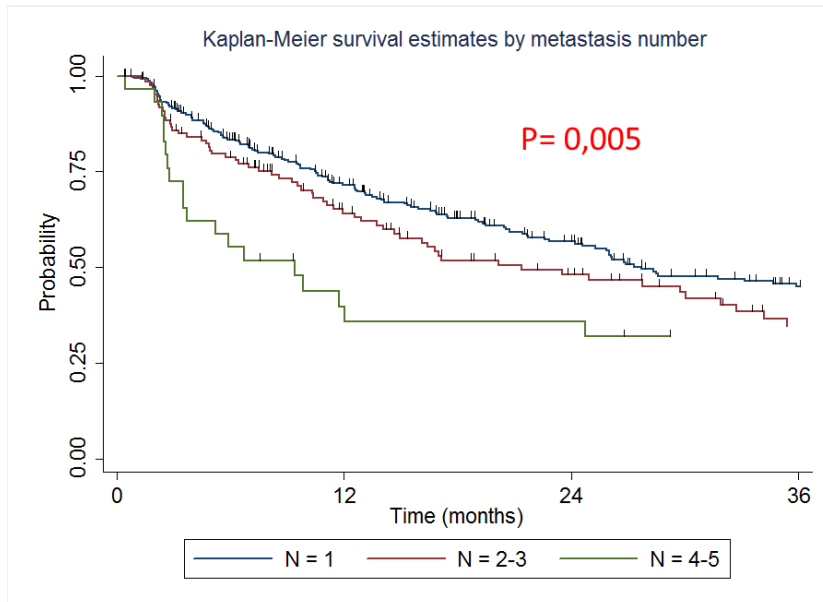
Results



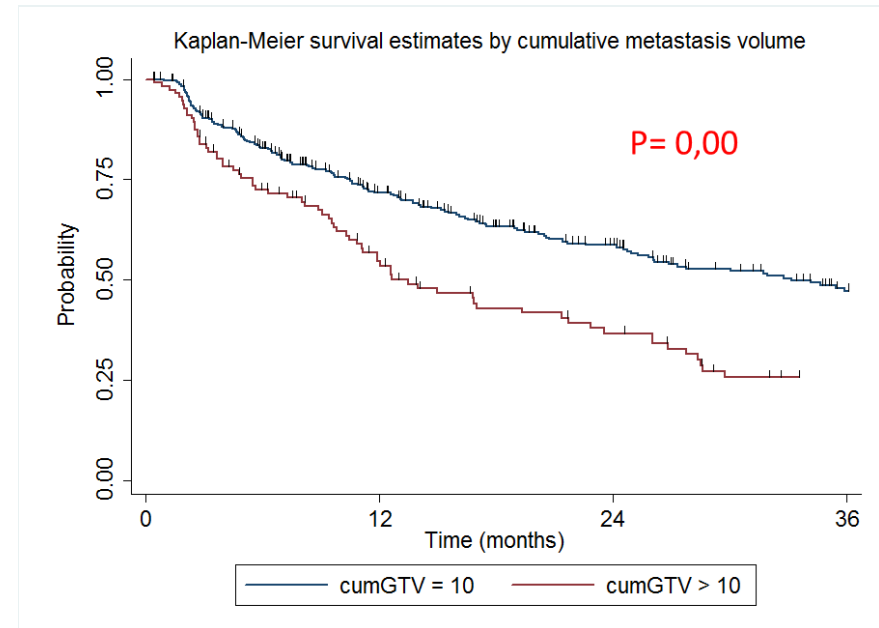
Median 26.1 months
 1-year PMC: 67%
 2-year PMC: 52.7%



