CANCER EDUCATION DAY

Palliative Radiation for Lung Cancer Symptom Control

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WINDSOR REGIONAL HOSPITAL

OUTSTANDING CARE – NO EXCEPTIONS!

Conflict of Interest Disclosure

- I have not had in the past 3 years, a financial interest, arrangement or affiliation with one or more organizations that could be perceived as a direct or indirect conflict of interest in the content of this presentation.

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ASTRO 2018 Recommendations

For incurable stage III NSCLC deemed unsuitable for curative therapy, administration of a platinum-containing chemotherapy doublet concurrently with moderately hypofractionated palliative thoracic RT is recommended over treatment with either modality alone, but only if the patients:

(1) are candidates for chemotherapy,

(2) have an ECOG PS of 0-2, and

(3) have a life expectancy of at least 3 months.

For Stage IV NSCLC:

(1) In the palliative management of patients with stage IV NSCLC, routine use of concurrent thoracic chemoradiation is not recommended.

(2) This practice should remain primarily reserved for clinical trials or multi-institutional registries.

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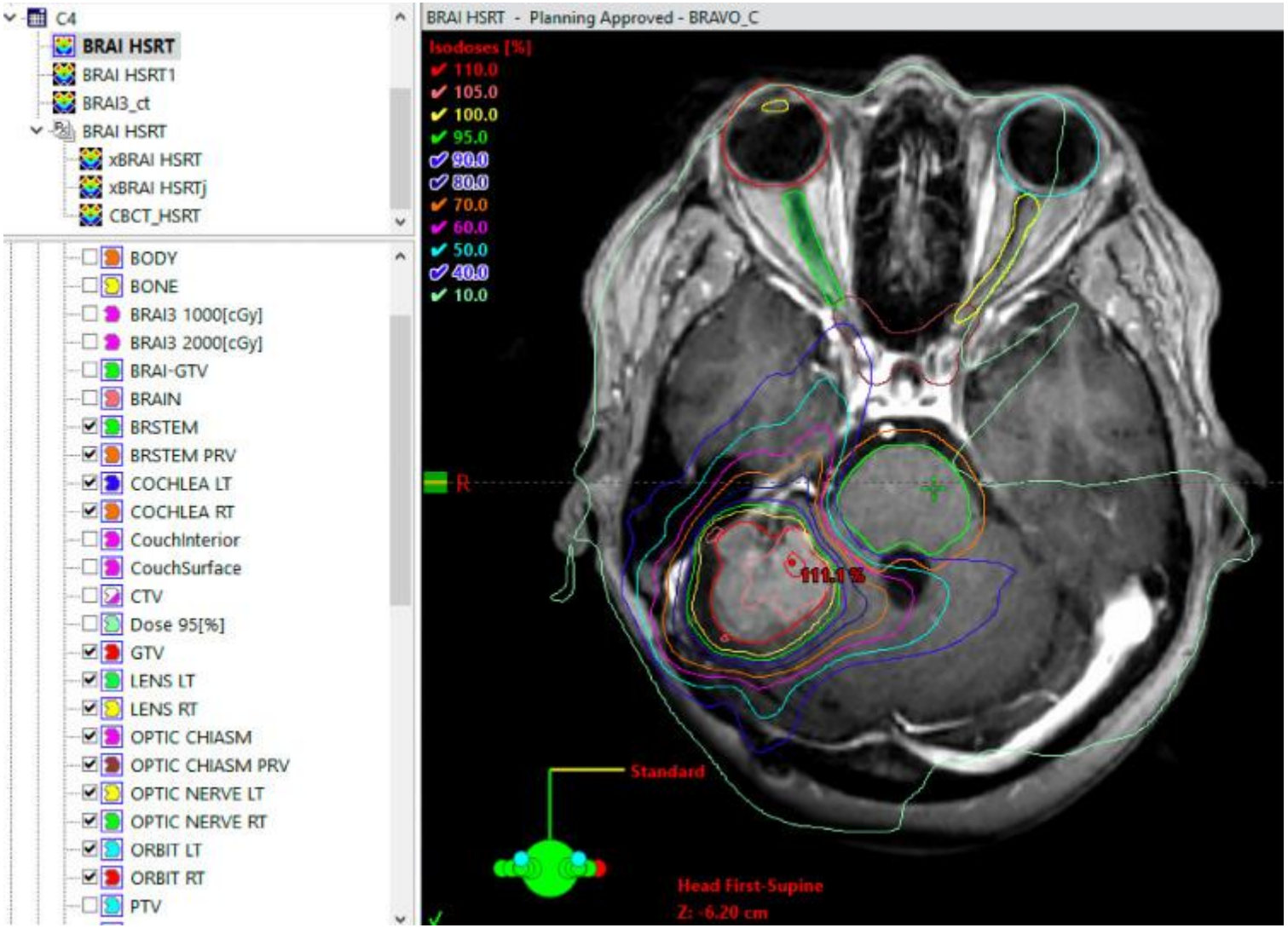
Case #1

