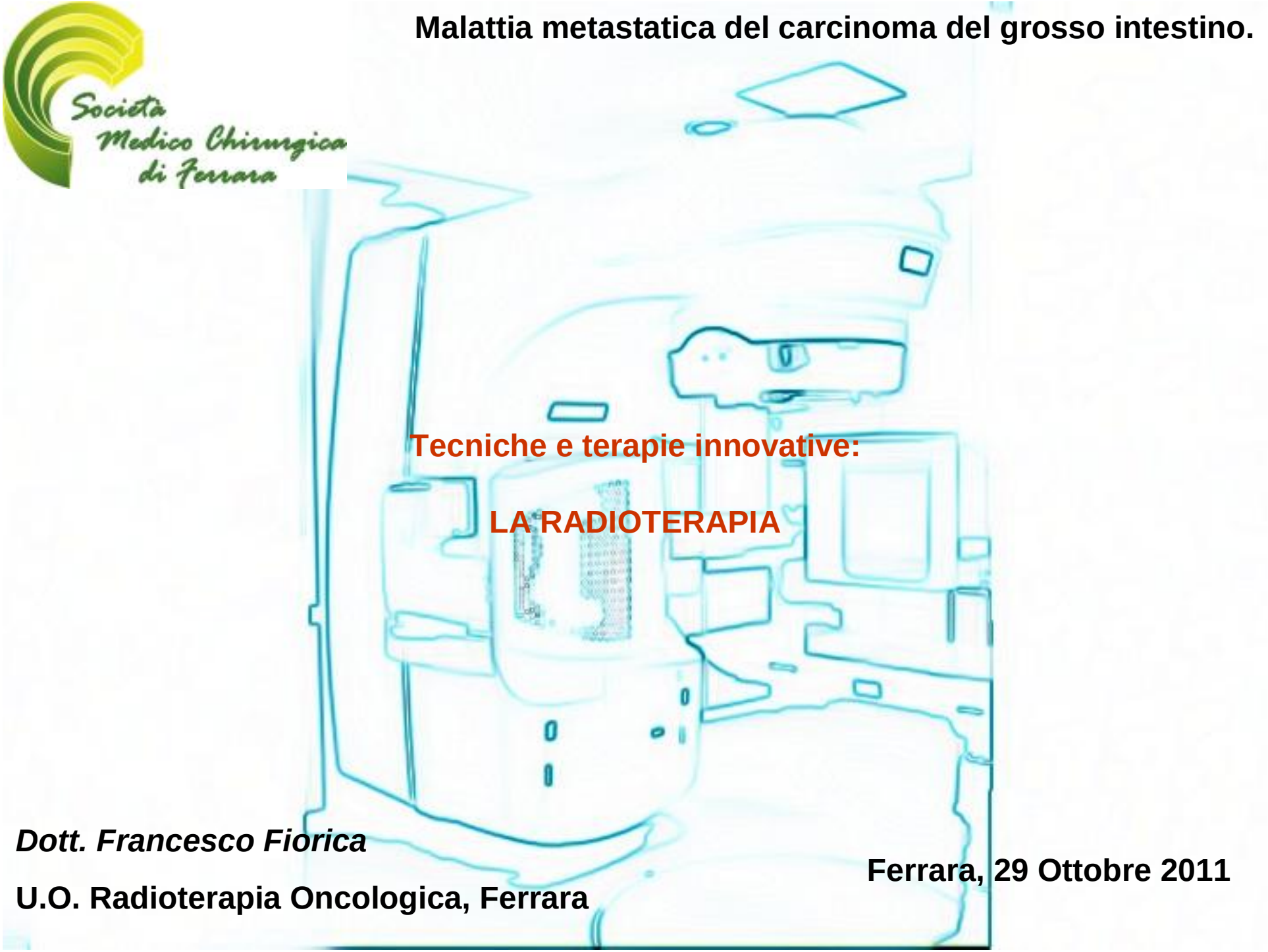
Società Medico Chirurgica di Ferrara

Malattia metastatica del carcinoma del grosso intestino.



Tecniche e terapie innovative:

LA RADIOTERAPIA

Dott. Francesco Fiorica

U.O. Radioterapia Oncologica, Ferrara

Ferrara, 29 Ottobre 2011

Malattia metastatica del carcinoma del grosso intestino.

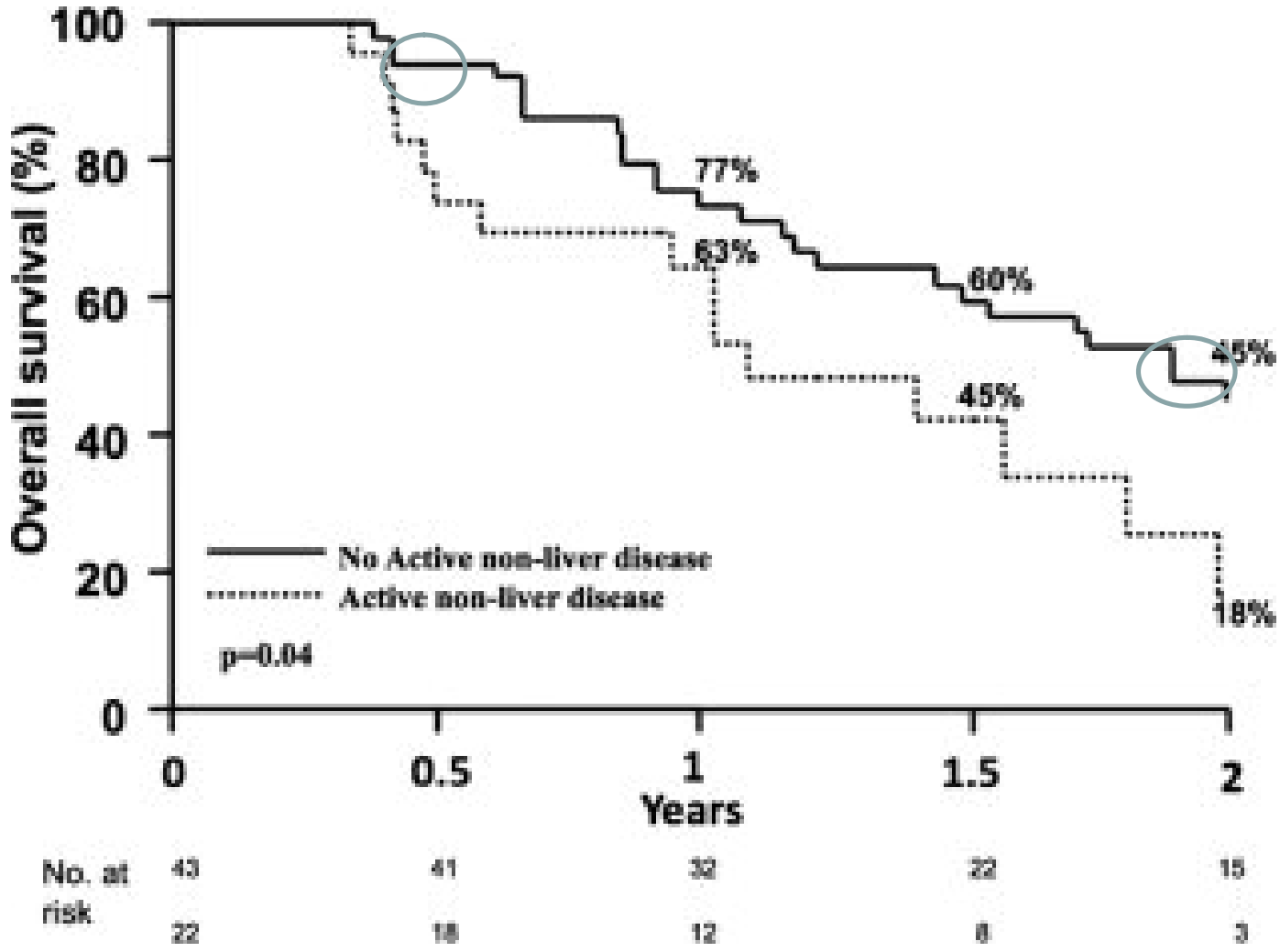
La domanda fondamentale:

Azzardo terapeutico o beneficio clinico ?