Results



Median tPMC:
 1: 27,7 months
 2-3: 21,3 months
 4-5: 9,4 months



Median tPMC:
 ≤10 cc: 33,1 months
 >10 cc: 13,5 months

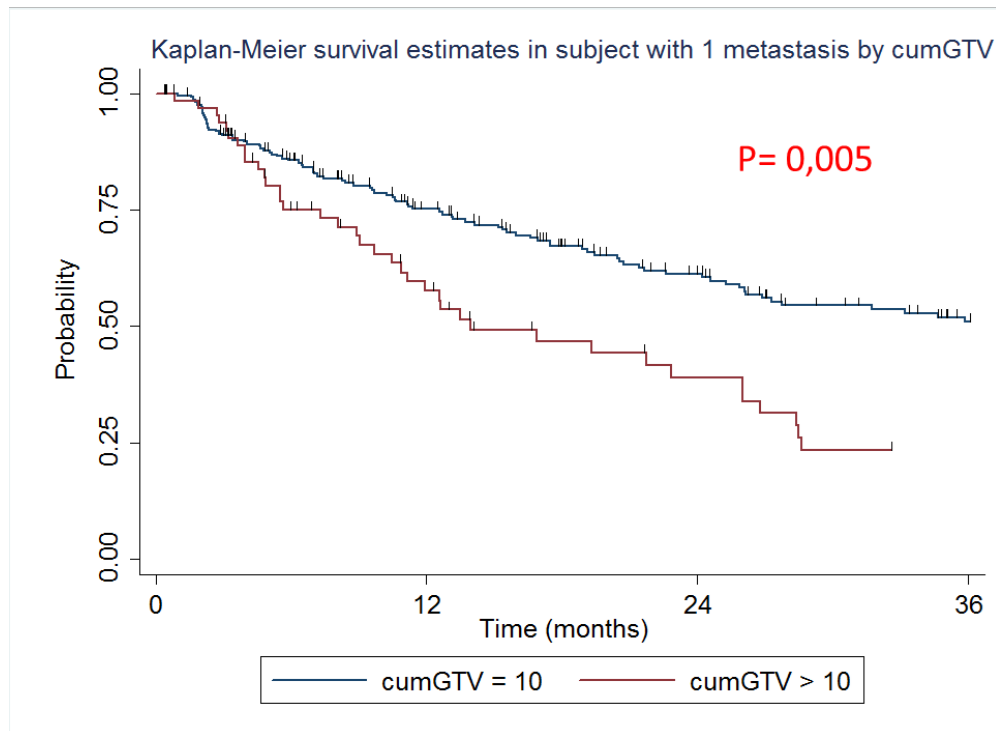
Results

- Combined mts number and cumGTV resulted in 6 groups:

Group 1	1 metastasis	cumGTV ≤ 10 cc
Group 2	1 metastasis	cumGTV > 10 cc
Group 3	2-3 metastases	cumGTV ≤ 10 cc
Group 4	2-3 metastases	cumGTV > 10 cc
Group 5	4-5 metastases	cumGTV ≤ 10 cc
Group 6	4-5 metastases	cumGTV > 10 cc

Results

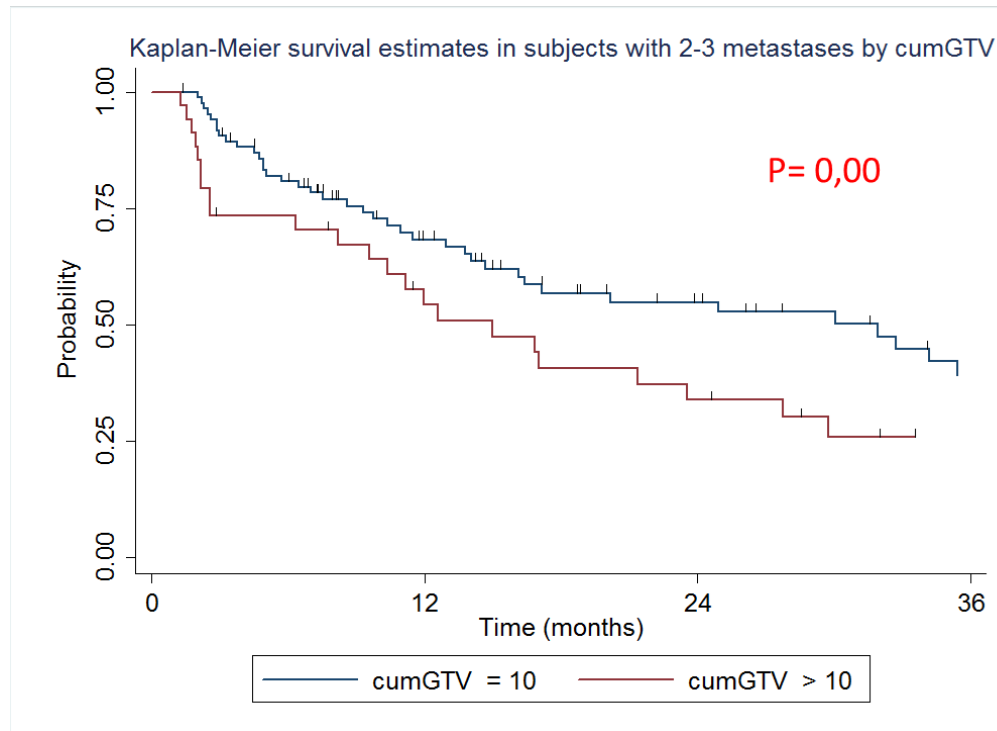
Group 1	1 metastasis	cumGTV \leq 10 cc
Group 2	1 metastasis	cumGTV $>$ 10 cc