- 43y, f, adenocarcinoma of RLL lung, stage T1N2M0, ALK(+).
- Concurrent 60Gy/30 chemoradiation in 2010.
- No local recurrence, but biopsy confirmed distant LN mets 9m later.
- CT: 3cm brain mets in right cerebellum
- 20Gy/5 WBI. No RT to other distant mets. Started systemic TKI.
- 4y after WBI, developed headaches and balance problem.
- MRI: 9 brain mets.
- Craniotomy to remove the largest 4-cm lesion in the right cerebellum followed by 21Gy/7 WBI.
- Her symptoms disappeared, and she went back to her normal life.
- MRI 3y after 2nd WBI: oligo progression of brain mets in right cerebellum.

Case #1


C4
BRAI HSRT
BRAI HSRT1
BRAI3_ct
BRAI HSRT
xBRAI HSRT
xBRAI HSRTj
CBCT_HSRT
BODY
BONE
BRAI3 1000[cGy]
BRAI3 2000[cGy]
BRAI-GTV
BRAIN
BRSTEM
BRSTEM PRV
COCHLEA LT
COCHLEA RT
CouchInterior
CouchSurface
CTV
Dose 95[%]
GTV
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LENS RT
OPTIC CHIASM
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OPTIC NERVE RT
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ORBIT RT
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BRAI HSRT - Planning Approved - BRAVO_C
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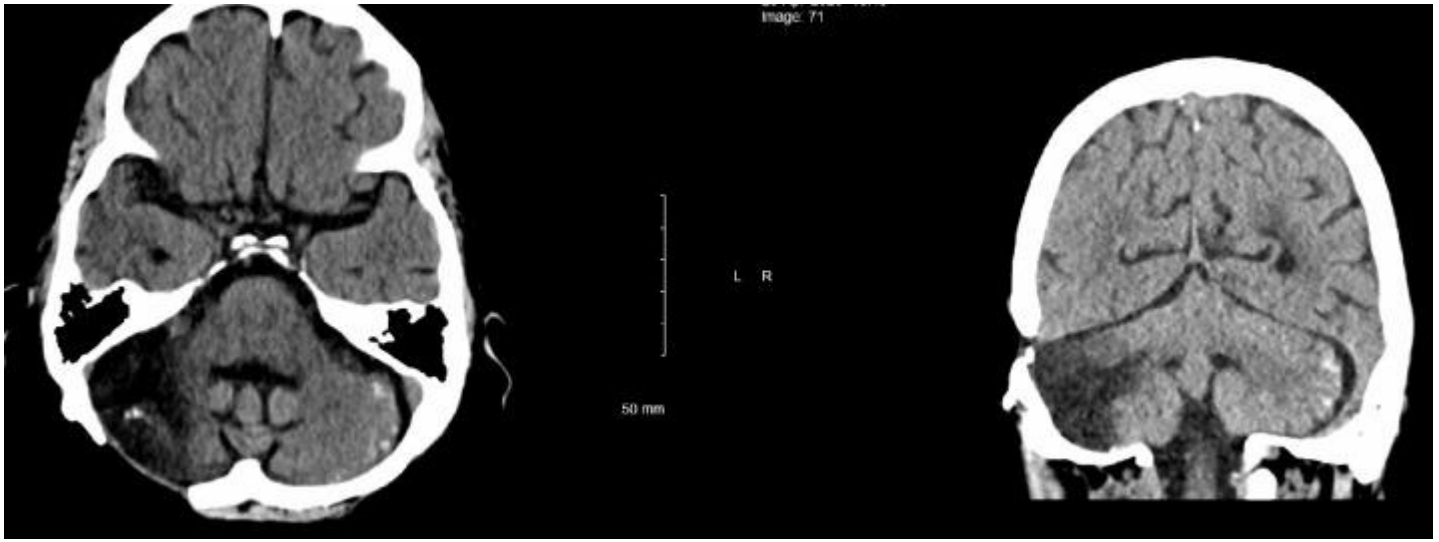
Standard
Head First-Supine
Z: -6.20 cm

Case #1



- HSRT 20Gy/5. Tolerated with no neurotoxicity.
- Able to walk without a walker or cane
- Could manage all her daily activities.
- CT scan 9 months after HSRT showed CR. No neurological deficit.

