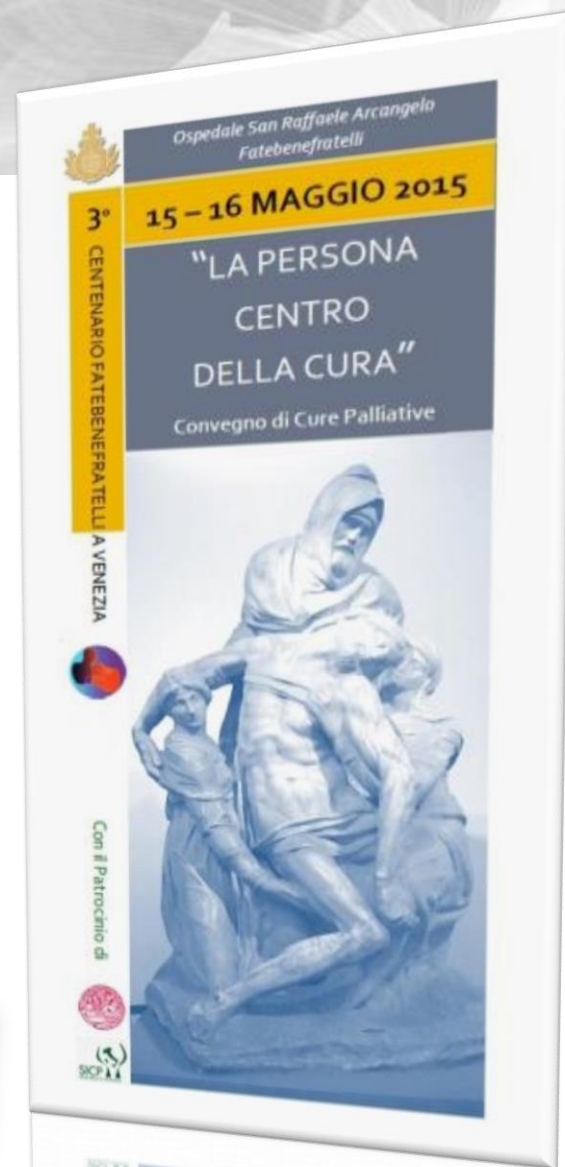




09.55 *Ruolo della radioterapia palliativa*
Dr. Abu Rumeileh Imad



Palliative Care

The World Health Organization describes palliative care as "an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."



World Health Organization



WHO Definition of Palliative Care

Palliative care:

- provides relief from pain and other distressing symptoms;
- affirms life and regards dying as a normal process;
- intends neither to hasten or postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patients live as actively as possible until death;



World Health Organization



Radioterapia

è uno degli aspetti integrali dell'approccio multidisciplinare nella cura dei TUMORI; è stato valutato che il 50% - 60% di tutti i pazienti oncologici possono trovare beneficio da questo trattamento.

In particolare la radioterapia ha un ruolo fondamentale nelle cure palliative.

La Radioterapia Palliativa viene impiegata in un'alta percentuale di malati oncologici, dal 30 al 50% a seconda delle varie Istituzioni Radioterapiche



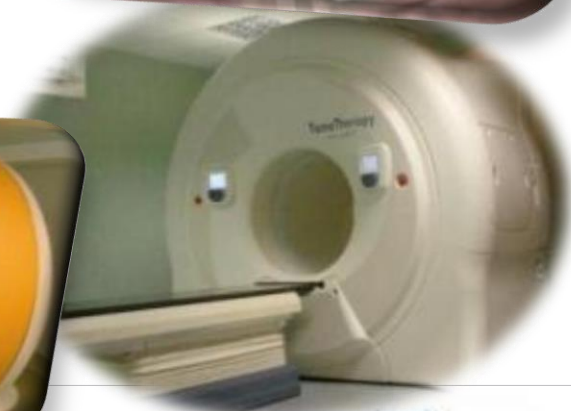
Radioterapia

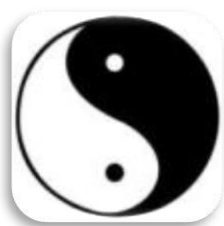
- ☐ Radioterapia a fasci esterni
- ☐ Brachiterapia Endoluminale & Superficiale
- ☐ Radioterapia Metabolica

Target della RT Palliativa

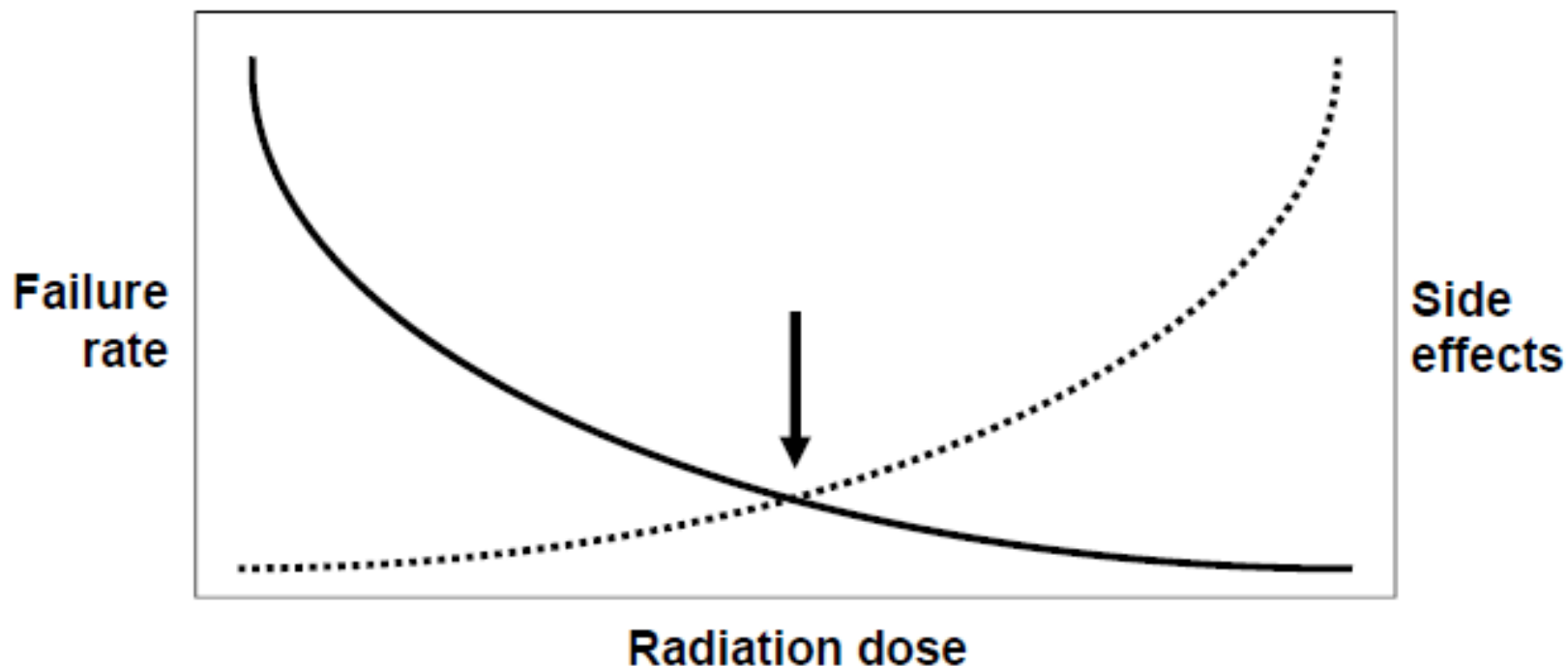
- ☐ Tumori primitivi localmente avanzati
- ☐ Lesioni metastatiche







Controllo del Tumore e dei Sintomi versus Rischio Danno ai Tessuti Sani



Hypofractionation

"Time is precious when life is short"

large dose per fraction treatment

Type of Radiotherapy	Typical Dose per Fraction (Gy)
Conventional Fractionation	1.5 to 2.0
Hypofractionation	> 2.0 to 8.0
Ablative radiotherapy	> 8.0



Ipfrazioneameto - Vantaggi

- ❑ Dose di RT erogata in breve tempo
- ❑ Rapida risposta del Tumore & Sintomi
- ❑ Evita accessi multipli



Radioterapia & Controllo dei Sintomi

- ☐ Sanguinamento / Emorragia
- ☐ Dolore Osseo o Viscerale
- ☐ Compressione / Ostruzione (vie respiratorie, esofago, ...)
- ☐ Compressione Midollare
- ☐ Rischio Fratture Patologiche



Orientamenti clinici nella scelta del trattamento

- ☐ Aspettativa di vita
- ☐ Sede della lesione,
- ☐ Intensità del sintomo,
- ☐ PS, Istotipo, Numero lesioni