Quale ruolo alla radioterapia?

Dott. Francesco Fiorica - U.O. Radioterapia- Ferrara

Azzardo terapeutico o beneficio clinico



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Beneficio clinico:

1. **E’ l’evento clinico che il trattamento previene o riduce realmente importante ?**

   In the metastatic setting local therapies can only be justified if patient outcomes are improved.

2. **E’ il beneficio clinico sufficientemente ampio da rendere il trattamento largamente prescrivibile ?**

Malattia metastatica del carcinoma del grosso intestino.

“Suddenly a solitary horseman appeared on the horizon, then another, then another ... in a few moments a whole crowd of horsemen swooped down upon him.”

S. Leacock

Can a solitary nodule truly be the only metastatic lesion

or

is it the first horseman on the horizon before the horde appears?

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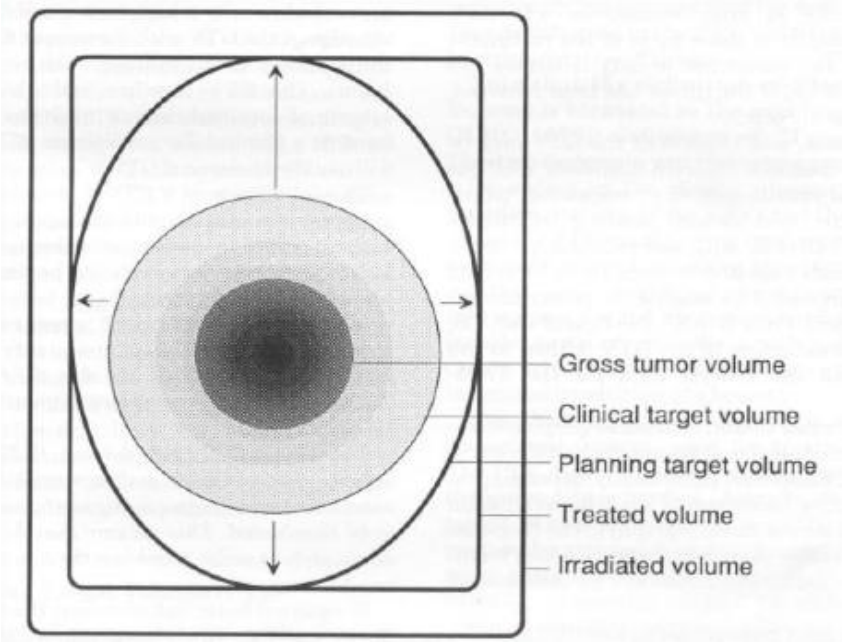
Malattia metastatica del carcinoma del grosso intestino.

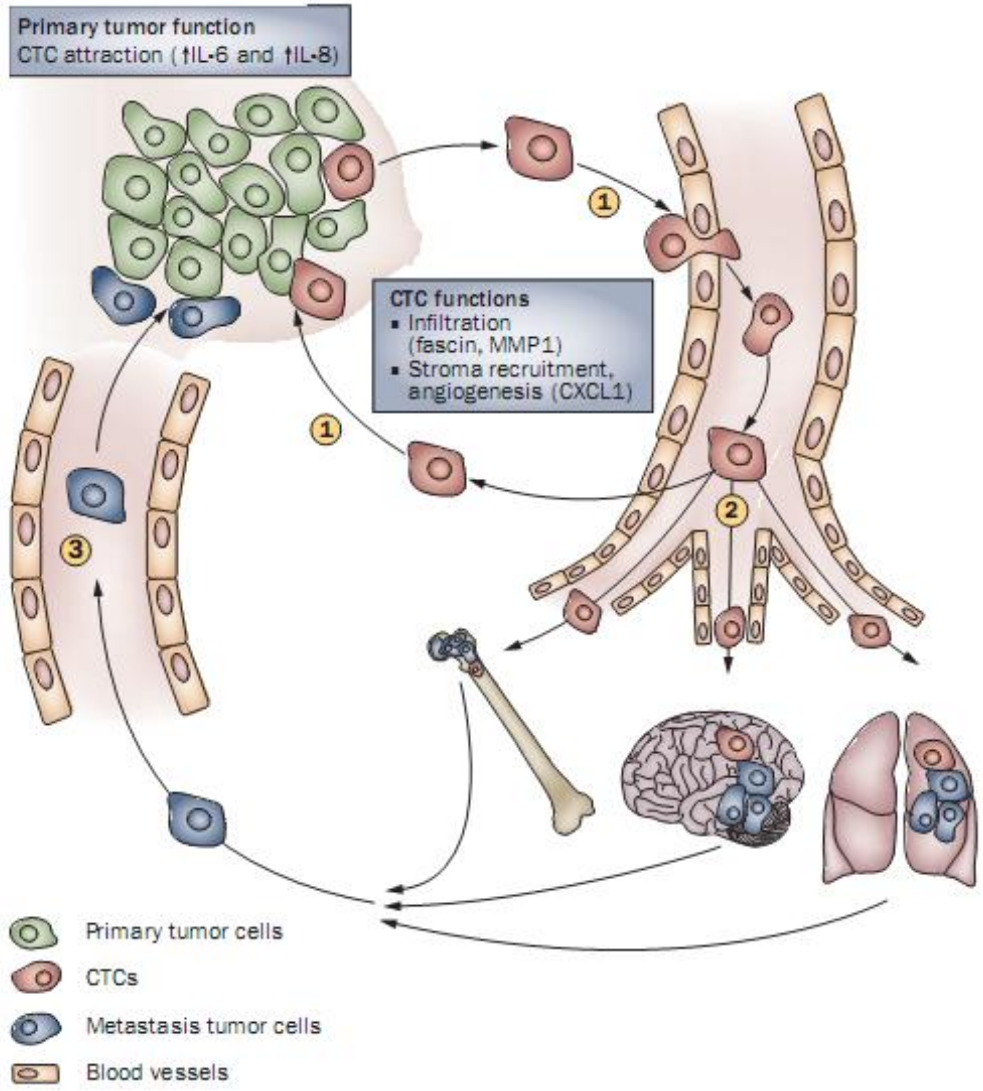
Hellman and Weichselbaum have proposed that a state of oligometastases, in which
metastases are limited in number and site, may exist.

This state lies between **completely absent** and **diffuse metastasis**. Data in the literature seem to support this hypothesis:

oligometastases

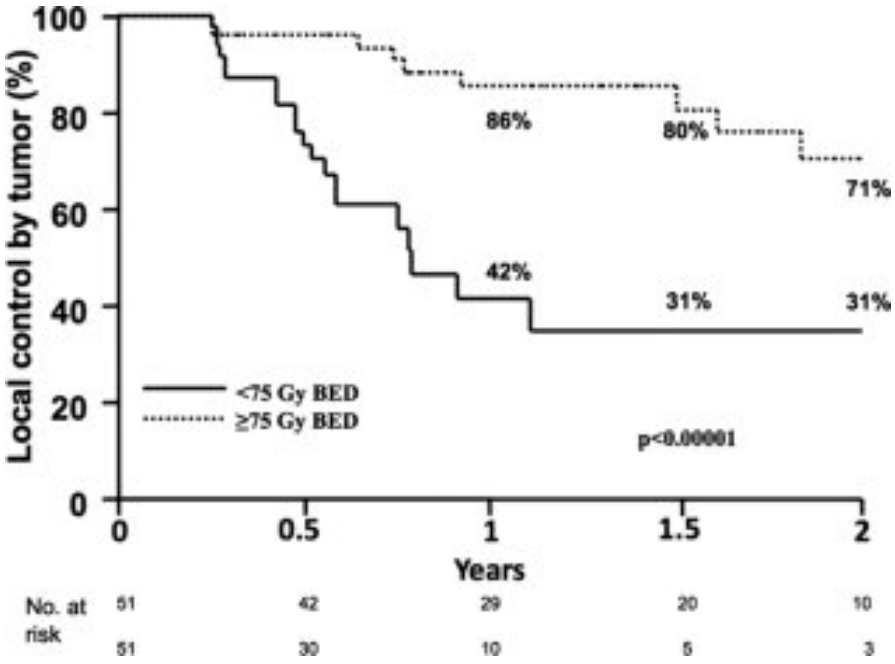
An advantage of radiotherapy over other local therapies is the ability to add margins for subclinical disease extent

