

# Small Cell Lung Cancer and RT.

Hasan Murshed

# Case presentation

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- 75 yom
- 11/02
  - Dyspnea on exertion x6 wks
  - wt. Loss 15 lbs, no cough/hemoptysis/CP/bone pain
  - CXR + mass in rt lung.
  - CT chest RUL spiculated density/rt paratracheal/rt hilar/subcarinal LN.

# Case presentation

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- CT chest on .

# Case presentation

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- 11/02
  - bronch showed .....
  - bx + small cell lung cancer.
  
- 11/02
  - CT brain -, BS -, BM -.

# Case presentation

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- Past – non contributory
- Family – father/uncle with lung cancer
- Social – 66 py smoke, quit 25 yrs.

# Case presentation

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- P/E
- LN – no adenopathy
- Lungs – min decreased BS at the rt base
- Heart – RRR
- Abd – soft, no tenderness/organomegaly
- Ext – no clubbing/nontender
- Neuro – AAO x3, no motor/sensory deficiency.

# Case presentation

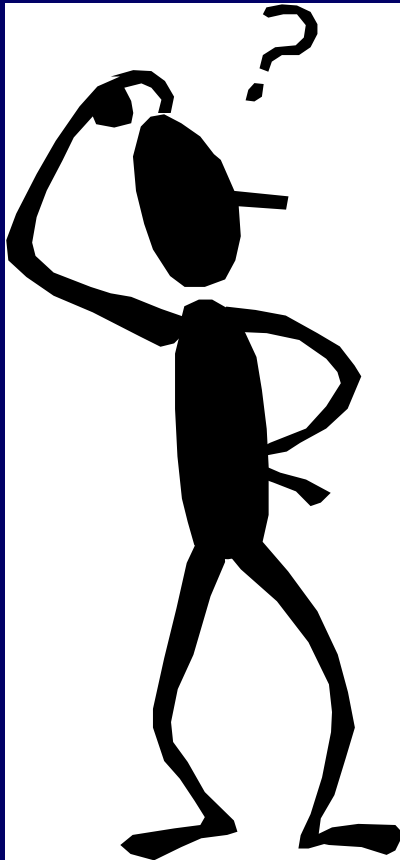
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## Diagnosis

- RUL limited stage small cell lung cancer.

# Questions

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- Prognosis of this LSSCLC pt.
- Management of this pt.



# Turrisi et al ECOG 1999

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- 417 pts with limited stage dz, FEV1  $\geq$  1 liter.
- pts were randomized to receive
  - RT 180 cGy QD to 45 Gy over 5 wks vs 150 cGy BID to 45 Gy over three wks.
  - Pts CR received PCI 250 cGy to 25 Gy.
  - Cord dose was kept at 36 Gy in BID arm.
- All pts received concurrent chemo with CDDP 60 mg/m<sup>2</sup> on d1, etoposide 120 mg/m<sup>2</sup> on d1-3 q 3 wks x4 cycle.

# Turrisi et al ECOG 1999

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- Results at 5 yrs

	<u>MS</u>	<u>LF</u>	<u>5 yr OS</u>	<u>esop/gr 3</u>
CT+QD RT	19	52	16	11
CT+BID RT	23	36	26 <sub>ss</sub>	27

# Turrisi et al ECOG 1999

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## Conclusions

Four cycles of CDDP+etoposide and a course of BID RT 45 Gy beginning with cycle one of chemo resulted in improved survival rates in pts with limited stage SCLC.

# Auperin et al Metaanalysis 1999

- 987 pts with SCLC in CR from 7 trials that randomized PCI vs no PCI were analyzed.
- Results at 3 yrs

		Brain	other	DFS	OS
No PCI		59	46	19	16
PCI	33	41	28	21 <sub>ss</sub>	
Absolute diff	-25	-4	+9	+6	

# Auperin et al Metaanalysis 1999

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## Conclusions

- Prophylactic PCI improves both DFS and OS in pts with SCLC in CR/PR.
  - Note: PCI should not be given on days that chemo is given.

# F/U case presentation

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- Treatment at MDA

- 11/20 – supine, arms above head, vacloc/wing board
- 11/02 - started concurrent chemoRT.
- RT given accelerated hyperfractionated
- 3D CRT, dose 150 cGy BID to 45 Gy, .....
- GTV = primary+LN  $\geq 1$  cm, CTV = GTV+1.5-2 mm, PTV = CTV+8-12 mm.
- Cord = 38 Gy, esophagus = 1/3 to 54 Gy, heart = 1/3 to 55 Gy, total lung  $\geq 20$  Gy to  $\leq 40\%$  volume.