Target

☐ Tumori primitivi localmente avanzati

- Pelvi
- Polmone
- ORL
- Cute

☐ Lesioni metastatiche

- Cerebrali
- Ossee
- Compressione Midollare



	Studi	Gy/fx	Risultati
Encefalo	Borgelt G , 1980	30 Gy/10 vs 30 Gy/15 vs 40Gy/1 vs 40/ 20	SVV mediana
	Borgelt G , 1980	20/5	SVV mediana
Testa collo	Weissberg JB,1983	40-48 Gy/10-15 vs 60-70 Gy/30-35	controllo locale, tox acuta e tardiva
	Mohanti BK, 2004 (AIIMS study)	20 Gy/5 Pz 50% PR→ 70Gy	SVV mediana: 6 mesi SVV mediana: 3 mesi
	Corry J, 2005 (Quad Shot)	14 Gy/4; 3.5 BID x 2 days	SVV mediana: 5.7 mesi
Polmone	Stevens MJ, 1995	17 Gy/2	SVV mediana: 8.2 mesi
	Vyas RK, 1998 Donato V, 1999 Bhatt ML, 2000 Lupattelli M, 2000 Cross CK, 2004	17 Gy/2 20 Gy/5 20 Gy/5 16 Gy/2 17 Gy/2	SVV: 33% 1 anno SVV mediana: 6.8 mesi SVV mediana: 4.9 mesi SVV mediana: 4.3 mesi
Pelvi	Spanos WJ, 1987 Spanos WJ, 1993	10.0 Gy x 3 courses = 30.0 Gy / 3 44.4 Gy / 12; 14.8 Gy x 3 courses; 3.7 Gy BID x 2 days	grade 3-4 GI tox a 12 mesi: 49% grade 3-4 GI tox a 18 mesi: 6.9%
	Wong R, 1996 McLaren DB, 1997 Srinivasan V, 1994 Duchesne GM, 2000	30 Gy/6; 2 vv/settimana 30-36 Gy/ 6 45 Gy / 12 vs 17 Gy / 2 35 Gy/ 10 vs 21 Gy/ 3	controllo locale 72% SVV mediana: 9mesi SVV mediana: 15 vs 10 mesi* SVV ed efficacia
Osso	Wu JSY, 2003 (metanalisi 4000 trailas)	8-10 Gy/1 vs 20 Gy/5 vs 30 Gy/10	remissione della sintomatologia dolorosa
	Wu JSY, 2004	8-10 Gy/1 vs 20 Gy/5	trattamento più lungo auspicabile in lesioni complicate



Pelvi (e non solo) - Sanguinamento

La radioterapia palliativa a scopo anti emorragico

Revisioni di studi prospettici & retrosprttivi hanno messo in evidenza l'efficaccia di : Dose singola o schemi di Ipofrazionamento

(RTOG: 1000 cGy mensile x 1-3; RTOG: 370 cGy BID x 2 giorni ogni 3 settimane x 2-3; 800 cGy settimanale x 3)

Miglioralmento in ~ 80-90%

Cervix/vagina/vulvar/endometrial cancers

Bladder/prostate/urethral cancers/ Colorectal cancer

Onsrud 2001; Pereira 2004; Tinger 2001



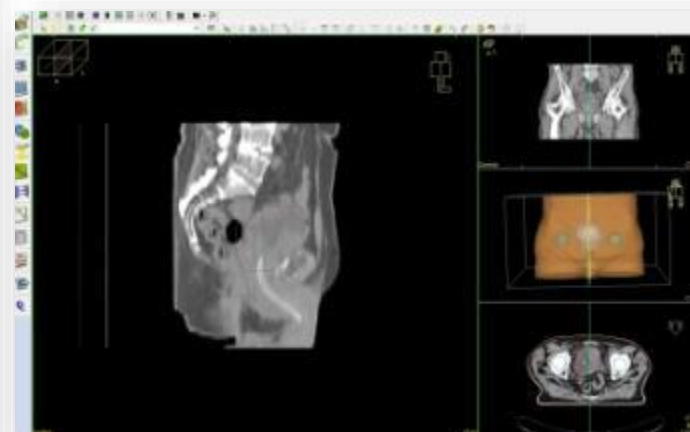
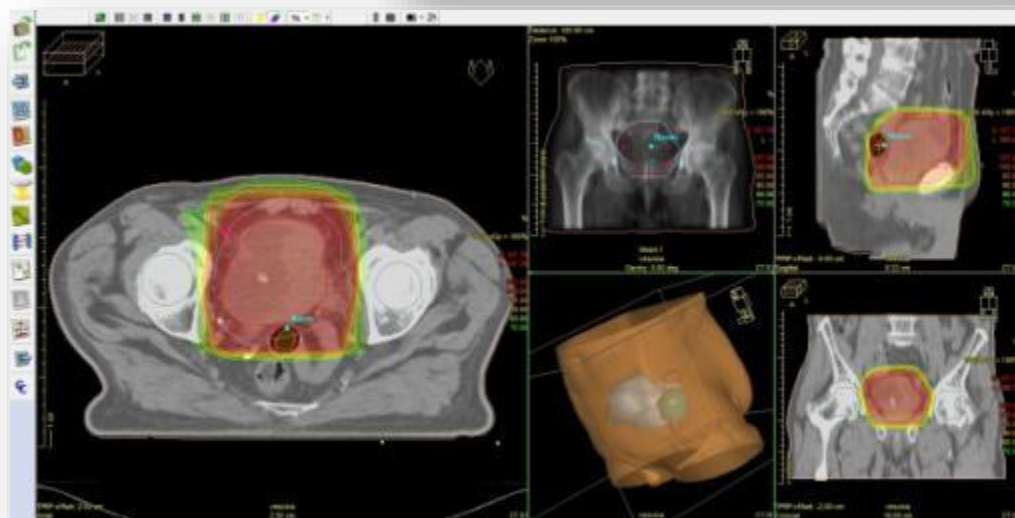
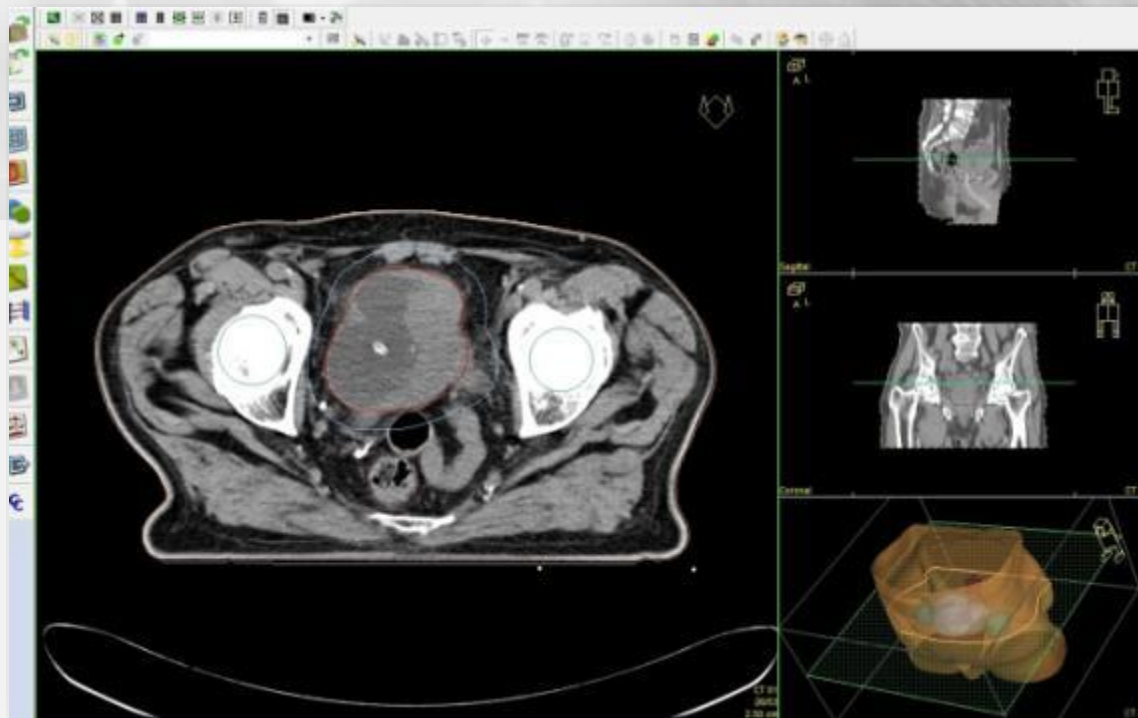
Pelvi - Sanguinamento

La radioterapia palliativa a scopo anti emorragico

Neoplasia Vescica

- 16 Gy in 4 frazioni in 4 giorni ogni 3 settimane x 2-3
- 18 Gy in 3 frazioni in 1 settimana, a giorni alterni
- 36 Gy in 6 frazioni in 6 settimane, 1 frazione alla settimana.