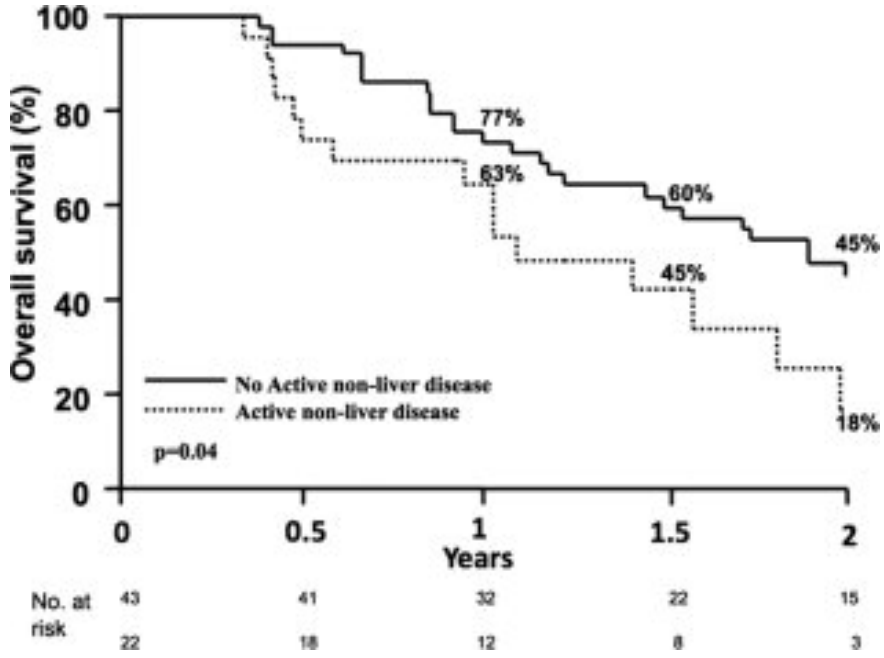




Stereotactic body radiotherapy for colorectal liver metastases

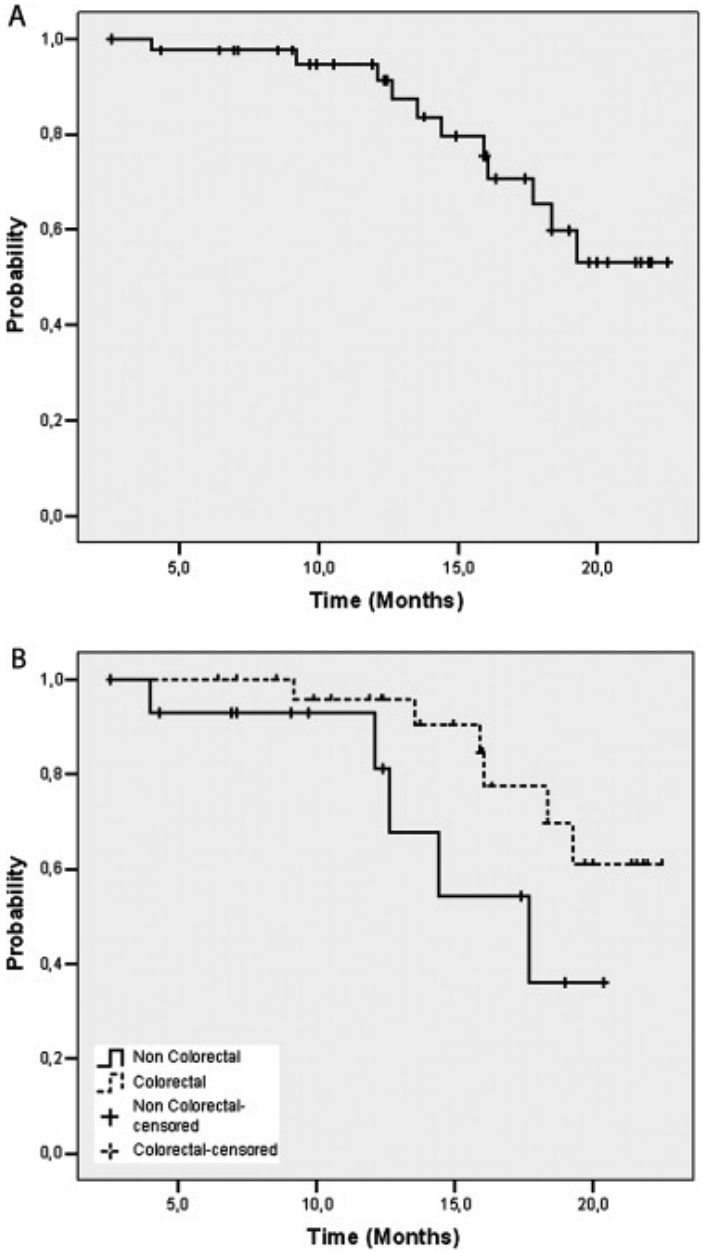
65 patients with 102 colorectal metastases.
inclusion criteria: metastases – 34% Active nonhepatic disease
42% ≥2 prior chemotherapy regimens





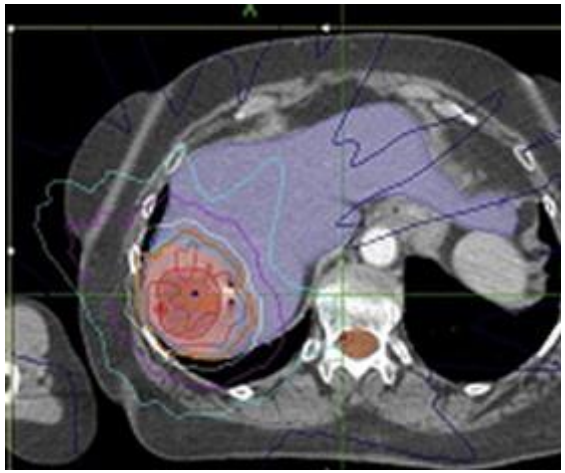
Chang, Cancer 2011

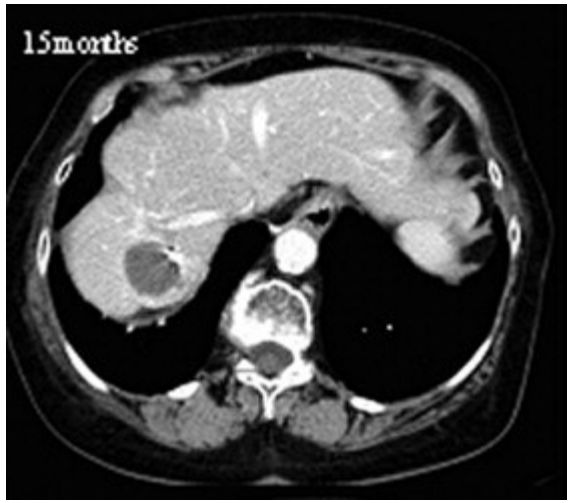
Stereotactic body radiotherapy for colorectal liver metastases



Overall survival was 94% at 1 year (95% CI, 90%–98%), and actuarial overall survival at 2 years was 48% (95% CI, 37%–59%).
Actuarial overall survival at 2 years was **58% (95% CI, 44%–72%) for colorectal tumors**