Median PMC:
 Group 1: 36.1 months
 Group 2: 13.9 months

Results

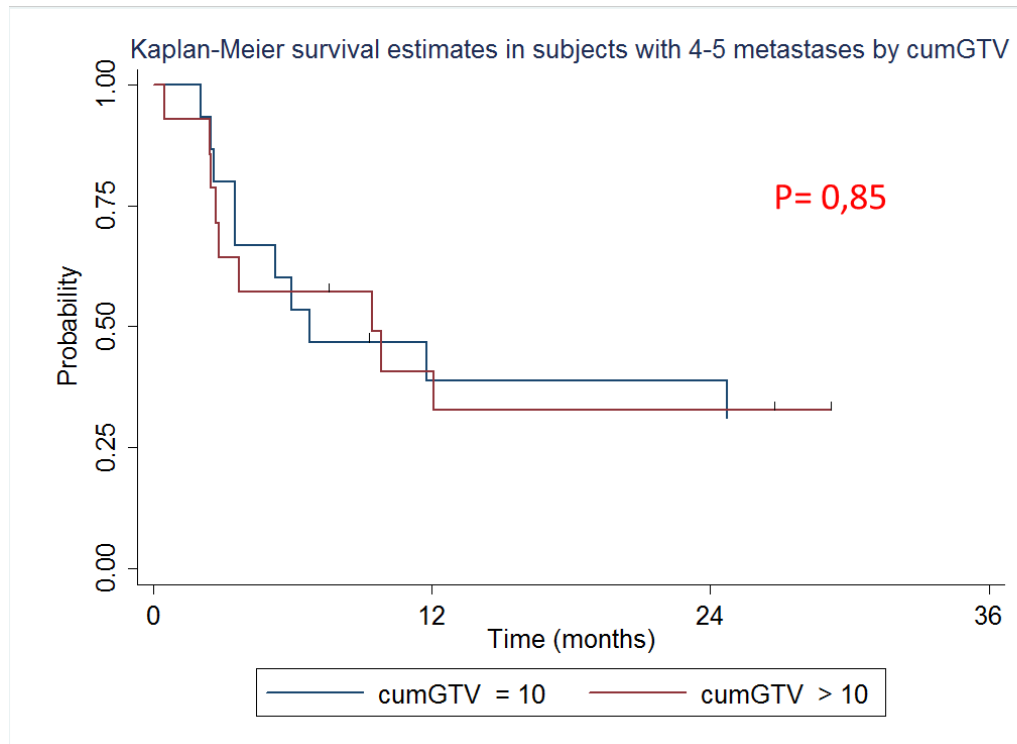
Group 3	2-3 metastasis	cumGTV ≤10 cc
Group 4	2-3 metastasis	cumGTV >10 cc