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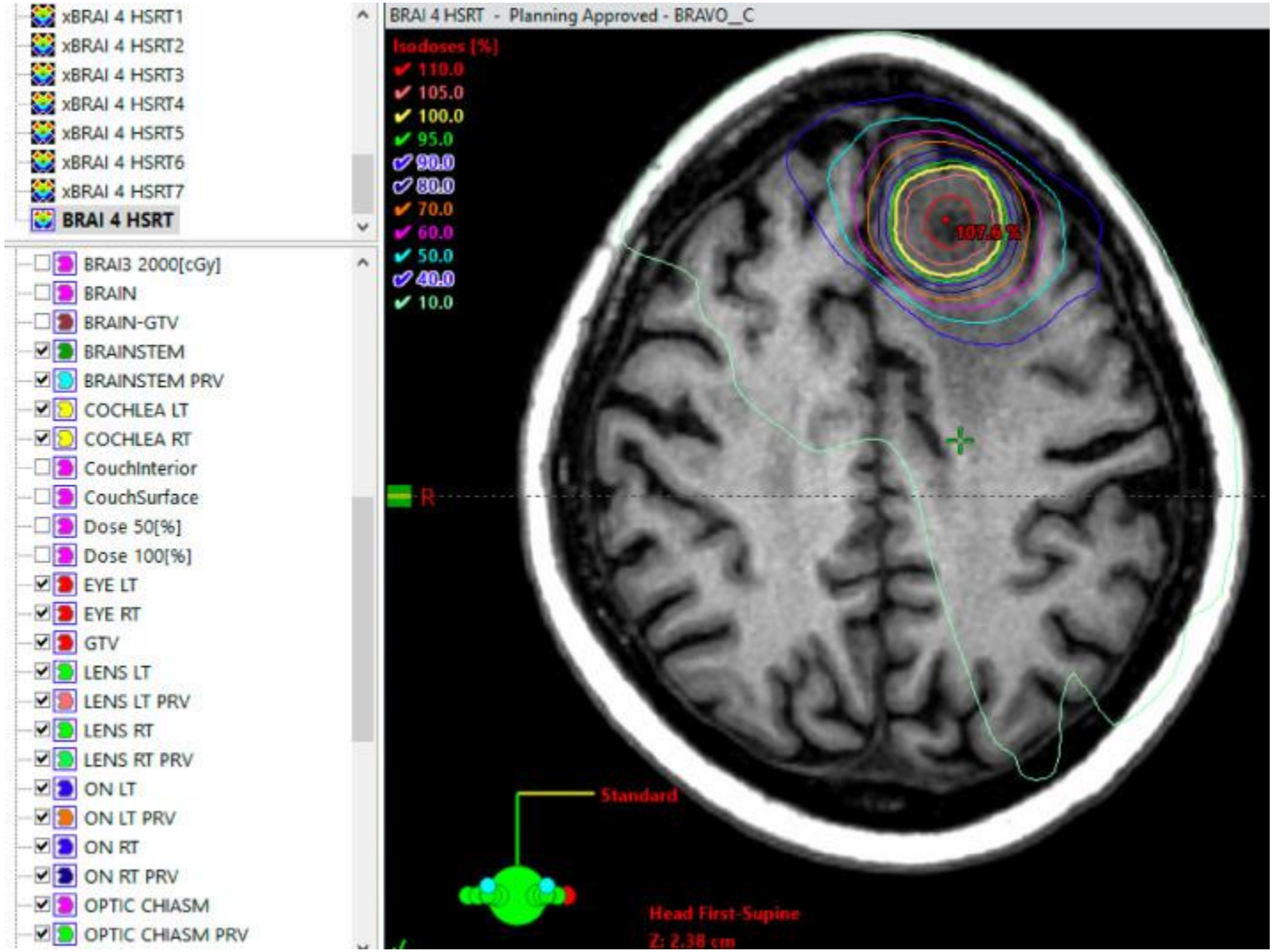
Case #1

- 10m after HSRT, fell, MRI: new 1.2-cm solitary brain mets in left frontal lobe.
- Refused craniotomy, consented to a 2nd course HSRT 20 Gy/5
- She was able to walk again and do all her housework
- 2 months later, had a 10-day deterioration noticed by her family, completely lost short memory, fell at home, and could no longer walk.
- MRI: left frontal brain lesion progressed to 2.5 cm in size 10 wks after the 2nd HSRT
- Magnetic resonance spectroscopy (MRS) favoring radionecrosis over progression of brain metastasis
- 2nd craniotomy, GTR, pathology confirmed radionecrosis with no viable tumor in the brain.