Lung Cancer

Reference :

Palliative thoracic radiotherapy in lung cancer: An American Society for Radiation Oncology evidence-based clinical practice guideline

George Rodrigues MD, MSc^{a,*}, Gregory M.M. Videtic MD, CM, FRCPC^b,
Ranjan Sur MD, PhD^c, Andrea Bezjak MD, FRCPC^d, Jeffrey Bradley MD^e,
Carol A. Hahn MD^f, Corey Langer MD^g, Keith L. Miller MD^h,
Benjamin J. Moeller MD, PhDⁱ, Kenneth Rosenzweig MD^j, Benjamin Movsas MD^k

Practical Radiation Oncology (2011) 1, 60–71



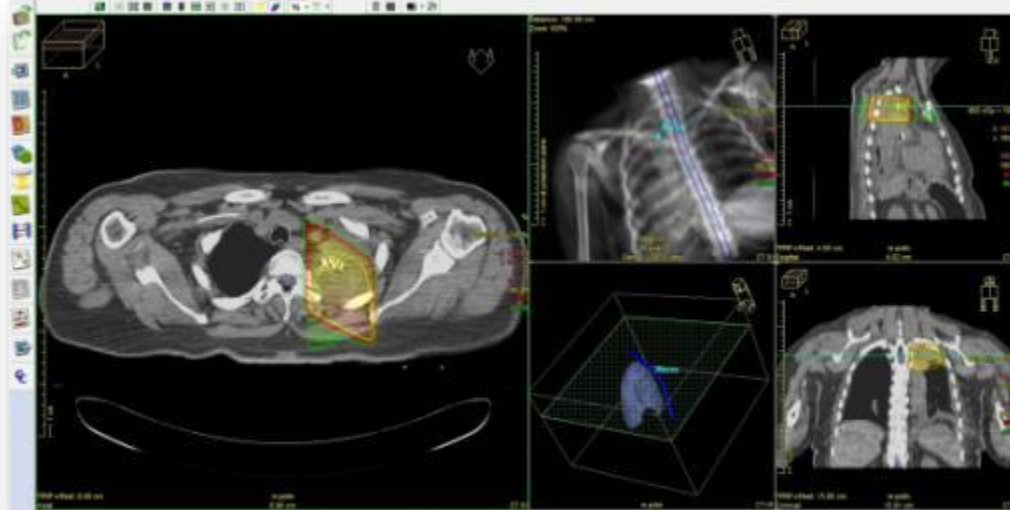
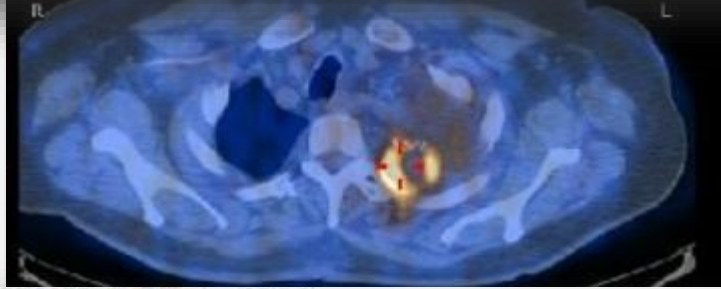
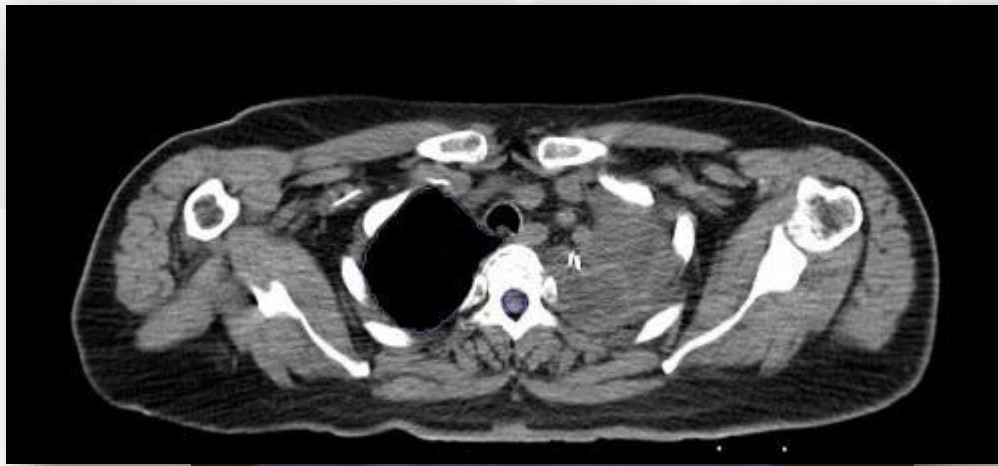
Lung Cancer

Second to bone metastases in available published data for hypofractionated radiotherapy:

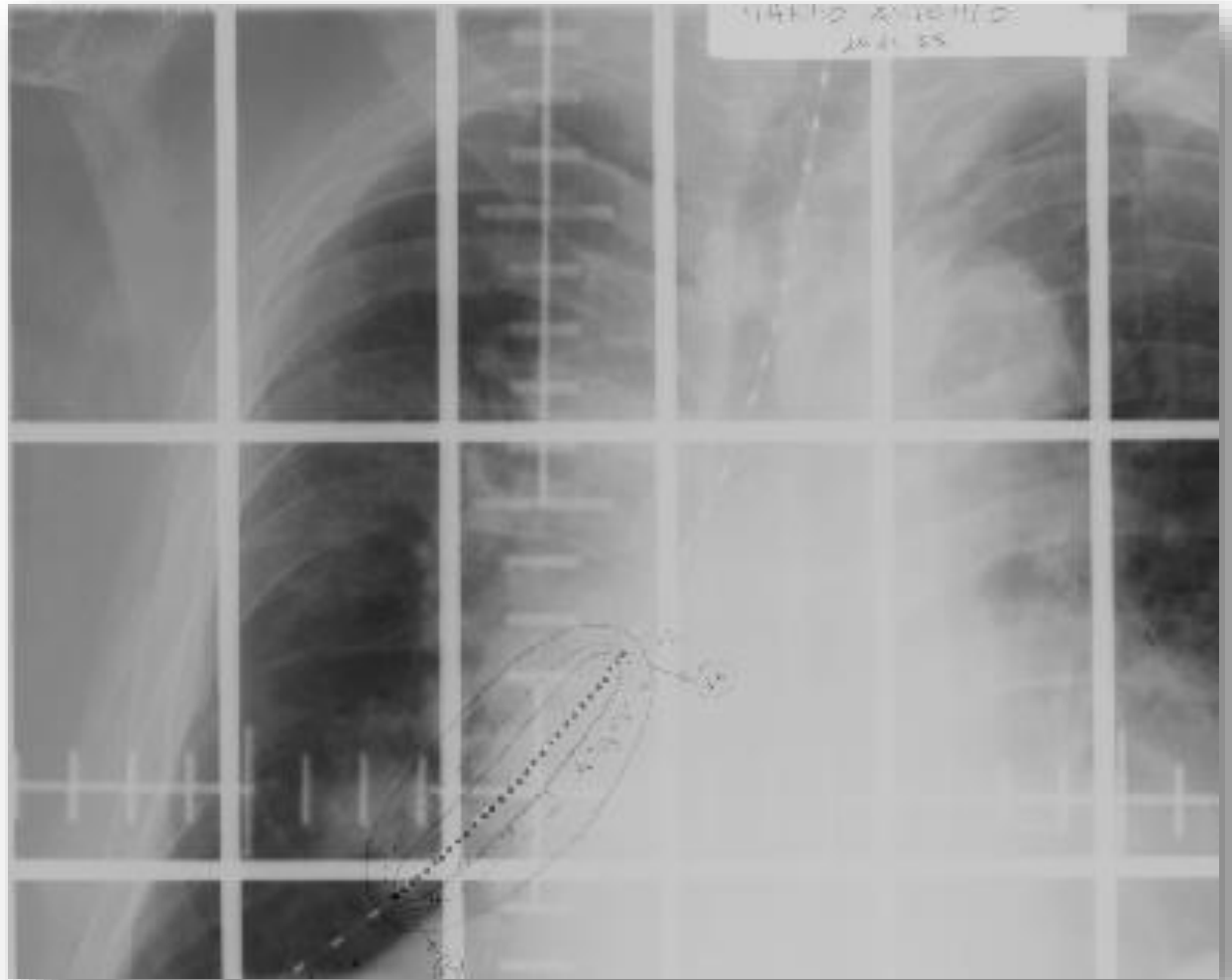
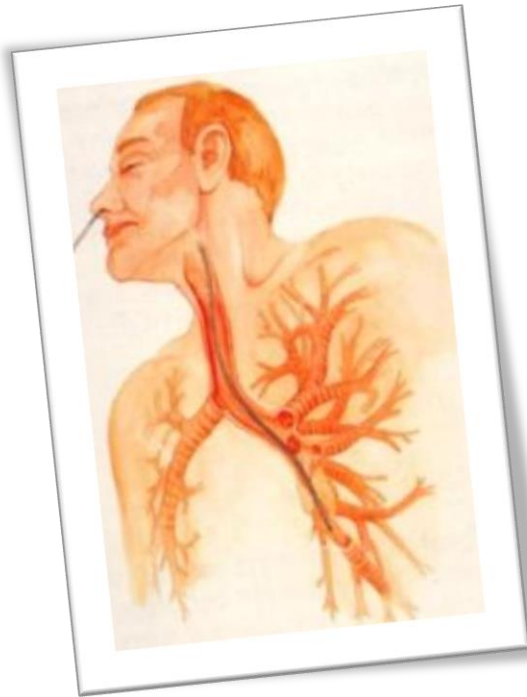
- Short courses [800 cGy x 1; 800 cGy x2) and long courses of radiotherapy are comparable in relieving symptoms from advanced lung cancer (dyspnea, pain, hemoptysis, cough, SVC syndrome)
- Total symptom score improved more with long courses (65.4% v. 77.1% at 1yr), and with a slight survival advantage (26.5% v. 21.7%)