Median PMC:
 Group 3: 31.9 months
 Group 4: 14.9 months

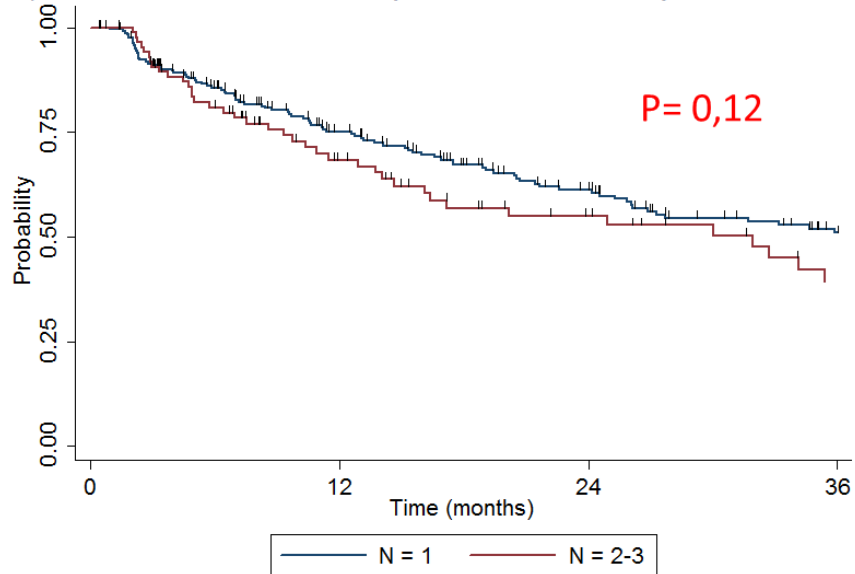
Results

Group 5	4-5 metastasis	cumGTV ≤10 cc
Group 6	4-5 metastasis	cumGTV >10 cc

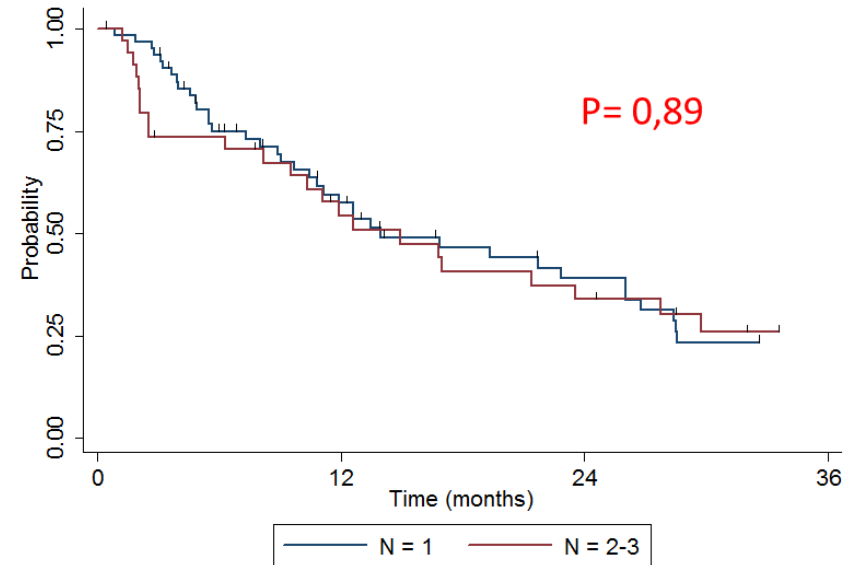


Median PMC:
 Group 5: 6.7 months
 Group 6: 9.4 months

Kaplan-Meier survival estimates in subjects with cumGTV = 10 by metastasis number