Case #1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xBRAI 4 HSRT2
xBRAI 4 HSRT3
xBRAI 4 HSRT4
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xBRAI 4 HSRT6
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BRAI 4 HSRT
BRAI3 2000[cGy]
BRAIN
BRAIN-GTV
BRAINSTEM
BRAINSTEM PRV
COCHLEA LT
COCHLEA RT
CouchInterior
CouchSurface
Dose 50[%]
Dose 100[%]
EYE LT
EYE RT
GTV
LENS LT
LENS LT PRV
LENS RT
LENS RT PRV
ON LT
ON LT PRV
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ON RT PRV
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BRAI 4 HSRT - Planning Approved - BRAVO_C
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90.0
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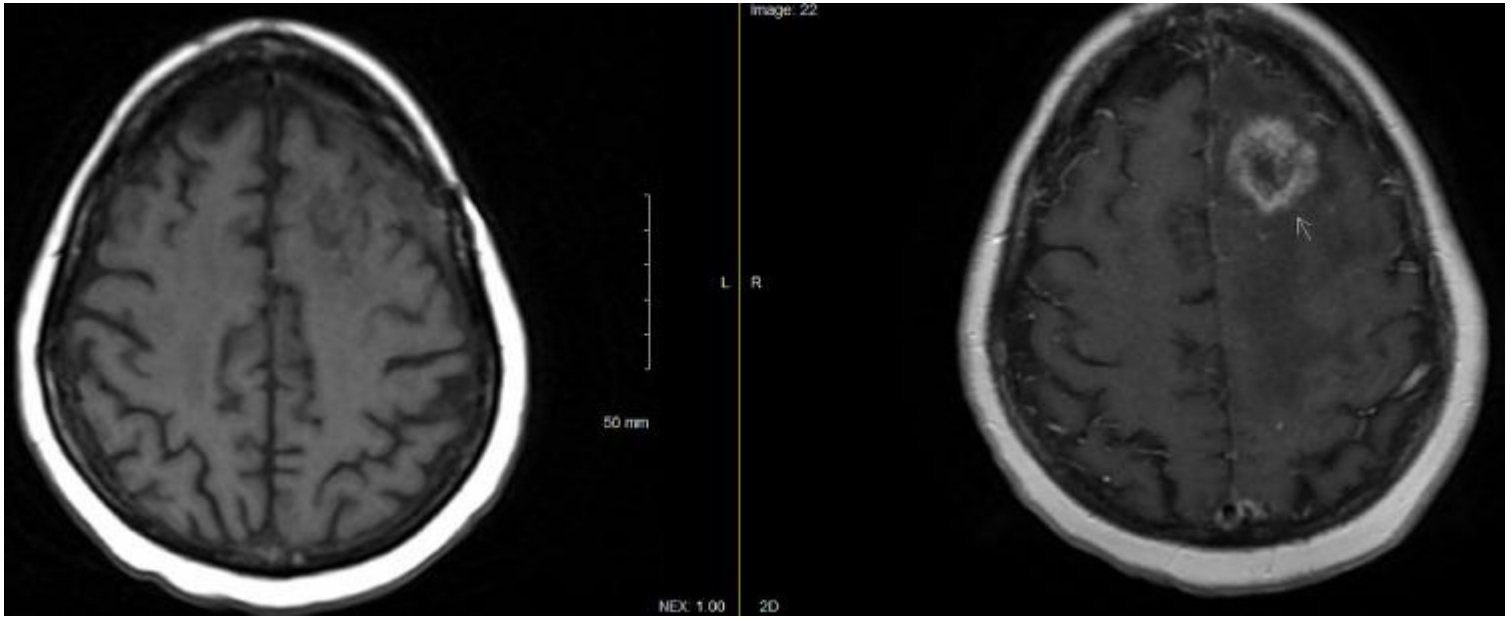
10.0
107.6 %
R
Standard
Head First-Supine
Z: 2.38 cm



- MRI 2 and 6 months postsurgery: no residual cancer or radionecrosis
- Remained on low-dose oral dexamethasone 2 mg once per day.
- Able to stand up without assistance. Walk without a walker.
- No longer needed Foley catheters or a commode beside her bed.
- No further falls. Short-term memory had partial recovery.
- 11 years after lung cancer diagnosis, she remained disease free.
- One year later, disease progression, went to hospice.

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Case #2

- 71-year-old female, ex-smoker, presented with cough, SOB, and confusion.
- Other comorbidities included COPD, emphysema, chronic renal failure, and history of ovarian cancer cured by surgery in 1982.
- Bronchoscopy biopsy confirmed SCLC.
- CT head showed large 5.2cm brain mets.
- Had craniotomy followed by WBI 20Gy/5.
- Chemo CE x 4 cycles, last dose Jan 2012.

