Non-Surgical Treatment of Lung Cancer

Radiation therapy
Chemotherapy
Immunotherapy
Medical Oncologist’s view of Radiation Therapy

It's only when someone you know gets cancer that you realise how little you know about radiotherapy... it's lasers right?
Small Cell Lung Cancer

- Limited Stage – used together with chemotherapy
- Both lung and PCI (prophylactic cranial)
- Curative intent

- Extensive stage – palliative spot welding
Non-small cell radiation

• External beam (conventional radiation)
  – Stage III combined with chemotherapy

• OR, SBRT (stereotactic body radiotherapy)
  – In early stage disease as an alternative to surgery
“Stereotactic body radiotherapy to be good alternative to surgery in some lung cancer patients”
VetScite News, May 25, 2010
Chemotherapy

Cancer cured with Balmy Oils!

The above cuts are true copies of Mr. S. J. Hall, of Carbon, Texas, who was cured in four weeks of his awful affliction of over forty years' standing. Is to-day a well man, ready and willing to give his testimony to all who write.

Dr. Bye's Office and Laboratory is in the Portsmouth Building, Kansas City, Kas.

Send for illustrated pamphlets, free.
Small-cell lung cancer

• Platinum varieties
  – Cis-platinum
  – Carbo-platinum

• Etoposide
  – Derived from the May Apple, Podophyllum peltatum

ALL NATURAL CHEMOTHERAPY!!
Non-small cell lung cancer

• Again, platinums are a mainstay
• With taxanes, derived from the Pacific Yew tree, Taxus brevifolia

• Other medicines used include pemetrexed, navelbine, vinblastine- from the periwinkle plant, Vinca minor
Targeted therapies
(only in adenocarcinoma)
Trans-membrane receptors
Anti-angiogenesis antibodies

- Bevicizumab
- Ramicurimab
PD-1 receptor
(Programmed Death)

WAKING UP THE BODY'S DEFENCES
Tumour cells can inhibit the body's immune response by binding to proteins, such as PD-1, on the surface of T cells. Antibody therapies that block this binding reactivate the immune response.
PD-1 and PD L-1 antibodies

- Nivolumab – PD-1 antibody
- Pembrolizumab – PD L-1 antibody
WAKING UP THE BODY’S DEFENCES

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- **Nivolumab**: PD-1L binds PD-1, inhibiting T-cell response
- **Pembrolizumab**: Antibodies block inhibitory signal to PD-1
- A separate therapy uses antibodies that bind PD-1L on the tumour cell
Mutation-specific targeted therapies

• EGFR (endothelial growth factor receptor)
  – If mutated, erlotinib, gemfitinib, or afatinib

• ALK-1 (anaplastic lymphoma kinase)
  – If mutated, criztoinib
• Good news if you’re an female Asian non-smoker with adenocarcinoma.
• Bad news for everybody else, as EGFR mutations occur in less than 10% of cases, and ALK-1 in 3-4%.
Survivorship
Not just a buzz word!

Observed Survival for Lung, Bronchus - Non-Small Cell Carcinoma

Cases Diagnosed in 2003 - 2008 Data from 1 Program
Marquette General Hospital [6441720]

WARNING: The information within this graphic is not to be used for clinical decision making.

(C) 2016 National Cancer Data Base
Observed Survival for Lung, Bronchus - Small Cell Carcinoma

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(C) 2016 National Cancer Data Base
F/U recommendations

No evidence of clinical/radiographic disease, stages I–IV:
- H&P and chest CT ± contrast every 6–12 mo for 2 y, then H&P and a low-dose non-contrast-enhanced chest CT annually
- Patients treated with chemotherapy ± RT who have residual abnormalities may require more frequent imaging
- Smoking cessation advice, counseling, and pharmacotherapy
- FDG PET/CT or brain MRI is not indicated
- See Cancer Survivorship Care (NSCL-G).

Locoregional recurrence

Distant metastases

See Therapy for Recurrence and Metastasis (NSCL-15)
Small Cell Lung Cancer

RESPONSE ASSESSMENT FOLLOWING INITIAL THERAPY

- Complete response or partial response
- Limited stage
- Extensive stage
- Stable disease
- Primary progressive disease

ADJUVANT TREATMENT

- Complete response or partial response
- Limited stage
- Extensive stage
- Stable disease
- Primary progressive disease

SURVEILLANCE

After recovery from primary therapy:
- Oncology follow-up visits every 3–4 mo during y 1–2, every 6 mo during y 3–5, then annually
- At every visit: H&P, chest imaging, bloodwork as clinically indicated
- New pulmonary nodule should initiate workup for potential new primary
- Smoking cessation intervention, see the NCCN Guidelines for Smoking Cessation
- PET/CT is not recommended for routine follow-up

For Relapse, see Subsequent Therapy (SCL-6)

See Subsequent Therapy/Palliative Therapy (SCL-6)