Vautravers-Dewas et al. IJROB 2011





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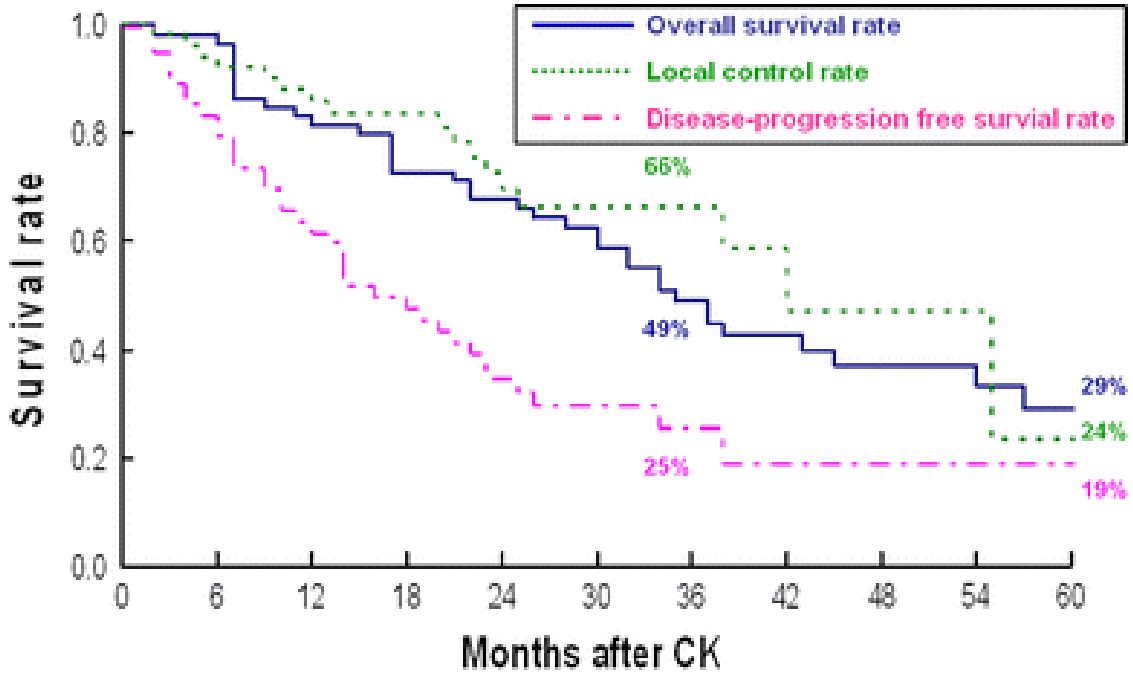
Stereotactic body radiotherapy for colorectal metastases

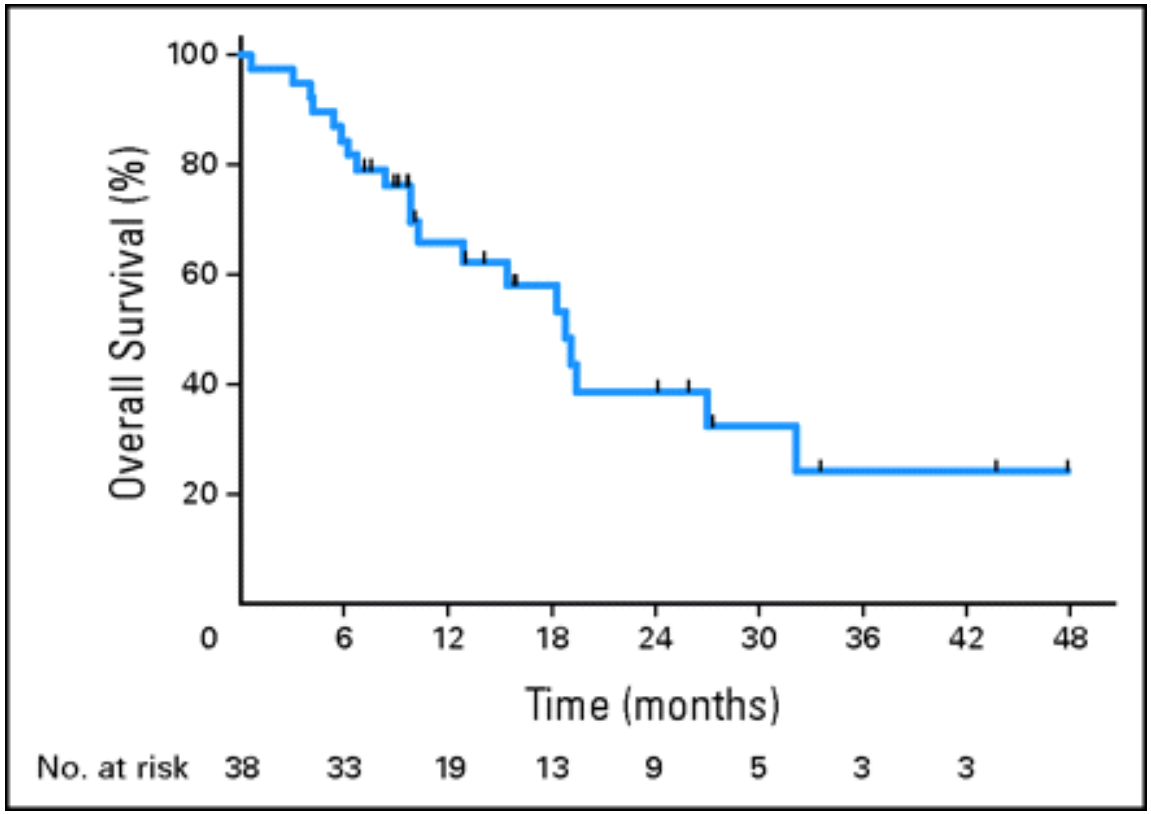


3-yr overall survival 49%
3-yr local control 66%
3-yr PFS 25%

Kang et al. ClinExp Metastasis 2010

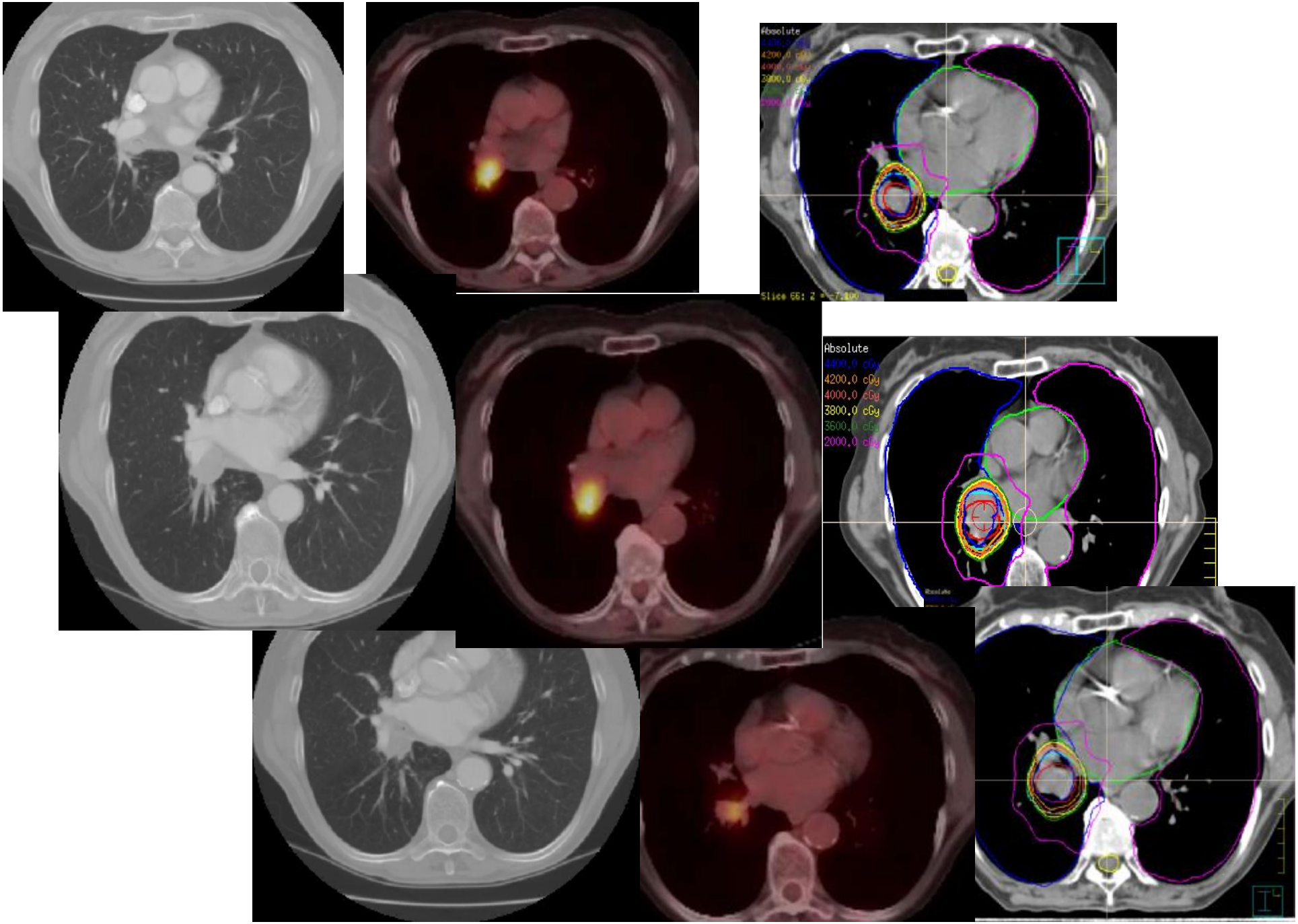
Stereotactic body radiotherapy for colorectal lung metastases