# F/U case presentation

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- Concurrent chemo Etoposide/Carboplatin q3wks x4 cy
  - Etoposide 100mg/m<sup>2</sup>
  - Carboplatin AUC 5.
- 12/19/02 – RT completed, during therapy gr 2 nausea, gr 2 esophagitis, treated with compazine and hydrocodone.
- 12/30/02 - last f/u complains of fatigue, hem 9.9, ANC 804. Restart Neupogen, RTC 1/27/03 with CT chest.

# F/U case presentation

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- 12/30/02 - last f/u complains of fatigue, hem 9.9, ANC 804. Restart Neupogen, RTC 1/27/03 with CT chest.
- Plan to prophylactic cranial irradiation
  - 250 cGy to 25 Gy.



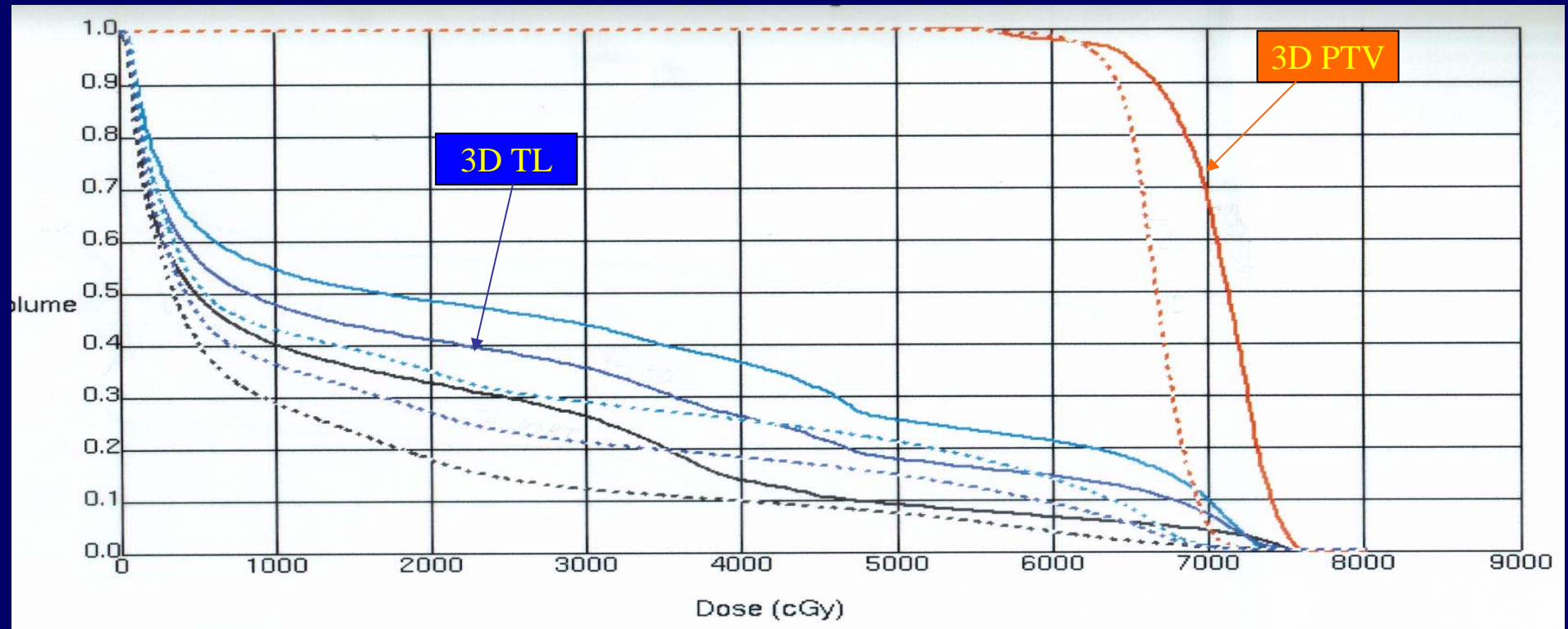
# F/U case presentation

- 3D isodose plots



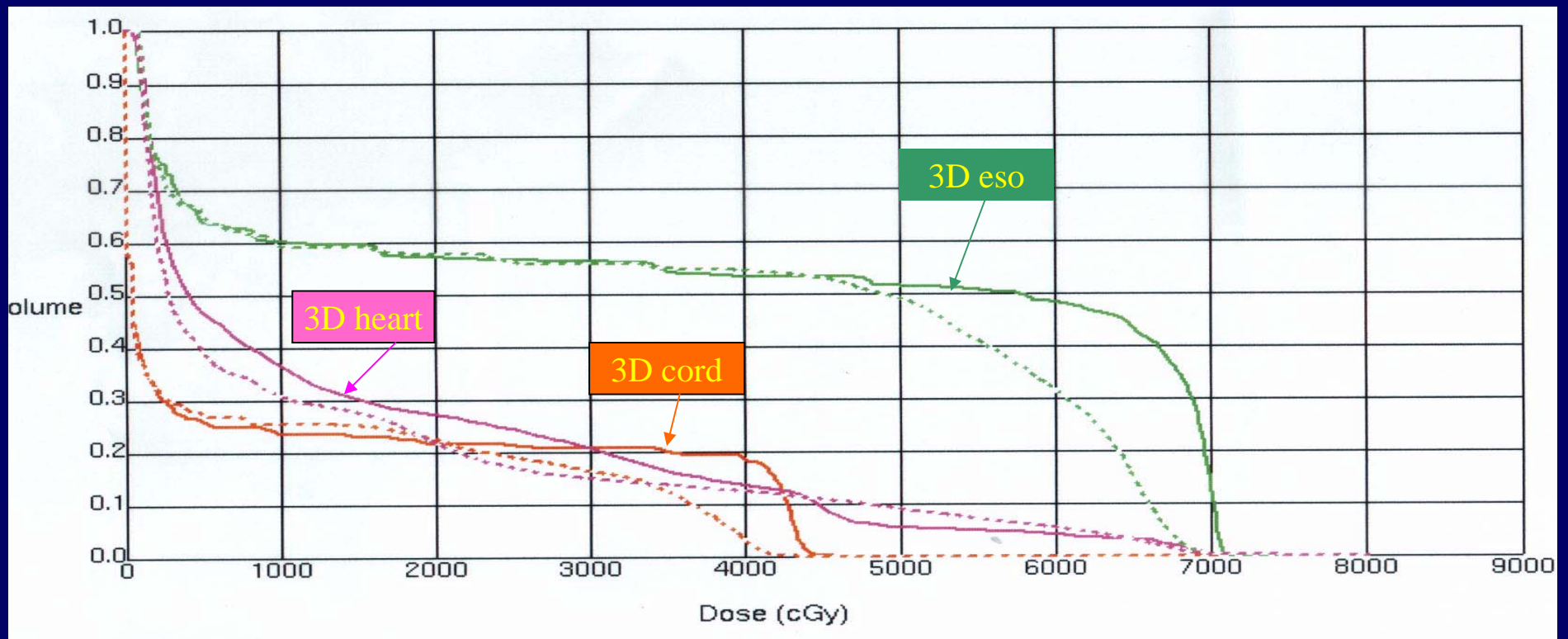
# F/U case presentation

- 3D DVH



# F/U case presentation

- 3D DVH



# Conclusions

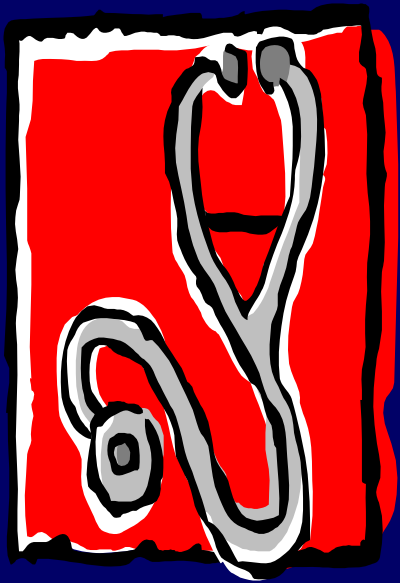
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- Accelerated hyperfractionated RT given concurrently and early with chemotherapy improves OS for SCLC pts.



# Conclusions

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- SCLC pts with CR/PR improves OS with PCI.

# Future/RTOG 9311



# Future/RTOG L0117