Fairchild 2008; Lester 2006; Salvo 2009





BRACHITHERAPY

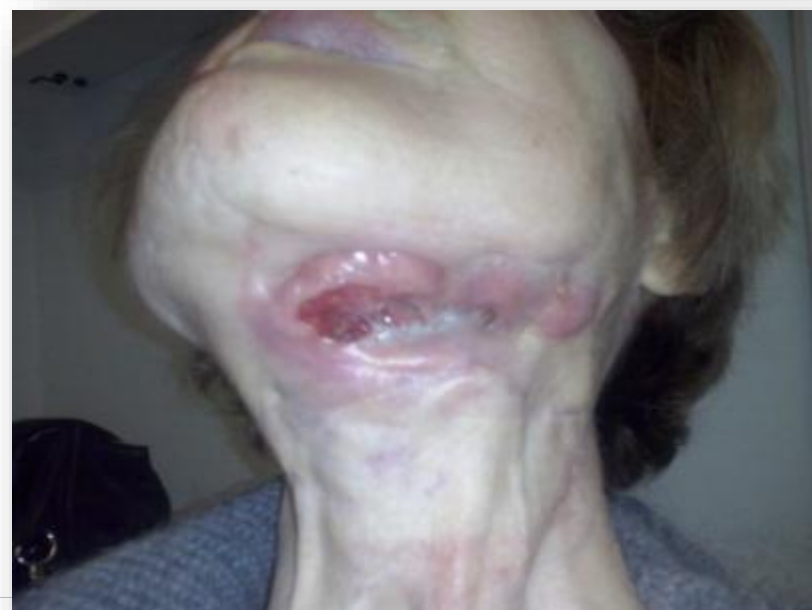
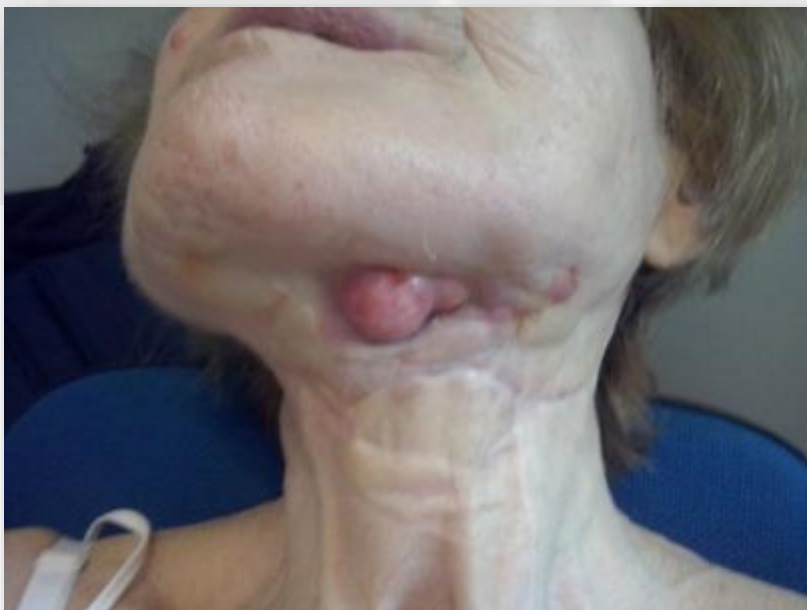


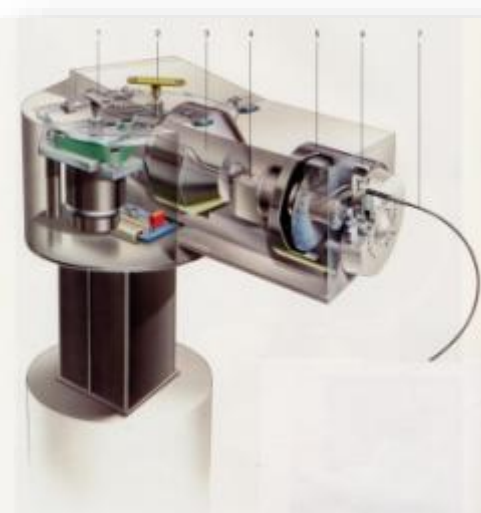
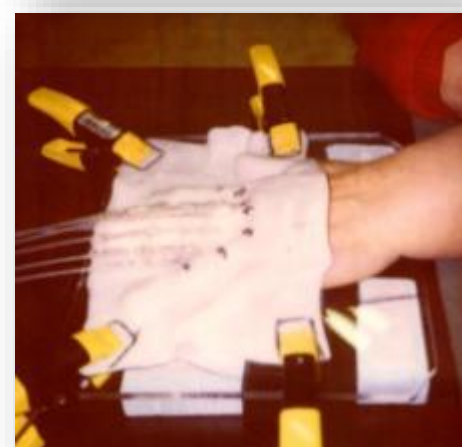
Head & Neck Cancers

- ❑ Prospective and retrospective studies suggest hypofractionated radiotherapy is effective in improving pain, bleeding, airway obstruction,
- ❑ Wound progression, hoarseness, otalgia, dysphagia/odynophagia
 - RTOG regimen: 370 cGy BID x 2 days, repeated q3 weeks up to 3 cycles
 - 'Christie scheme': 312 cGy x 12
 - AIIMS regimen: 400 cGy x 5

Agarwal 2008; Al-mamgani 2009; Chen 2008; Mohanti 2004







Brain Metastases

Frequency of brain metastases by primary tumor type

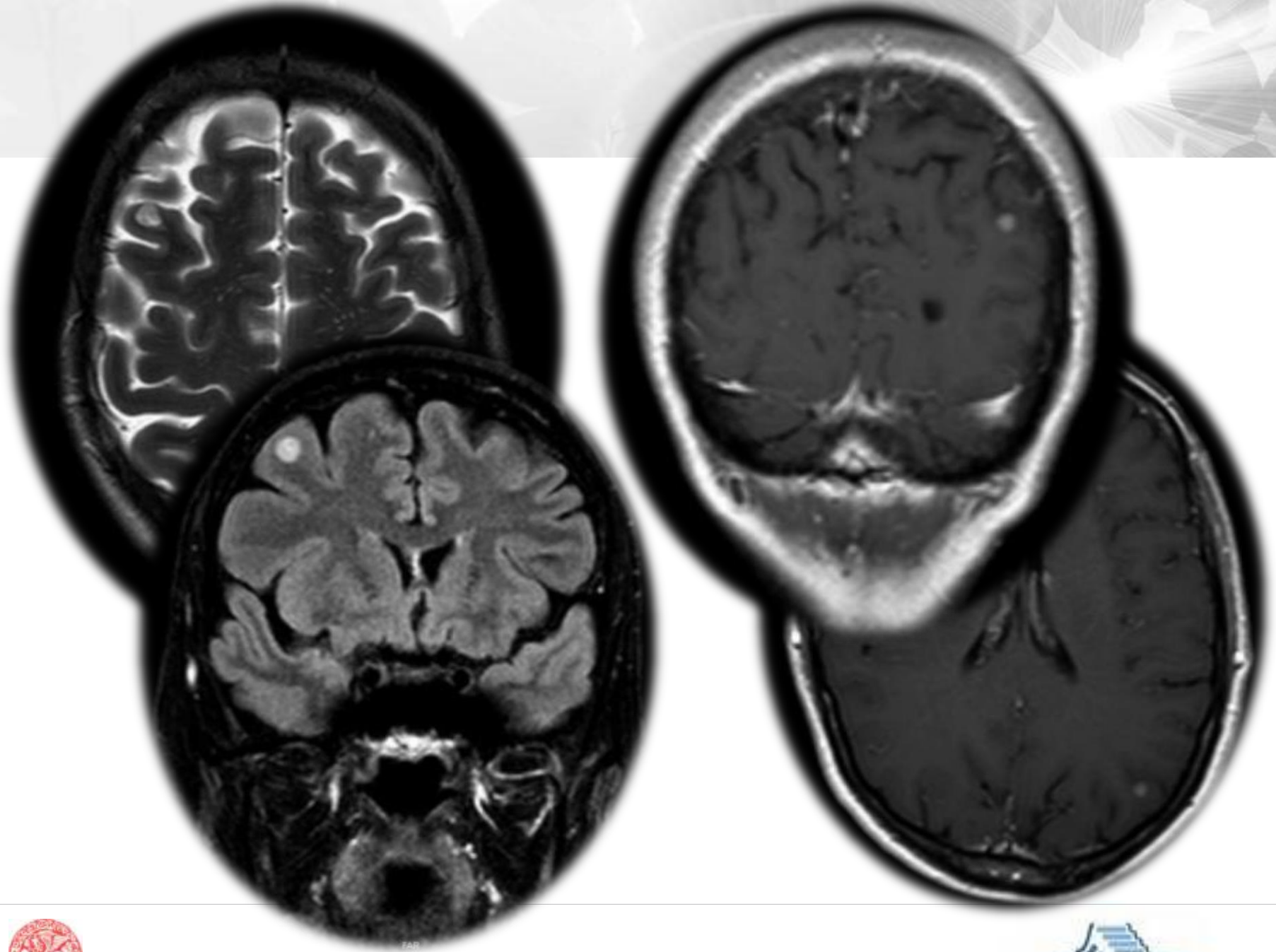
➤ LUNG	50%
➤ BREAST	15-20%
➤ MELANOMA	15-20%
➤ UNKNOWN PRIMARY	10-15%
➤ KIDNEY	5-10%
➤ COLON	5%
➤ THYROID	5%