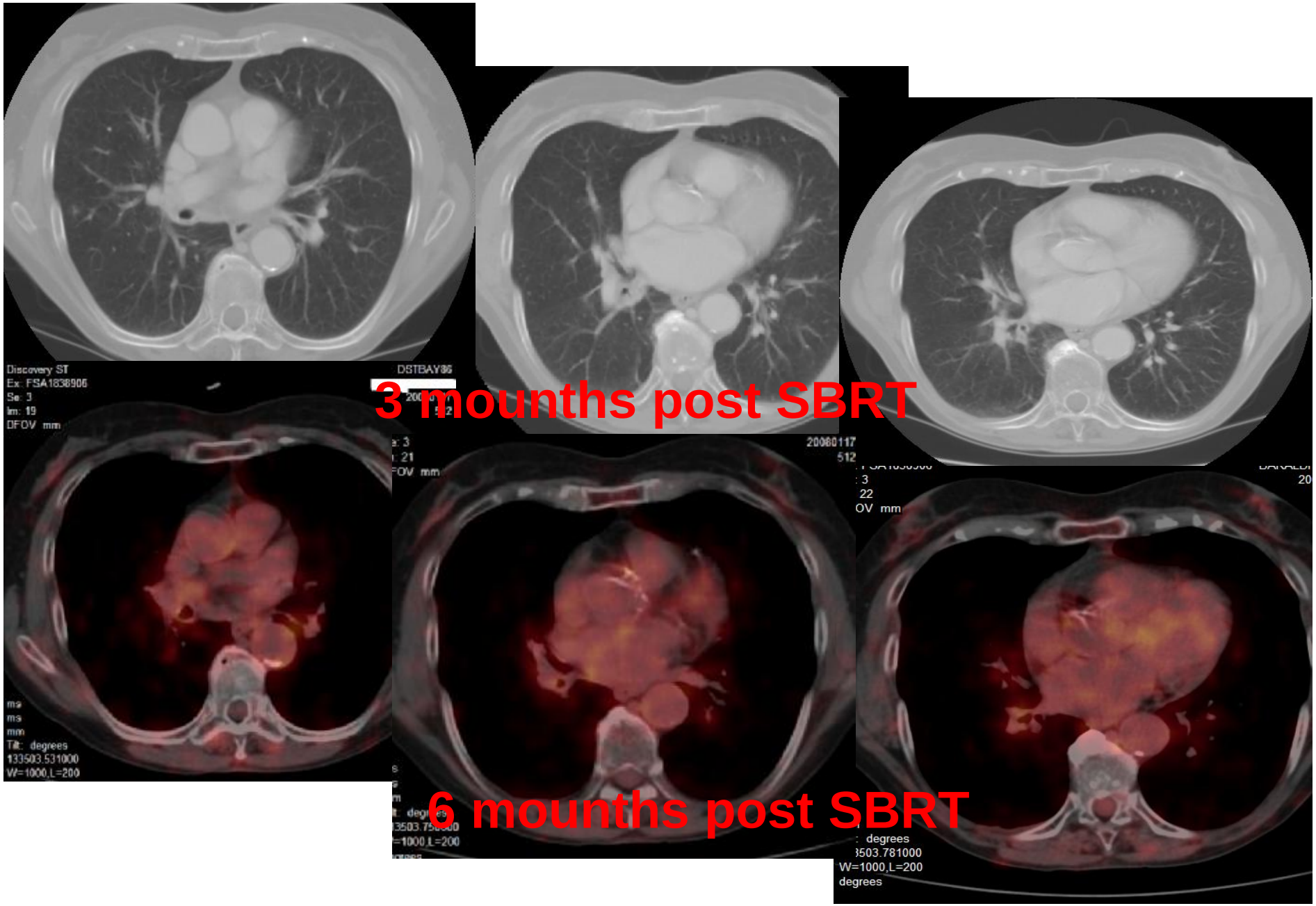
patients with one to three lung metastases with cumulative lesion diameter smaller than 7 cm