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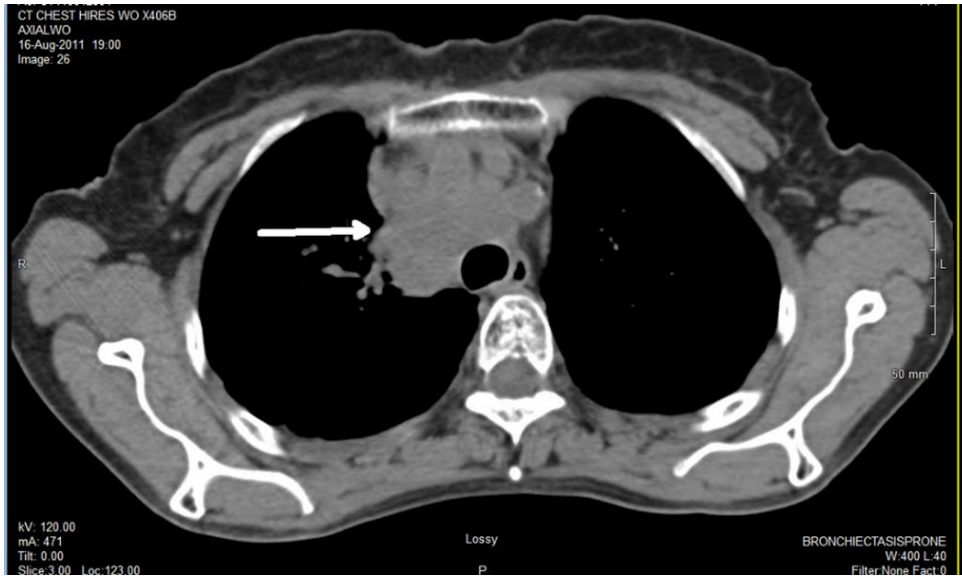
Case #2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kV: 120.00
mA: 471
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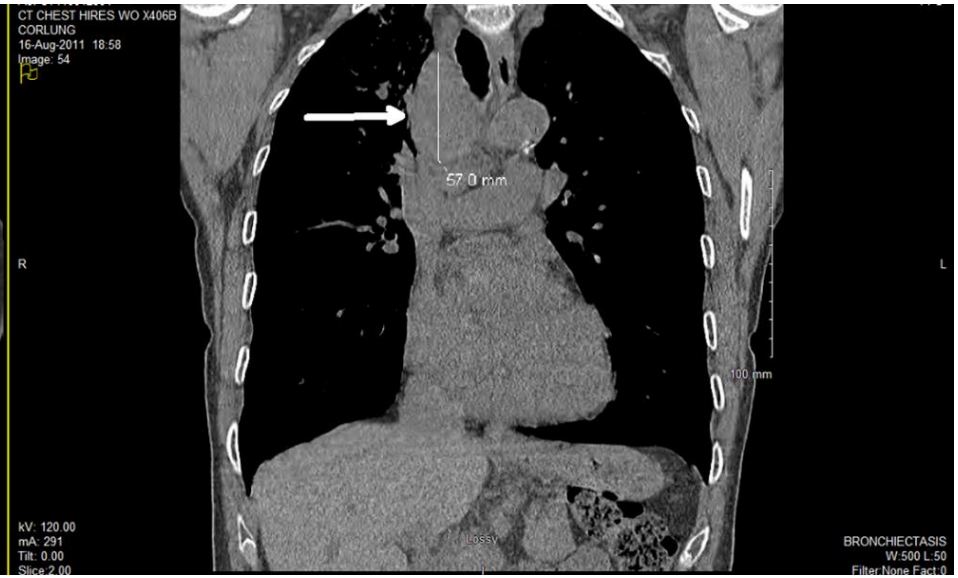
W:400 L:40
Filter:None Fact:0


CT CHEST HIRES WO X406B
CORLUNG
16-Aug-2011 18:58
Image: 54
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mA: 291
Tilt: 0.00
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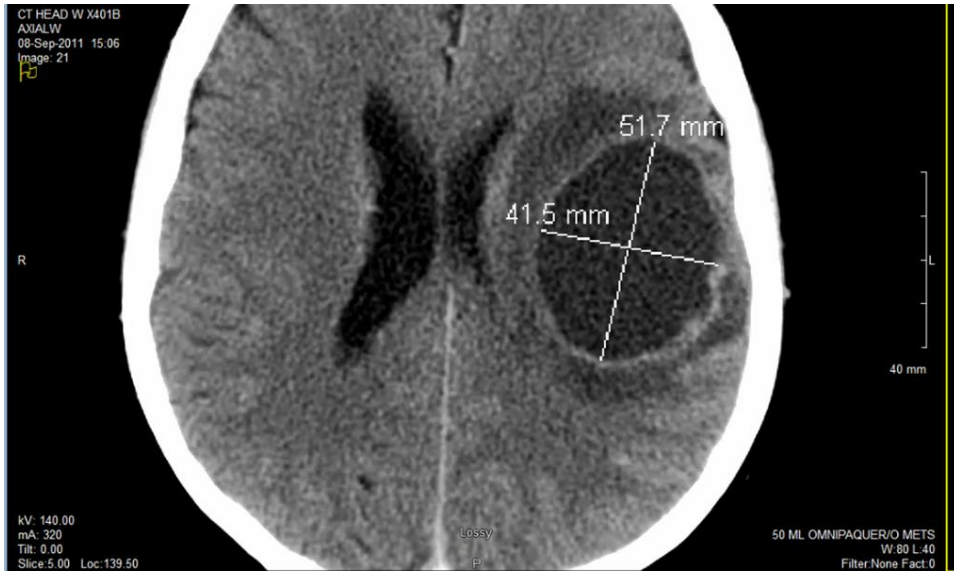
W:500 L:50
Filter:None Fact:0