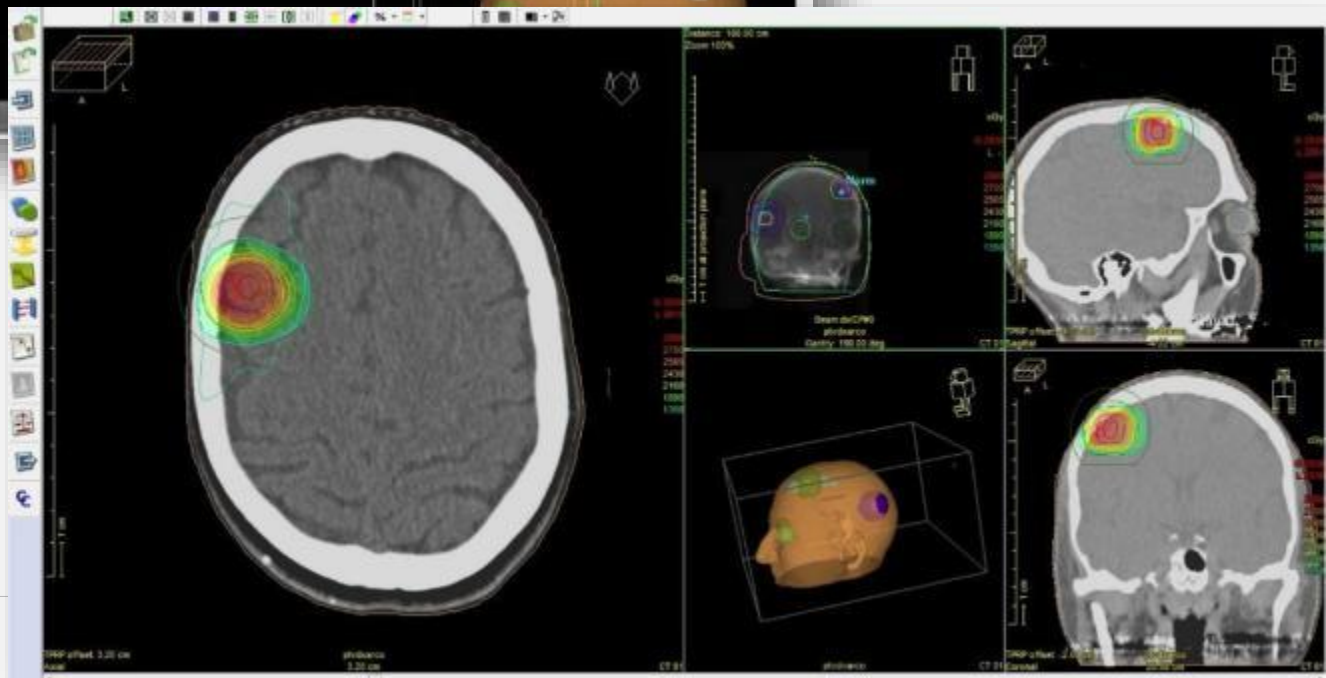
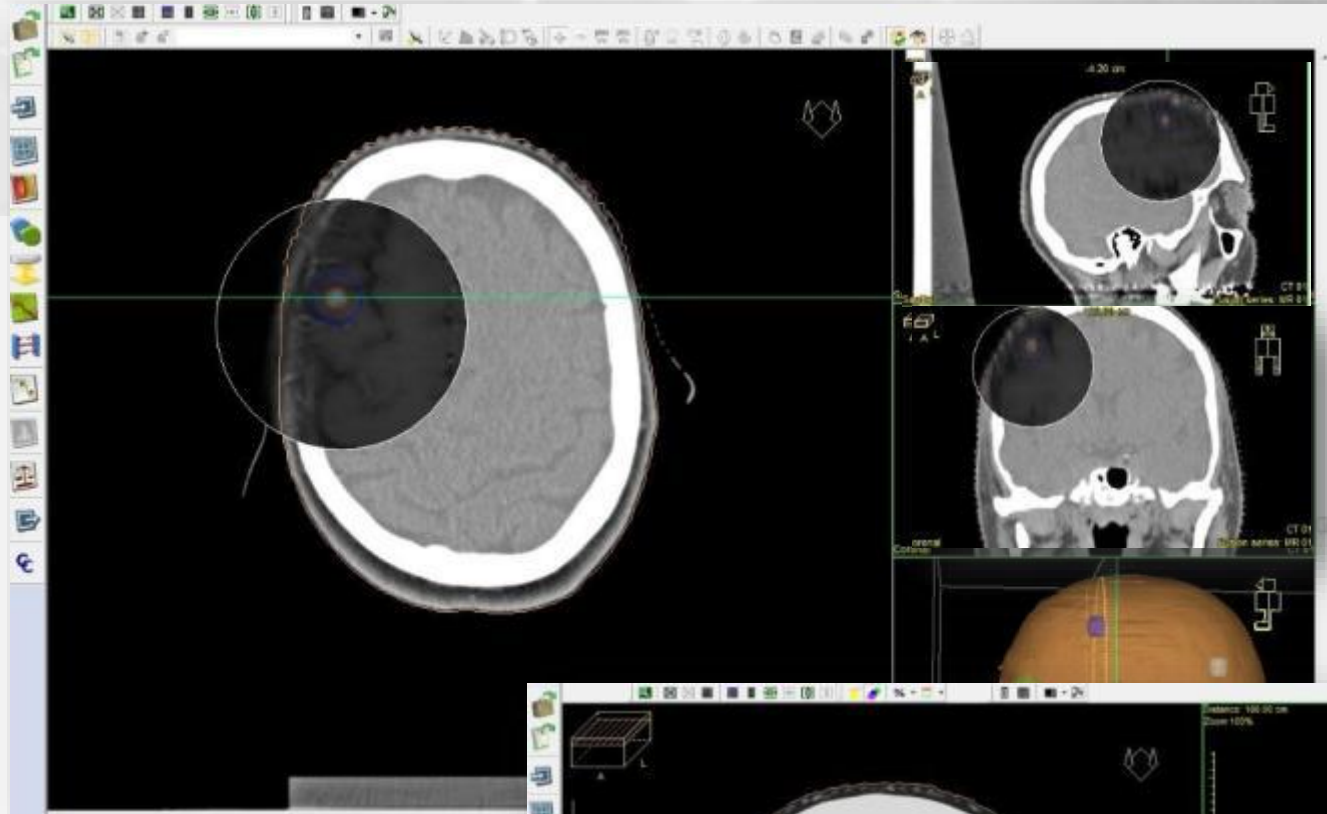