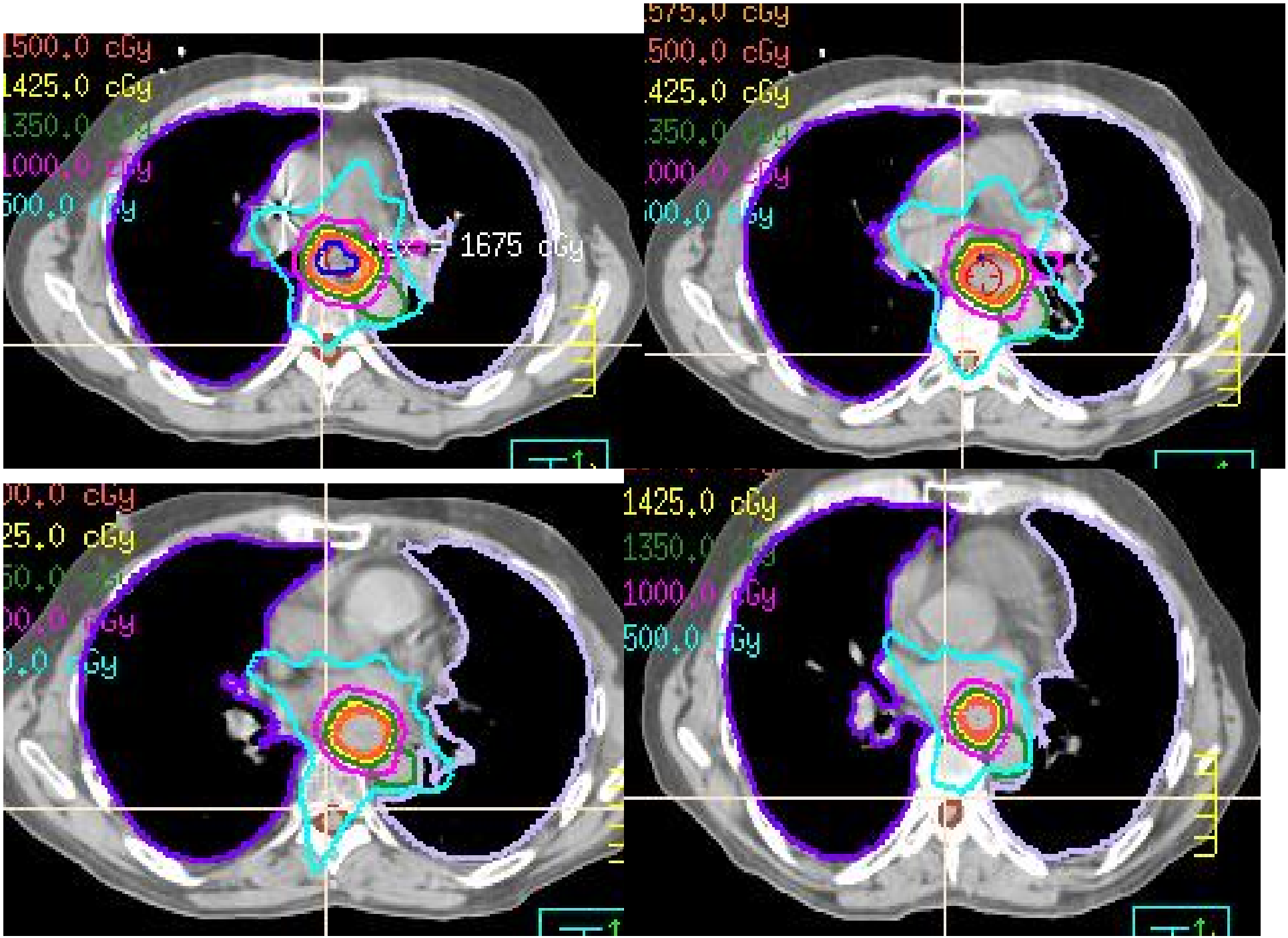


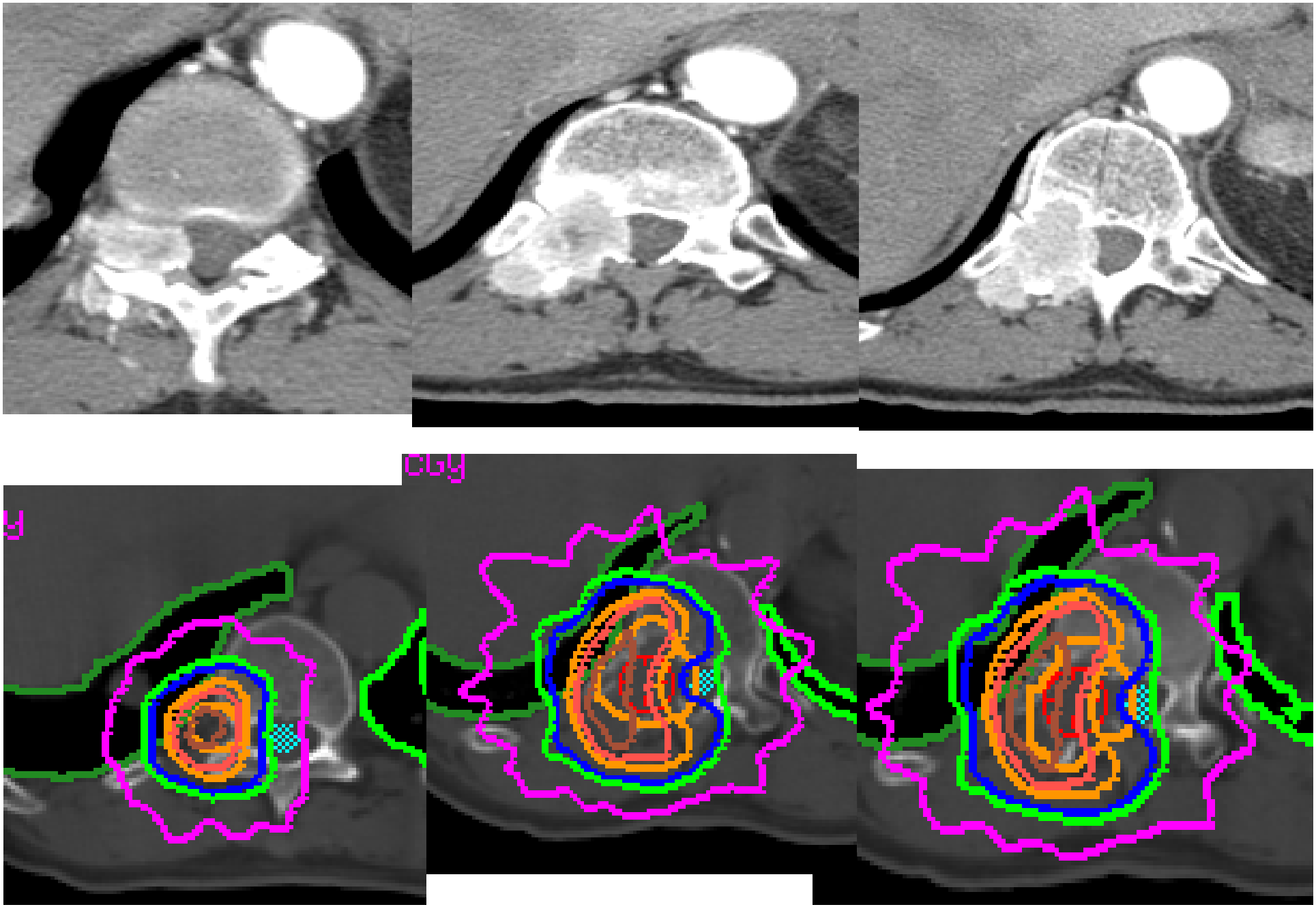
Median 19 months
2-year survival rates 39%