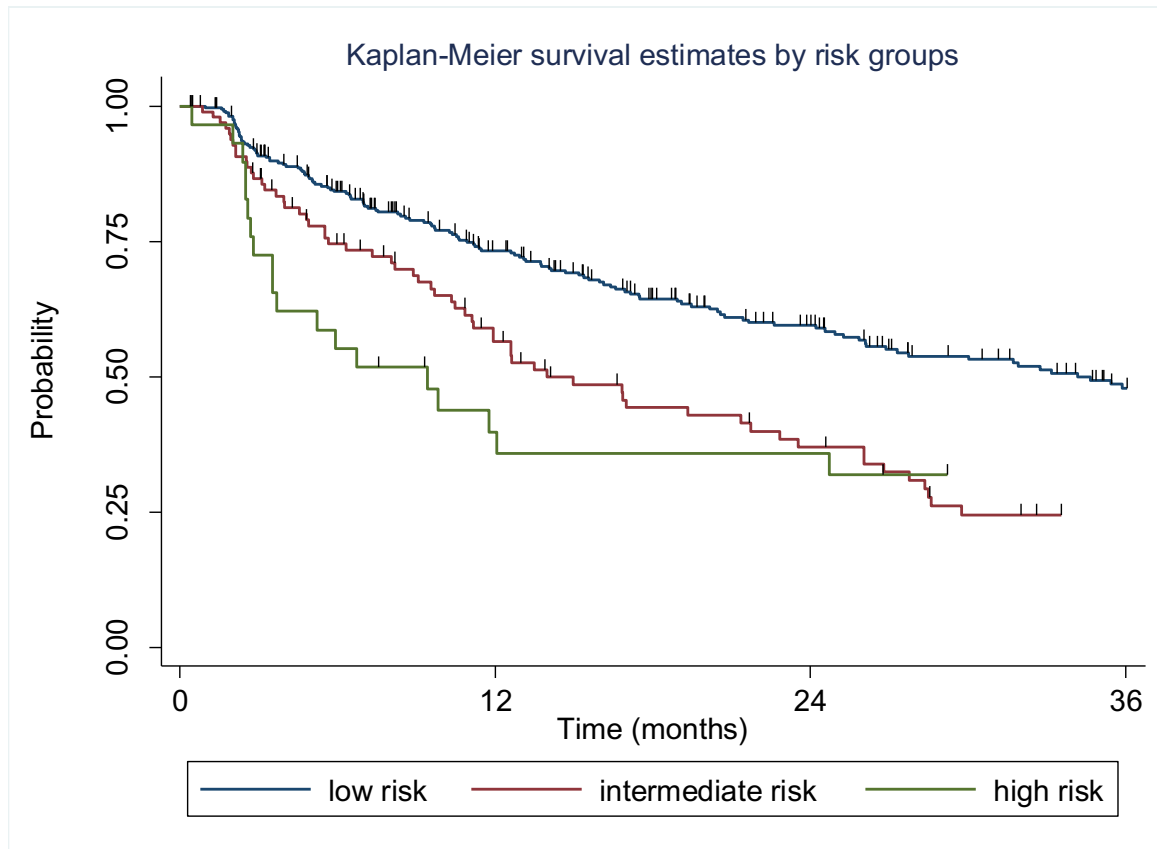


Kaplan-Meier survival estimates in subjects with cumGTV > 10 by metastasis number



	1 mts	cumGTV	Median PMC
Group 1	1	≤10 cc	36.1 mo
Group 3	2-3	≤10 cc	31.9 mo

	1 mts	cumGTV	Median PMC
Group 2	1	>10 cc	13.9 mo
Group 4	2-3	>10 cc	14.9 mo



Risk of polymetastatic progression

Low risk:

- 1-3 mts, cumGTV ≤ 10 cc
- Median tPMC: 34.1 monts

Intermediate risk:

- 1-3 mts, cumGTV > 10 cc
- Median tPMC: 13.9 months

High-risk:

- 4-5 mts, any volume
- Median tPMC: 9.4 monthd

Conclusions

- Oligometastatic state is not an «all or nothing» phenomenon
- A personalized approach should be pursued taking into account several factors other than the sole «number»
- We identified different potential population subgroups. Some of them more likely to benefit from SABR and other with a rapid polymetastatic progression
- A prospective trial also including systemic treatment is warranted

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Thanks for your attention!

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