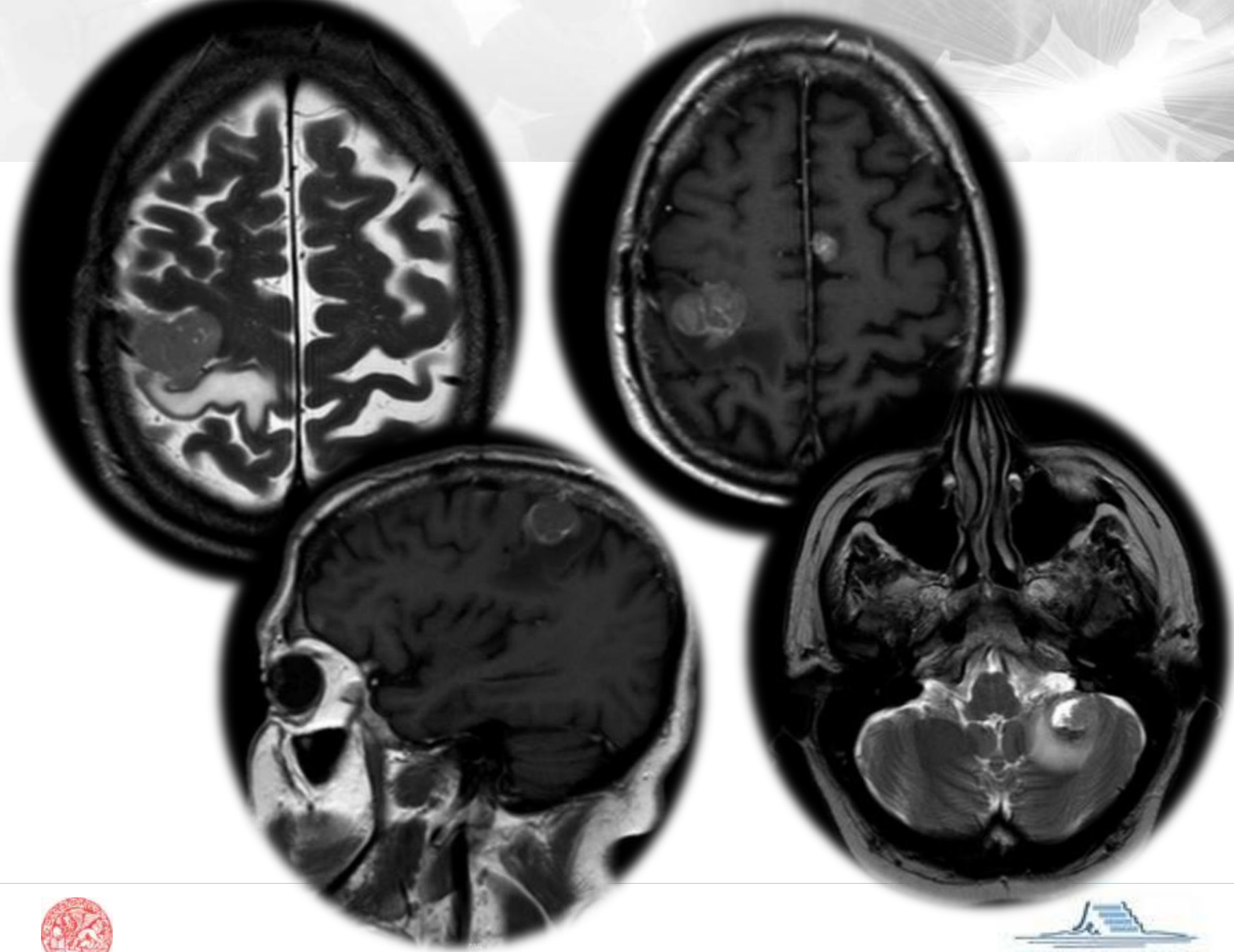
Brain Metastases

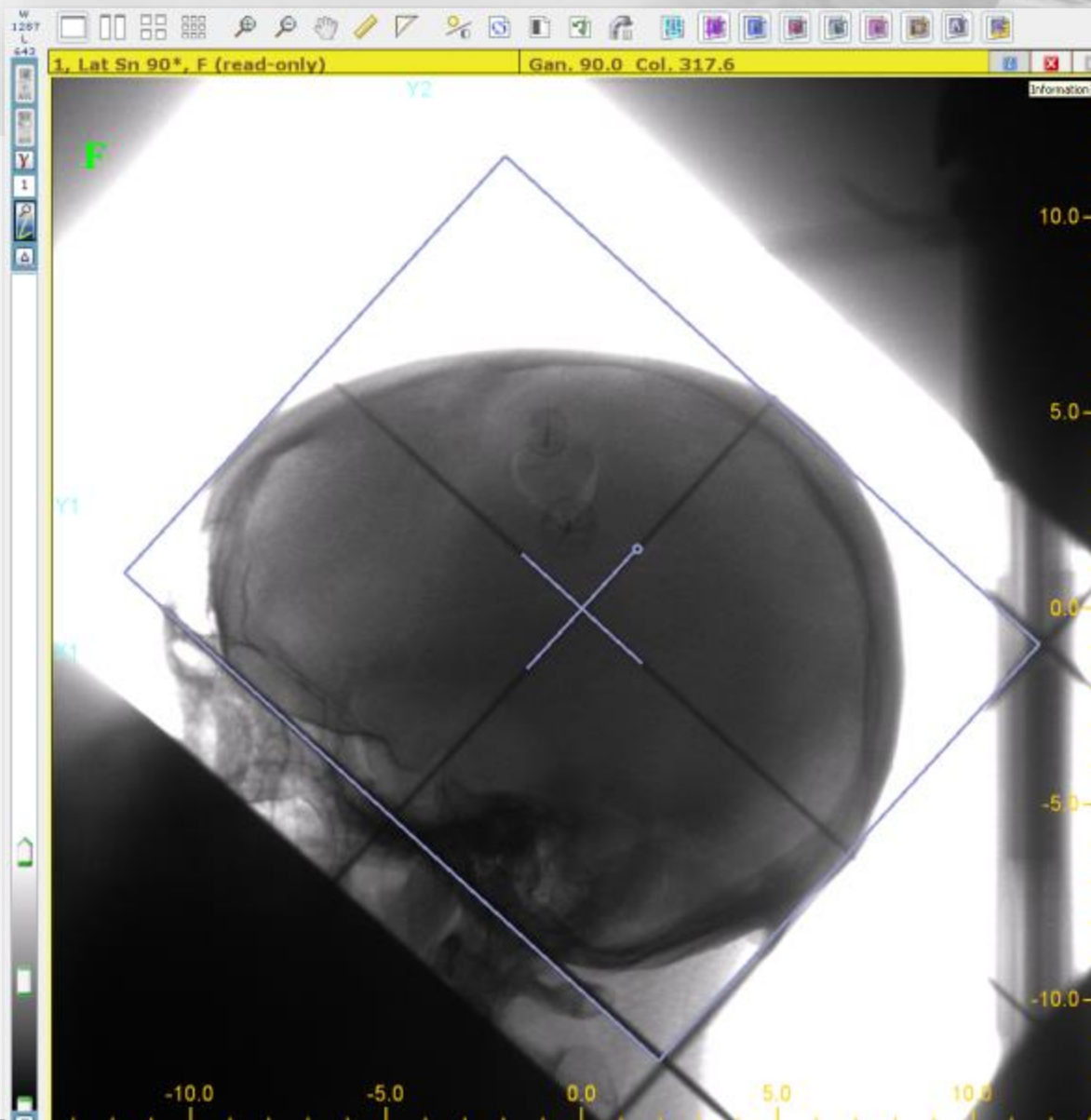
- ❑ Radiotherapy prolongs survival
 - Steroids: 1-2 months median OS
 - XRT: 4-6 months median OS (RTOG)
- ❑ Prevents death from neurologic progression
- ❑ Reduces/resolves neurologic symptoms
 - 200 cGy x 20
 - 300 cGy x 10 (most common, 'standard')
 - 400 cGy x 5
 - 850 cGy x 2











Bone Metastases

- ❑ 65-75% of advanced breast/prostate CA
- ❑ 30-40% of advanced lung cancer
- ❑ Skeletal-related events: pain, fracture, compression, hypercalcemia
- ❑ SRE's impact on QOL
 - Mobility and functional wellbeing
 - Decrease ADL's
 - Increase depression/anxiety
 - Increase opioid needs

Costa L et al. Support Care Cancer 2008;16:879-889



Bone Metastases

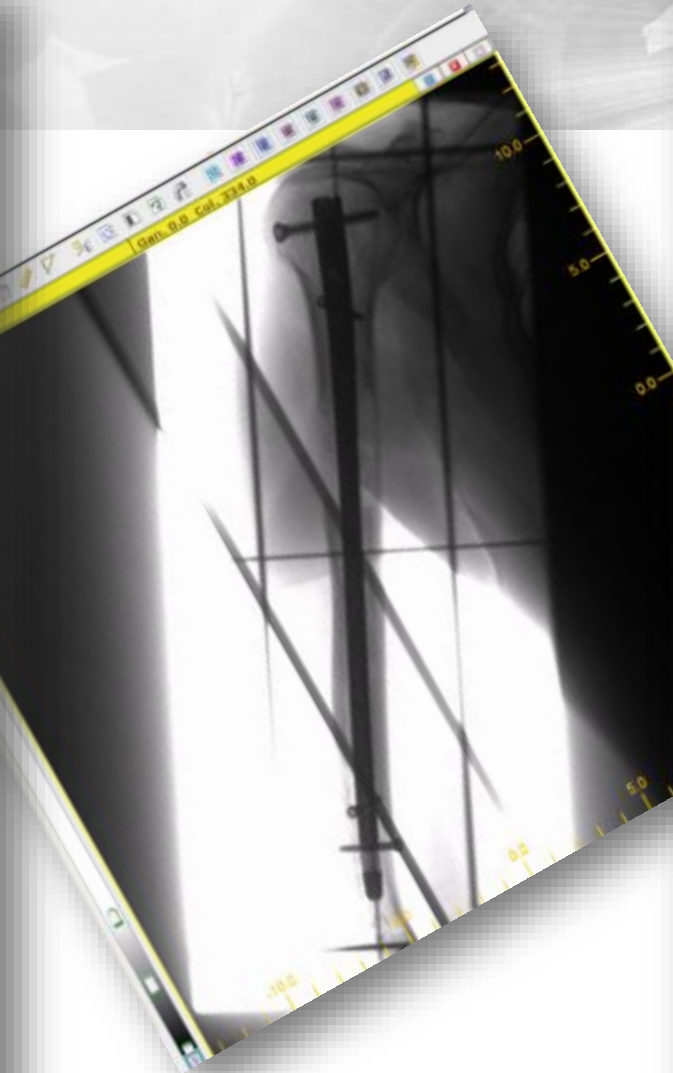
"Per i pazienti con metastasi ossee dolenti è indicato un trattamento radiante in seduta unica di 8 Gy"