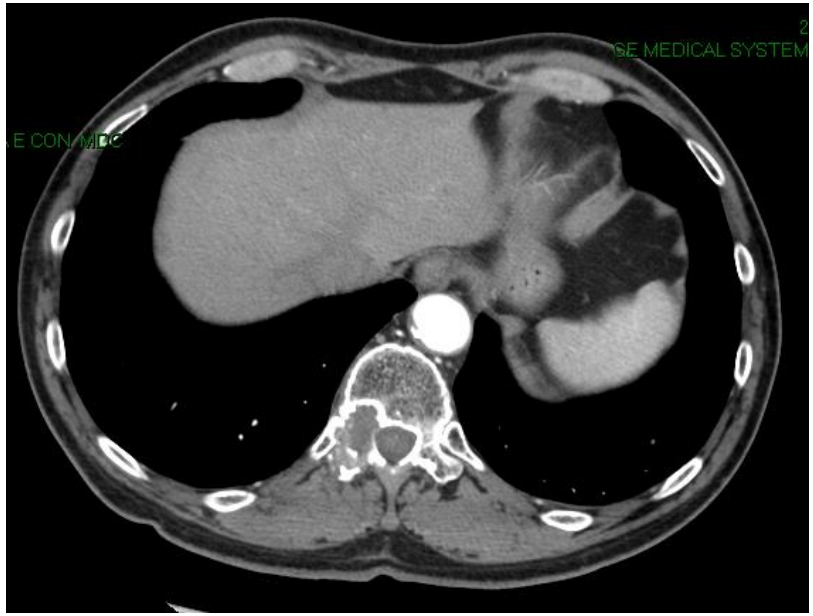
Rusthoven et al JCO 2009

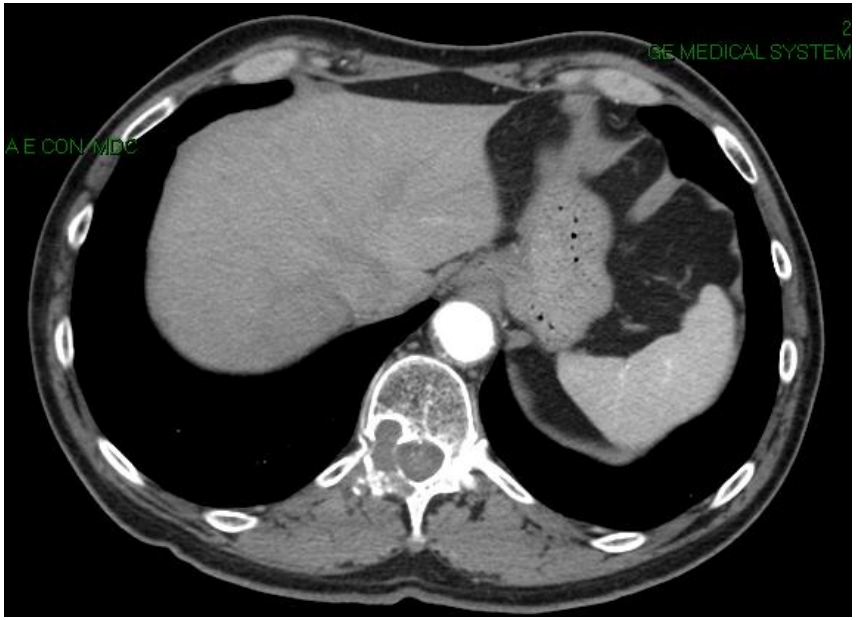

Absolute
4400,0 cGy
4200,0 cGy
4000,0 cGy
3800,0 cGy
3600,0 cGy
2000,0 cGy

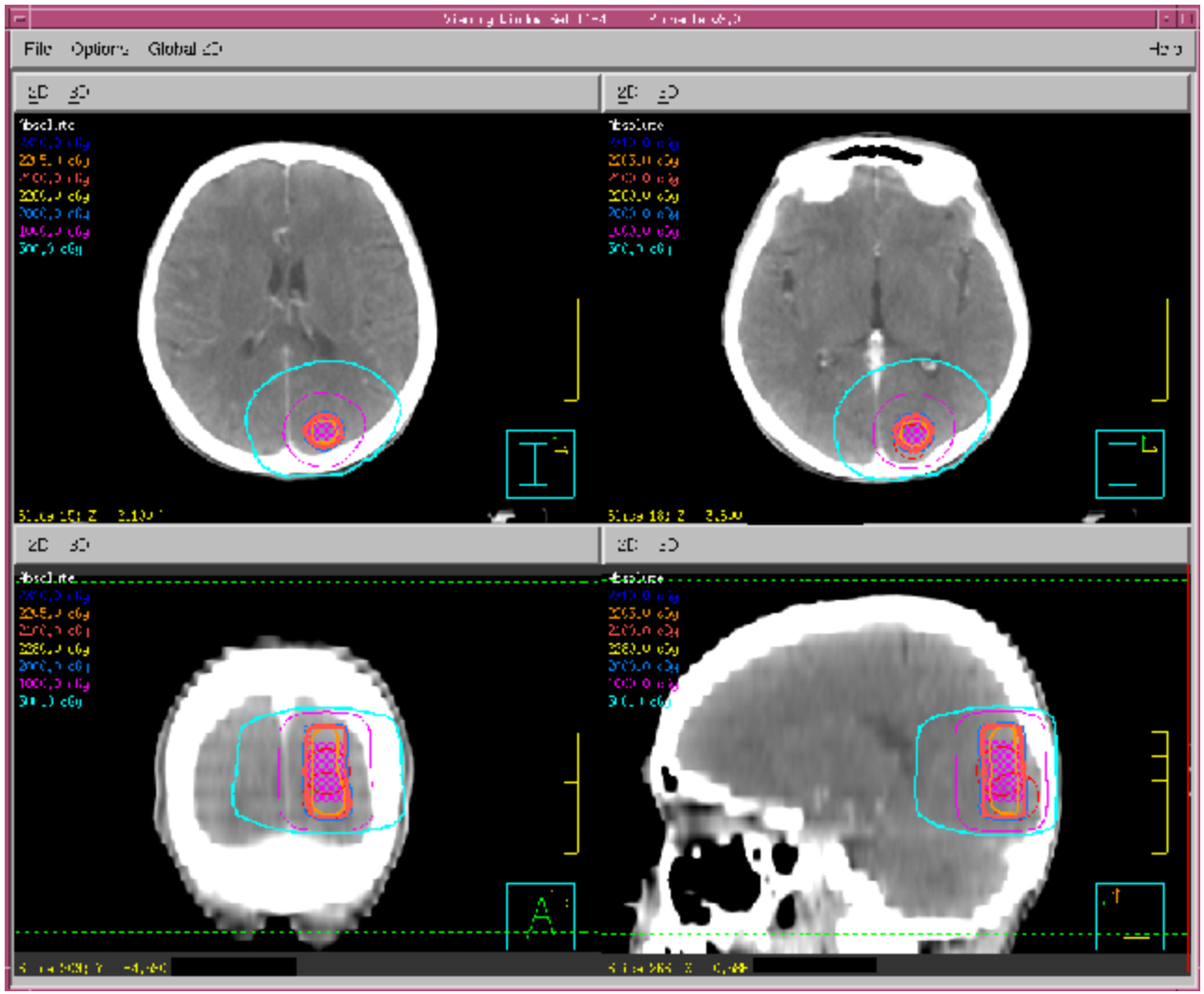

3 mounths post SBRT
6 mounths post SBRT


1500.0 cGy
1425.0 cGy
1675 cGy
1425.0 cGy
1350.0 cGy
1000.0 cGy
500.0 cGy


Gy







Dott. Francesco Fiorica - U.O. Radioterapia- Ferrara

The biggest challenge is to identify the group of patients who will really benefit from local aggressive therapy of their oligometastatic disease.

because circulating cancer cells cannot be detected by even the most sensitive diagnostic imaging, it is not possible to determine:

- whether the presence of limited metastases represents **a true state of oligometastasis**

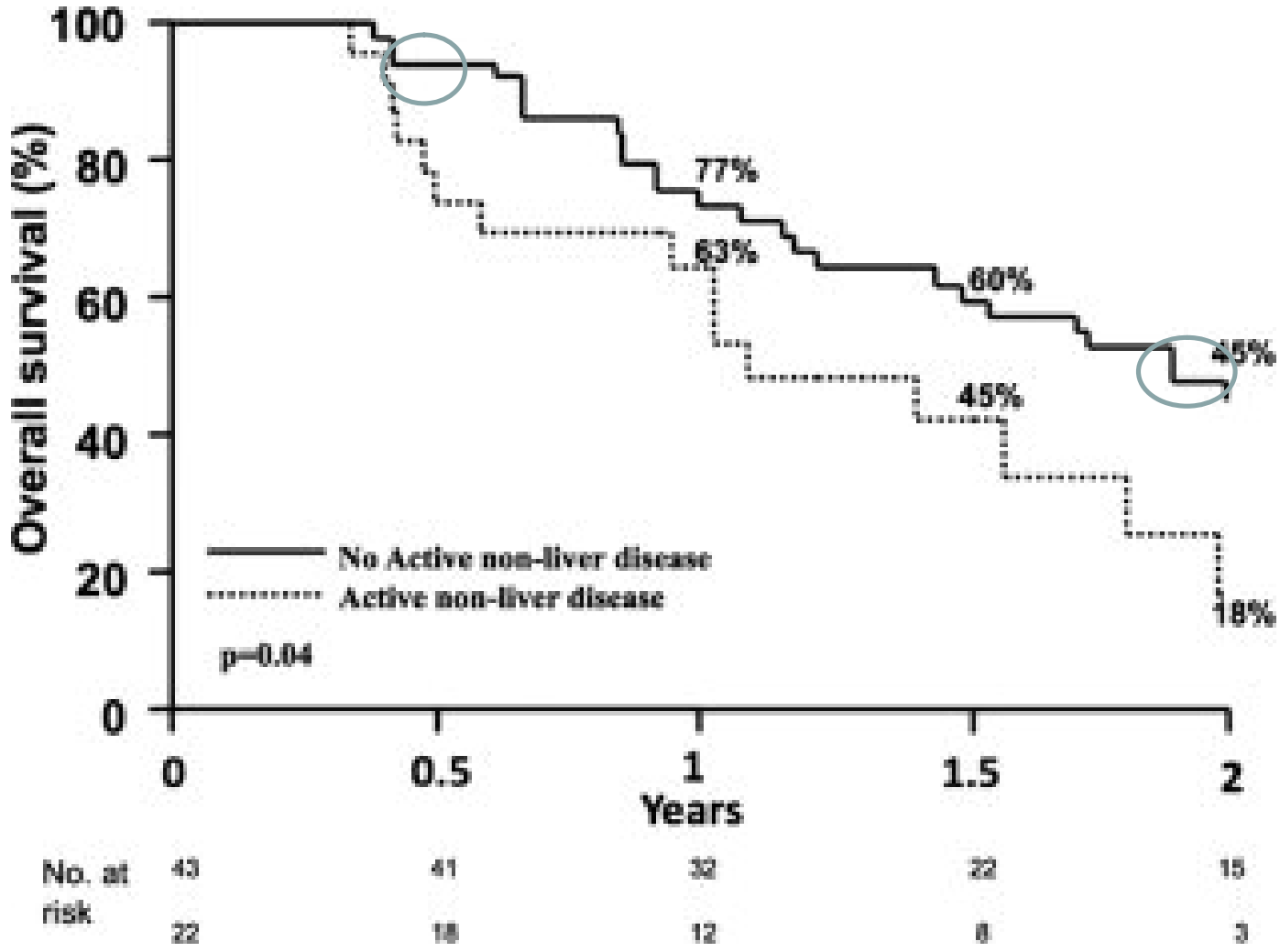
- or a **transitional state to disseminated metastases.**