CT HEAD W X401B
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08-Sep-2011 15:06
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41.5 mm
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40 mm
kV: 140.00
mA: 320
Tilt: 0.00
Slice:5.00 Loc:139.50
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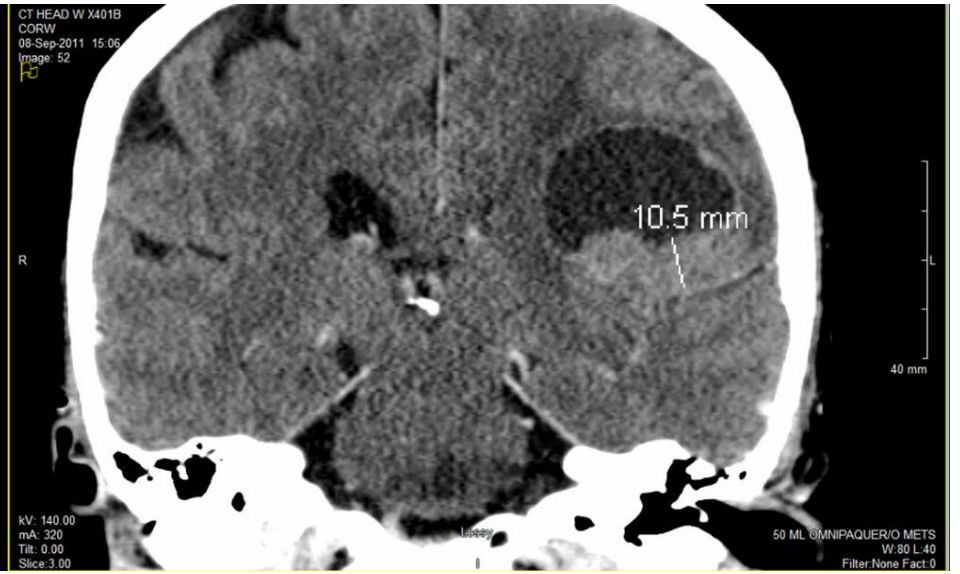
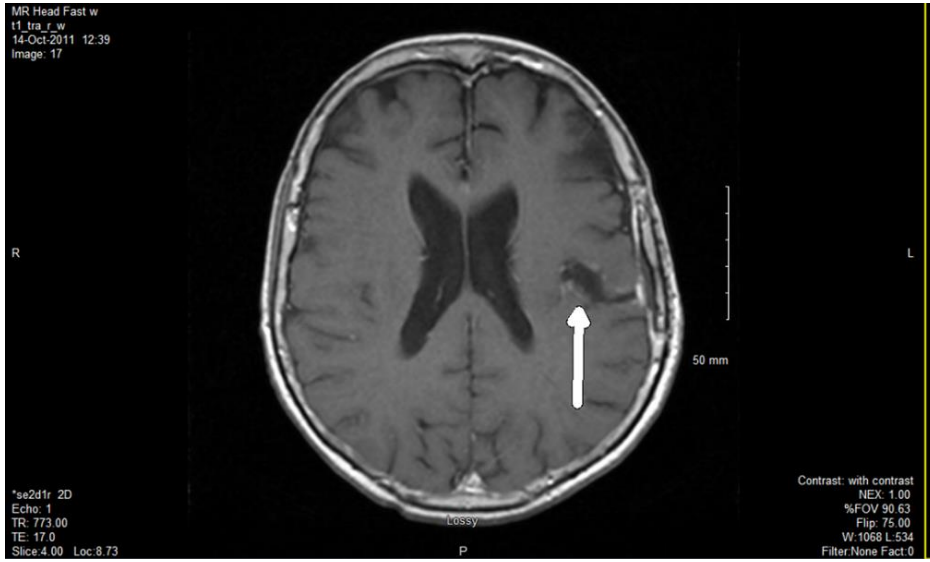
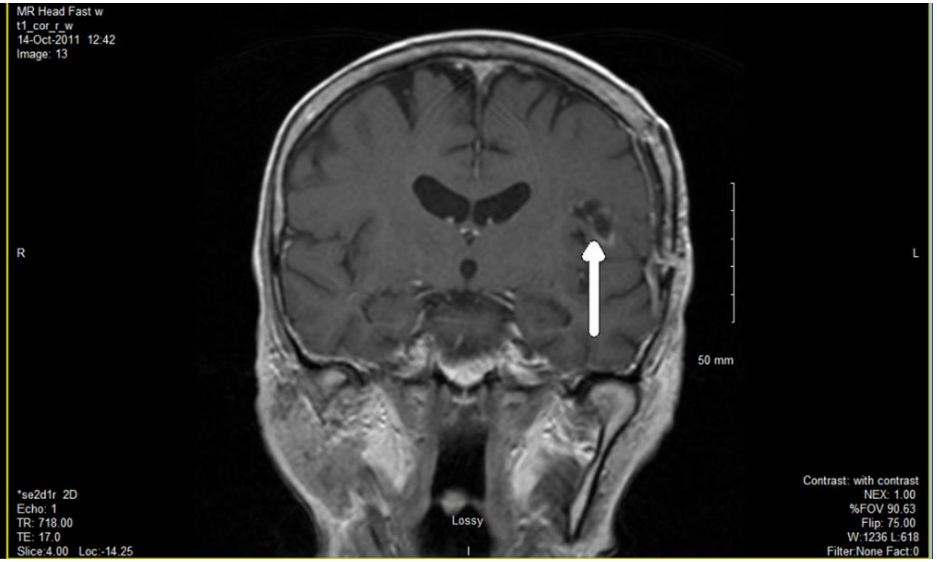
P
50 ML OMNIPAQUER/O METS
W:80 L:40
Filter:None Fact:0