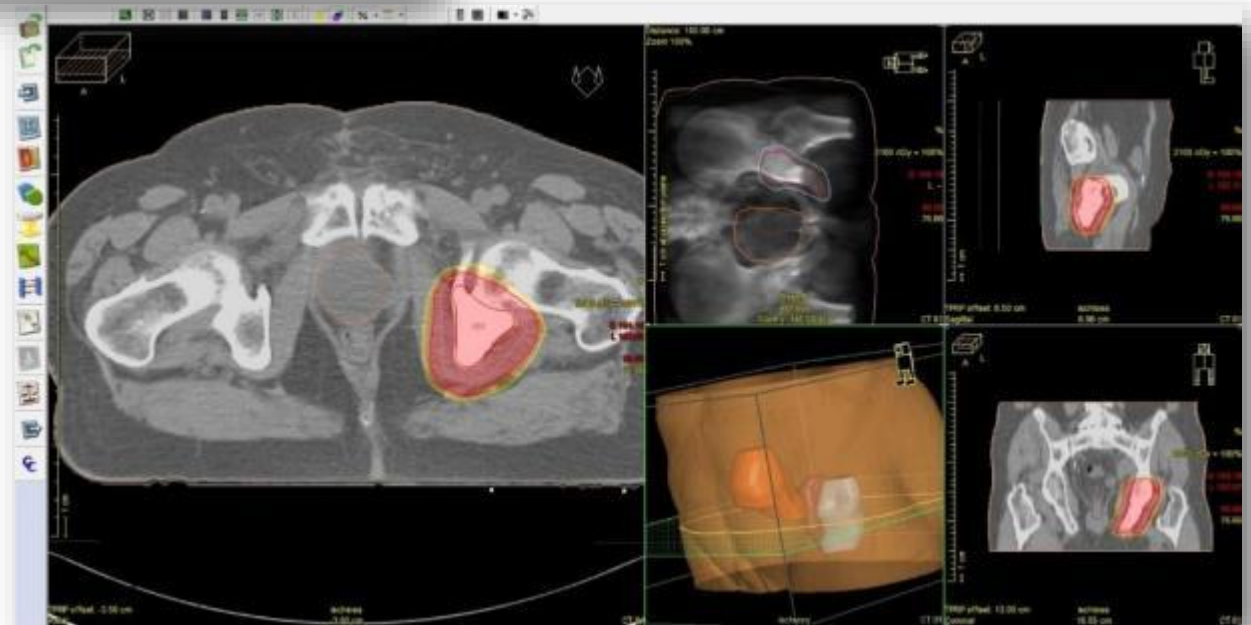
Altri schemi validi

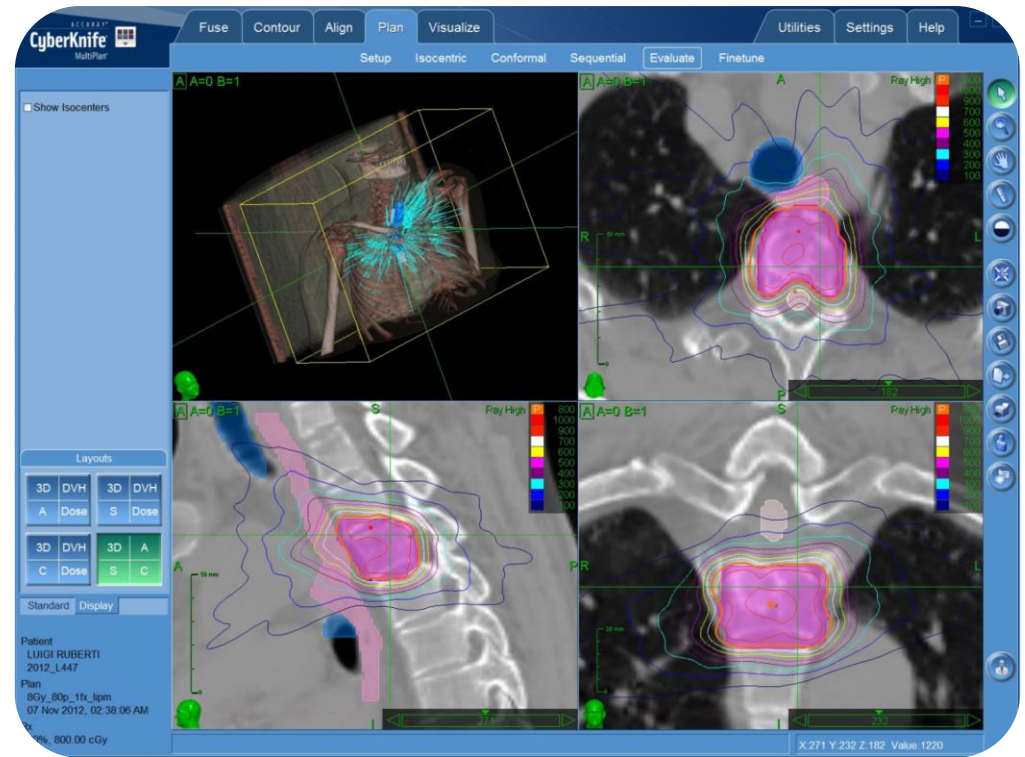
6 Gy x 3 frazioni

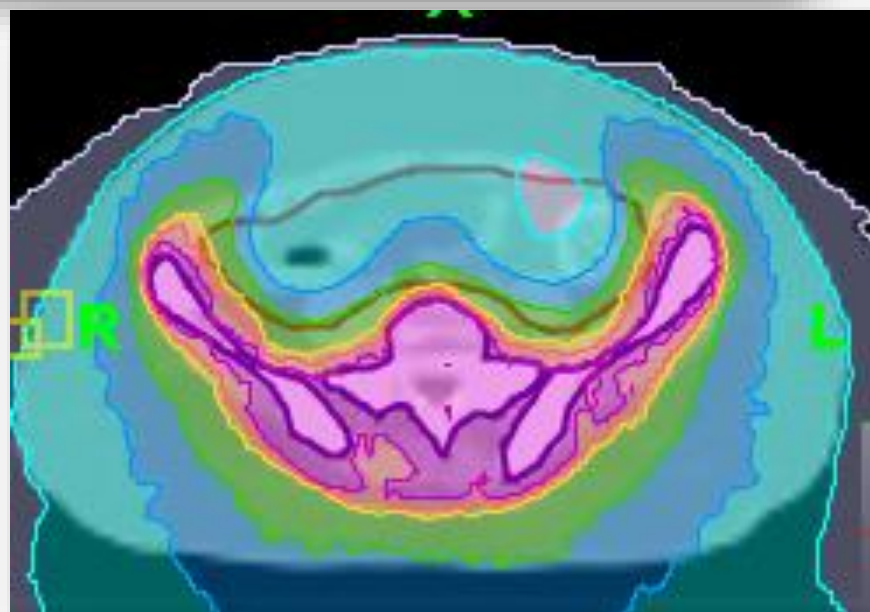
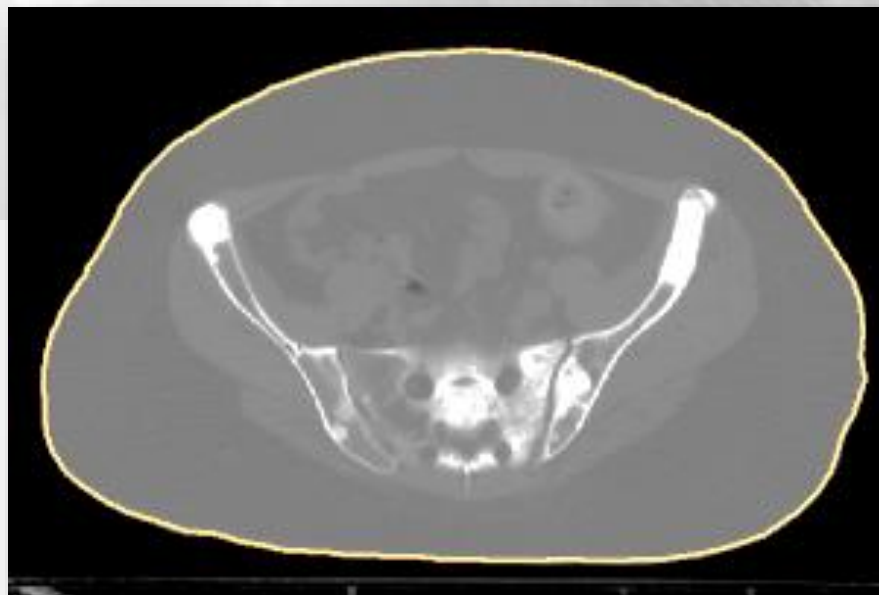
4 Gy x 5 frazioni











Kypho-IORT - a novel approach of intraoperative radiotherapy during kyphoplasty for vertebral metastases

Frederik Wenz,^{✉1} Frank Schneider,¹ Christian Neumaier,¹ Uta Kraus-Tiefenbacher,¹ Tina Reis,¹ René Schmidt,² and Udo Obertacke²