Azzardo terapeutico :

3. Sono gli effetti collaterali del trattamento rari e pertanto il trattamento determina più vantaggi che svantaggi ?

4 Sono le risorse richieste per applicare il nuovo trattamento meglio allocate rispetto a trattamenti precedenti ?

Azzardo terapeutico o beneficio clinico



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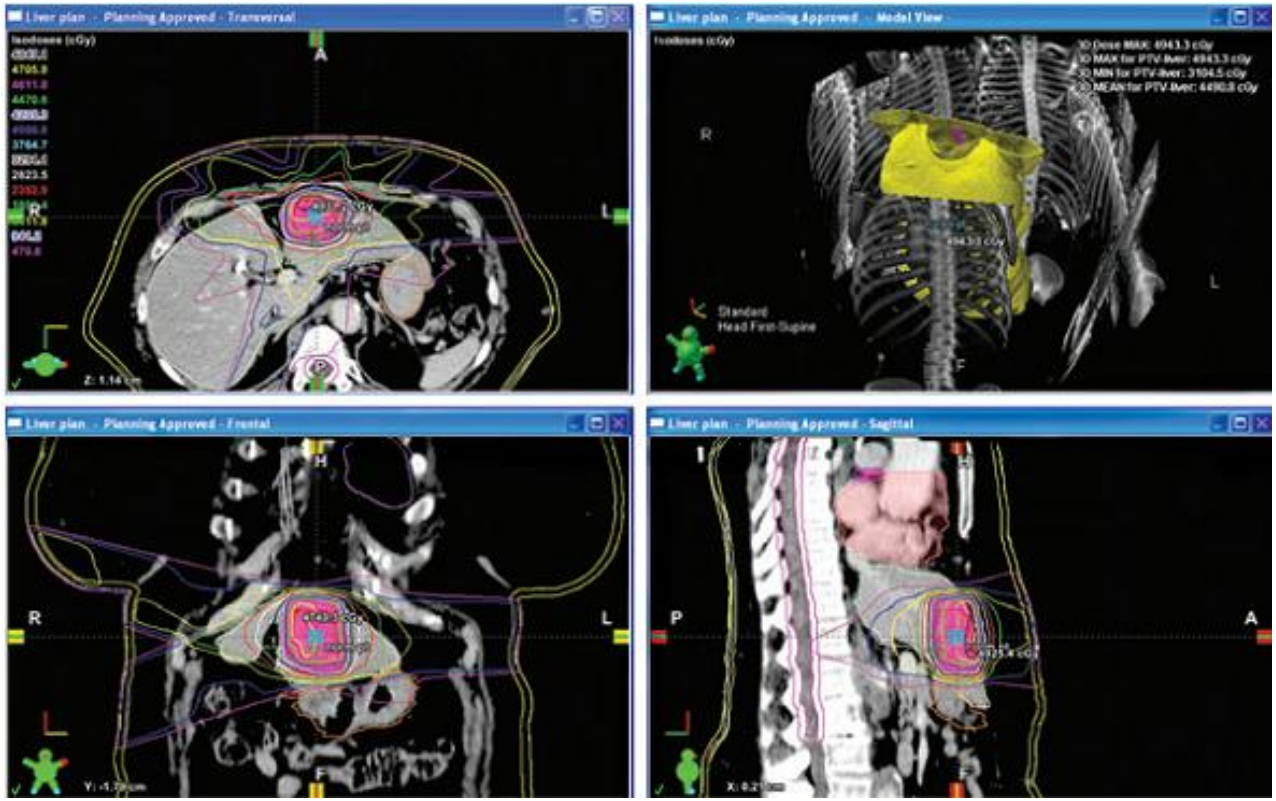
Stereotactic body radiotherapy for colorectal liver metastases: toxicity



Radiation-induced liver disease, which presents with anicteric ascites and hepatomegaly within 3 months post low-dose whole-liver radiotherapy, is rare following conformal radiotherapy or SBRT

Dott. Francesco Fiorica - U.O. Radioterapia- Ferrara

Stereotactic body radiotherapy for colorectal lung metastases: toxicity

Given the high incidence of poor pulmonary reserve among patients with primary lung cancer, the rates of pulmonary complications related to treatment with SBRT are expected to be higher, compared with patients with lung oligo metastases.

Three patients experienced grade 3 toxicity, corresponding to a crude incidence of 7.9%. The details for patients with grade 3 toxicity are described in Table 2. Four patients (10.5%) developed moderate to brisk erythema of the skin (grade 2 radiation dermatitis) overlying peripheral lung lesions treated with SBRT, which resolved within 3 months in all patients. Grade 1 pneumonitis, defined as asymptomatic radiographic changes, occurred in all patients within 3 to 6 months after SBRT. Symptomatic radiation pneumonitis was rare, occurring in only one patient (2.6%)

Rusthoven et al JCO 2009

Delivering affordable cancer care in high-income countries

Richard Sullivan, Jeffrey Peppercorn, Karol Sikora, John Zalcberg, Neal J Meropol, Eitan Amir, David Khayat, Peter Boyle, Philippe Autier, Ian F Tannock, Tito Fojo, Jim Siderov, Steve Williamson, Silvia Camporesi, J Gordon McVie, Arnie D Purushotham, Peter Naredi, Alexander Eggermont, Murray F Brennan, Michael L Steinberg, Mark De Ridder, Susan A McCloskey, Dirk Verellen, Terence Roberts, Guy Storme, Rodney J Hicks, Peter J Ell, Bradford R Hirsch, David P Carbone, Kevin A Schulman, Paul Catchpole, David Taylor, Jan Geissler, Nancy G Brinker, David Meltzer, David Kerr, Matti Aapro

The burden of cancer is growing, and the disease is becoming a major economic expenditure for all developed countries. In 2008, the worldwide cost of cancer due to premature death and disability (not including direct medical costs) was estimated to be US$895 billion. This is not simply due to an increase in absolute numbers, but also the rate of increase of expenditure on cancer. What are the drivers and solutions to the so-called cancer-cost curve in developed countries? How are we going to afford to deliver high quality and equitable care? Here, expert opinion from health-care professionals, policy makers, and cancer survivors has been gathered to address the barriers and solutions to delivering affordable cancer care. Although many of the drivers and themes are specific to a particular field—eg, the huge development costs for cancer medicines—there is strong concordance running through each contribution. Several drivers of cost, such as over-use, rapid expansion, and shortening life cycles of cancer technologies (such as medicines and imaging modalities), and the lack of suitable clinical research and integrated health economic studies, have converged with more defensive medical practice, a less informed regulatory system, a lack of evidence-based sociopolitical debate, and a declining degree of fairness for all patients with cancer. Urgent solutions range from re-engineering of the macroeconomic basis of cancer costs (eg, value-based approaches to bend the cost curve and allow cost-saving technologies), greater education of policy makers, and an informed and transparent regulatory system. A radical shift in cancer policy is also required. Political toleration of unfairness in access to affordable cancer treatment is unacceptable. The cancer profession and industry should take responsibility and not accept a substandard evidence base and an ethos of very small benefit at whatever cost; rather, we need delivery of fair prices and real value from new technologies.

Azzardo terapeutico o beneficio clinico?

Rilevanza clinica: le 6 regole fondamentali

1. **Outcome rilevante: durata e qualità della vita**
2. **Riduzione effetti collaterali**
3. **Riduzione dei costi**
4. **Somministrazione più agevole**
5. **Necessità di minori controlli**
6. **Stessi vantaggi, ma in tempi più brevi**