CT HEAD W X401B
CORW
08-Sep-2011 15:06
Image: 52
10.5 mm
R
L
40 mm
kV: 140.00
mA: 320
Tilt: 0.00
Slice:3.00
Lossy
50 ML OMNIPAQUER/O METS
W:80 L:40
Filter:None Fact:0

Case #2





- CR in brain. Good PR in lung.
- Progressed to a large lung mass 4.9cm in Nov 2012. C/O cough and SOB.
- Palliative radiation to the primary cancer and right hilar/mediastinal LNs 30 Gy/10, last dose in Jan 2013.
- Follow-up CT: CR with no evidence of any recurrence or metastasis.
- Refused to be discharged. FLUP annually. Last seen in Oct 2024 (13y after Dx).

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Case #3

- 103 yo woman presented with progressive shortness of breath and dysphagia for about 3 months.
- CXR: opacification & pleural effusion in left lung.
- CT: large mass blocking the left main stem bronchus with an intratracheal mass and multiple mediastinal lymph nodes.
- Bronchoscopy: tumour in the left main stem as well as inside the trachea. Biopsy confirmed small-cell lung cancer.

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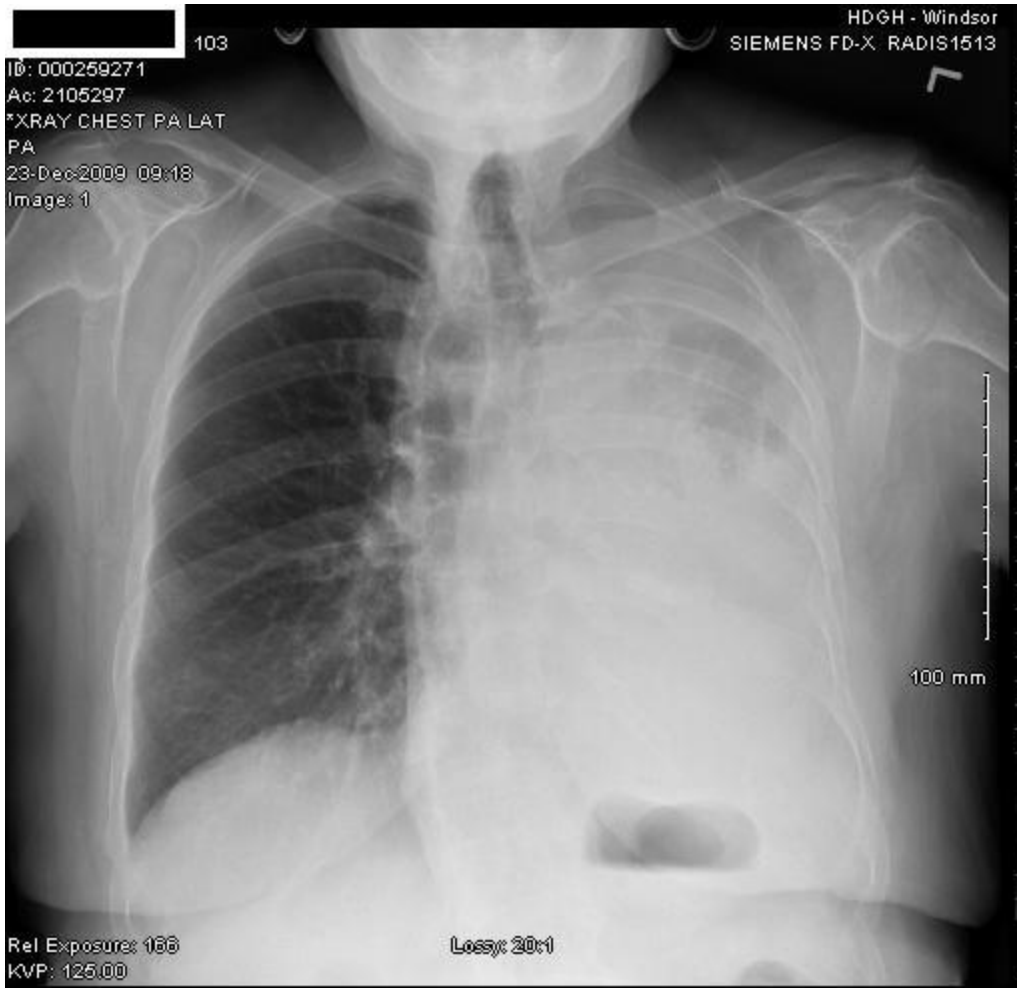
Case #3