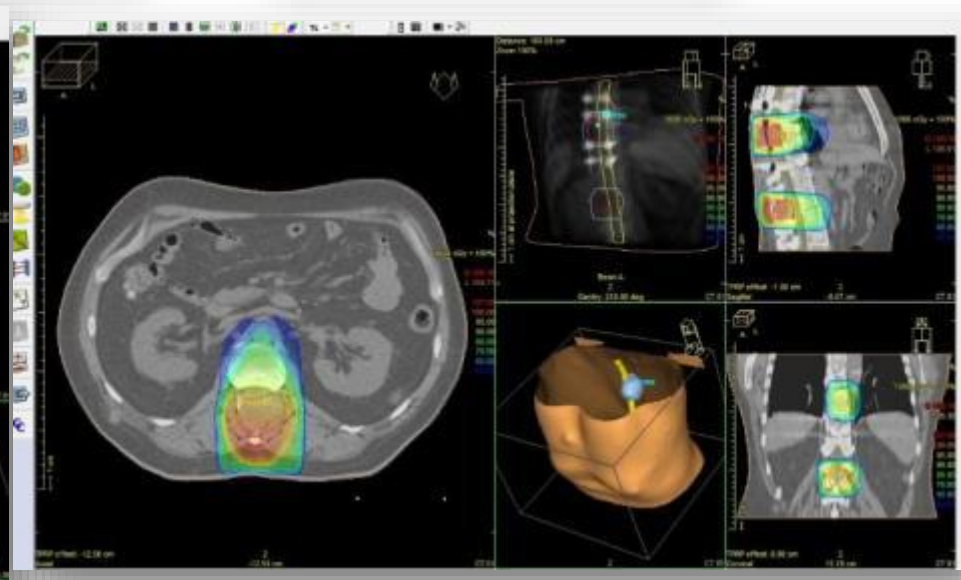
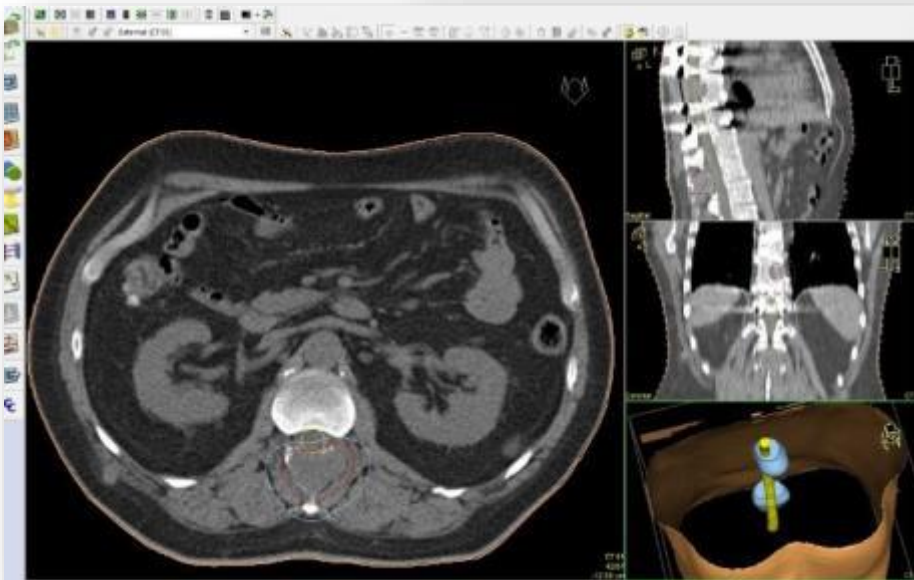
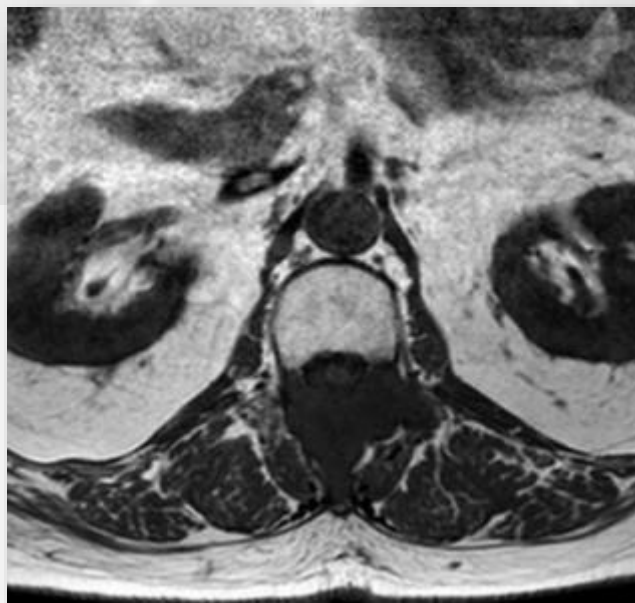


Spinal Cord Compression

- ❑ Previous concern with large doses per fraction in this setting ('double injury' of radiation and physical injury to cord)
- ❑ Cochrane Review
 - Ambulatory patient, stable spine: palliative radiotherapy (short course suffices in patients with predicted survival <6 months)
 - Non-ambulatory patient, paraplegia <48 hrs, survival > 3 mos, 1 area of spine involved: consider surgery
 - All others: palliative radiotherapy

George R et al. Cochrane Database Syst Rev 2008;4:CD006716







Radioterapia Metabolica

- **131I-iodine** for hyperthyroidism and thyroid cancer or Mets.
- **Yttrium-90-ibritumomab tiuxetan (Zevalin)** for Lymphoma.
- **Samarium-153 or Strontium-89** for palliative bone pain treatment.
- **TheraSphere** for liver cancer.



Radioterapia Metabolica

palliative bone pain treatment 2. Quadramet

- Quadramet is a radiopharmaceutical (drug + a Samarium-153 radioisotope).
- Used for patients with pain from cancer that has spread to their bones.
- Quadramet finds areas of **increased bone growth** and gives off radiation that reduces pain.



Percentuale di pazienti che presentano miglioramento nella sintomatologia dopo una radioterapia palliativa

Sintomo

Percentuale di pazienti con sintomatologia migliorata

Metastasi ossee dolorose	80
Metastasi dolorose dei tessuti molli	75
Emottisi	75
Ostruzione della vena cava superiore	75
Compressione del midollo spinale	70
Metastasi cerebrali	60
Dispnea	60
Disfagia	50



To Conclude

"The true challenge

..... is to develop the wisdom to know
when to select which [treatment modality] in the
clinic"

..... and when to select "not to treat"



To Conclude

Psychological
Aspects

Social Aspects

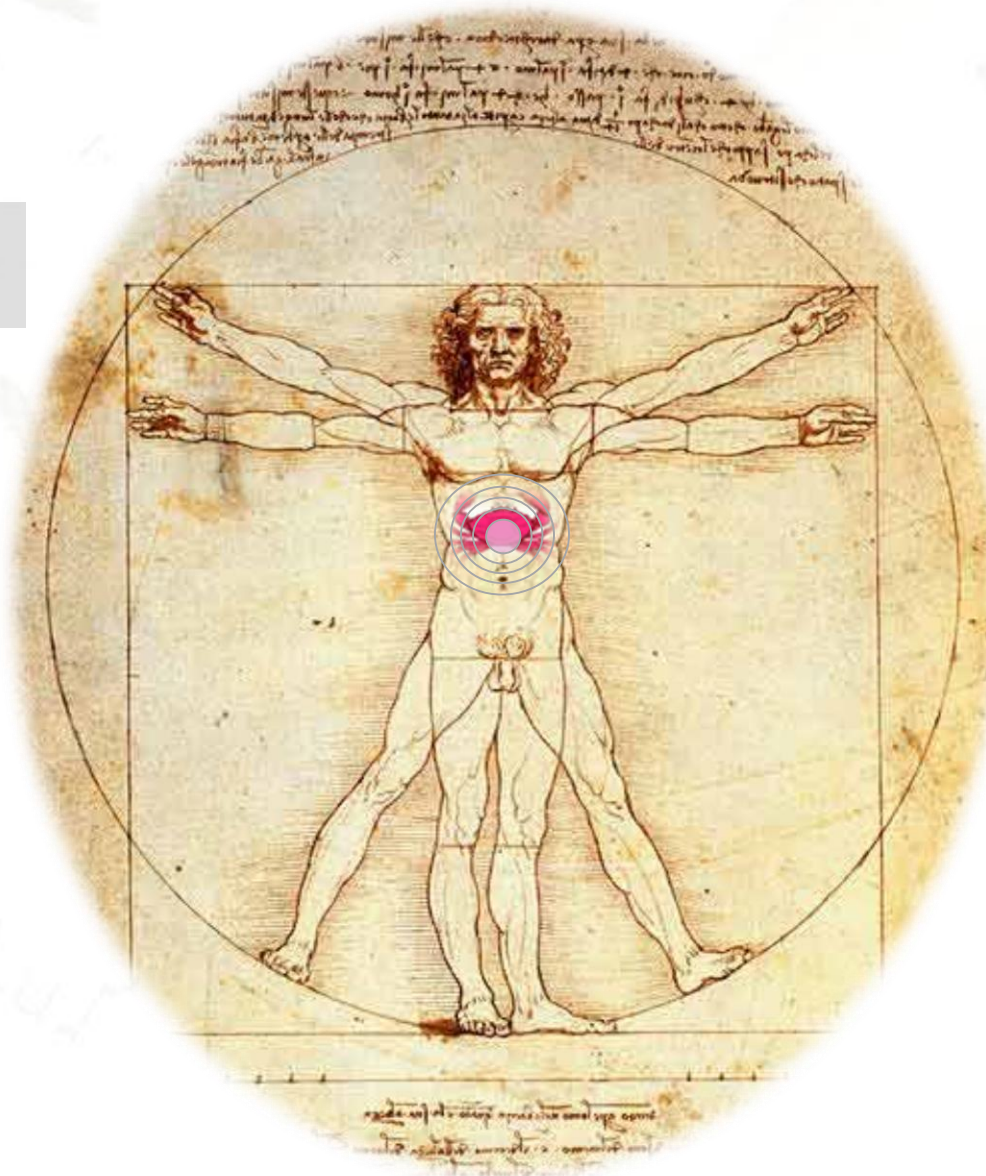
Family

Symptoms

PS

Tumor

Concom. Disease



Grazie per l'attenzione



Grazie per l'attenzione