103
HDGH - Windsor
SIEMENS FD-X RADIS1513
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Ac: 2105297
*XRAY CHEST PA LAT
PA
23-Dec-2009 09:18
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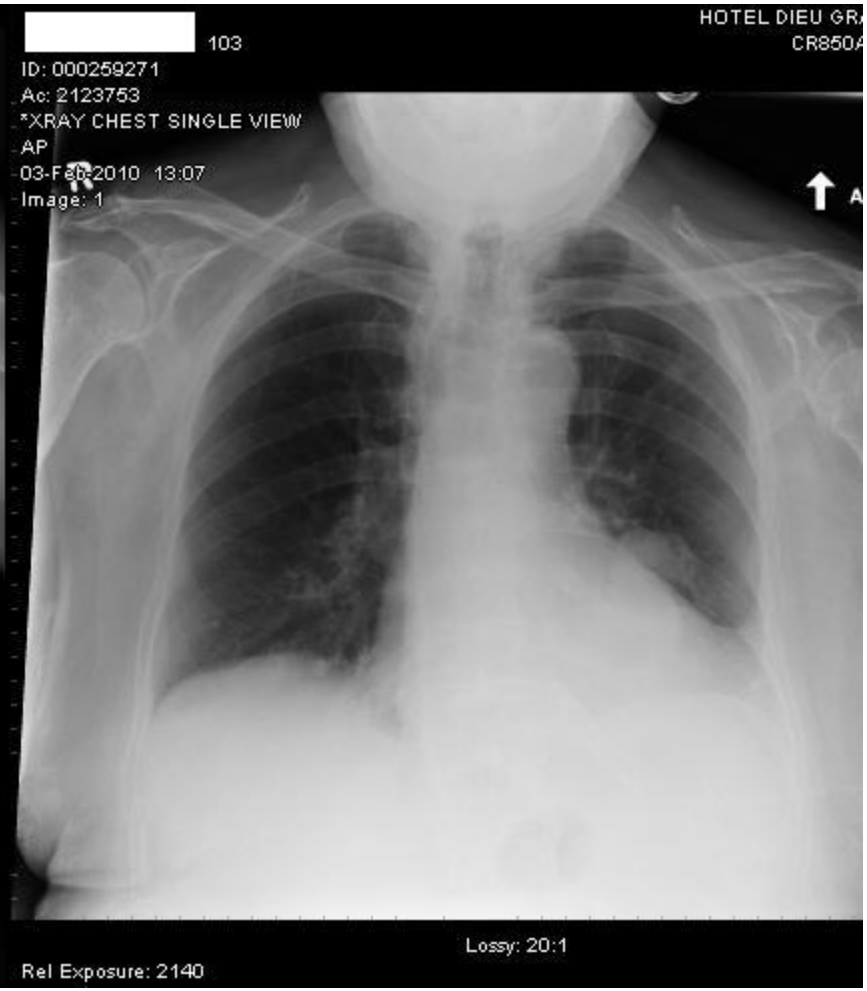
100 mm
Rel Exposure: 166
KVP: 125.00
Lossy: 20:1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HOTEL DIEU GR
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ID: 000259271
Ac: 2123753
*XRAY CHEST SINGLE VIEW
AP
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Image: 1
Lossy: 20:1
Rel Exposure: 2140

Case #3

- 103 year old, Extensive stage small cell lung cancer.
- Prognosis very poor: estimated survival <3 months.
- Palliative radiation treatment single dose 800cGy on Christmas eve Dec 24th, 2009.
- Radiation treatment improved her symptoms and achieved some palliation.
- She celebrated her 104th birthday in May 2010, then went to Hospice.

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Recommendations

For any incurable lung cancer patients:

(1) Palliative RT is very effective in symptom control;

(2) SBRT is available for oligo mets or oligo progression to delay chemo and toxicities;

(3) Usually palliative RT cannot prolong survival but sometimes life expectancy is unpredictable, so it's important to maintain QoL;

(4) There are ongoing clinical trials for oligo mets that might improve overall survival of stage IV lung cancer patients.

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Thank you!
Any Questions?

References:

1. Pan M. Case of a Long-Time Survivor with Recurrent Multiple Brain Metastases from Lung Cancer: Terminal Stage Cancer or Chronic Disease. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328698/ DOI: 10.7759/cureus.8378
2. Pan M. Case of Complete Remission from Palliative Radiation in Extensive Stage Small Cell Lung Cancer With Large Brain Metastasis Nine Years After Diagnosis: Cure Is Possible. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7515215/ DOI: 10.7759/cureus.10011
3. Pan M. Radionecrosis and Complete Response after Multiple Reirradiations to Recurrent Brain Metastases from Lung Cancer over 10 Years: Is There a Limit? Adv Radiat Oncol, 2021 Jun 2; 6 (5): 100733. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8273226/ DOI: 10.1016/j.adro.2021.100733