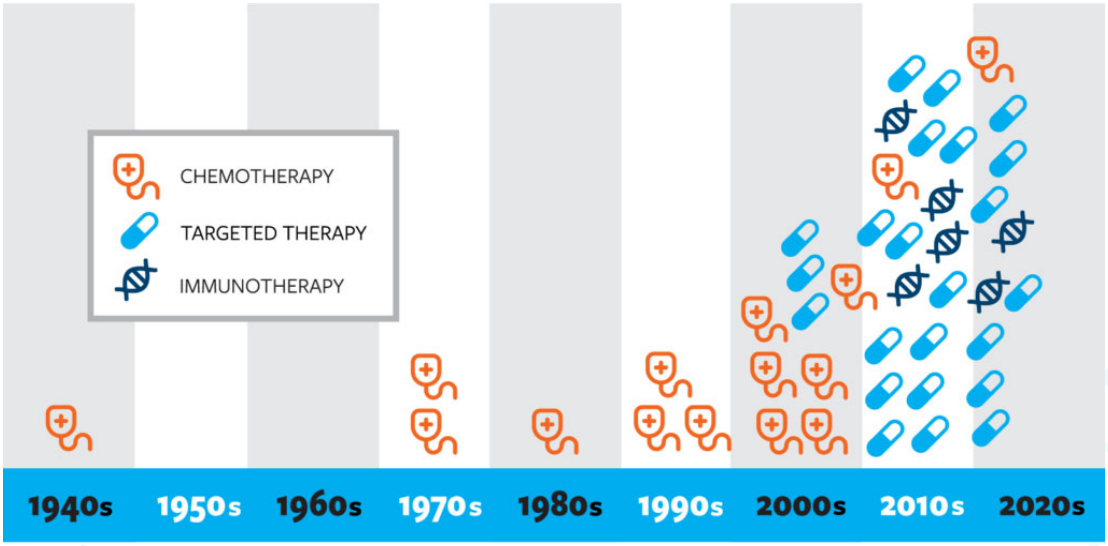
CLASSES OF SYSTEMIC THERAPY



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CHEMOTHERAPY SCLC

Limited Stage – Curative Intent
- Dual platinum therapy every 21 days x 4 cycles

Extensive Stage -
- Dual platinum therapy and immunotherapy ever 21 days x 4-6 cycles followed by maintenance immunotherapy every 28 days.

- Recurrence > 6 months after initial treatment --> retrial of previous chemotherapy, clinical trial or different chemotherapy/targeted therapy.
- Recurrence < 6 months --> clinical trial, different chemotherapy or targeted therapy.

Common chemotherapy agents: cisplatin, carboplatin, etoposide, irinotecan
Immunotherapy agents: atezolizumab (Tecentriq), durvalumab (Imfinzi)

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CHEMOTHERAPY NSCLC

Neoadjuvant
- Dual platinum therapy every 21-28 days x 4 cycles +/- immunotherapy

Adjuvant
- Dual platinum therapy and immunotherapy ever 21 days x 4-6 cycles +/- maintenance immunotherapy every 28 days.
- Targeted therapies based on mutational status

- Recurrence > 6 months after initial treatment --> retrial of previous chemotherapy, clinical trial or different chemotherapy/targeted therapy.
- Recurrence < 6 months --> clinical trial, different chemotherapy or targeted therapy.

Common chemotherapy agents: cisplatin, carboplatin, etoposide, irinotecan
Immunotherapy agents: atezolizumab (Tecentriq), durvalumab (Imfinzi)

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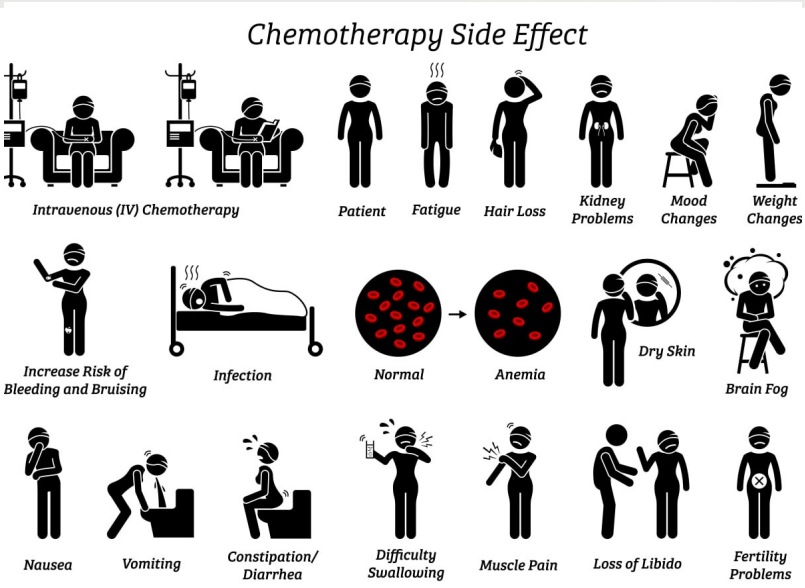
CHEMOTHERAPY



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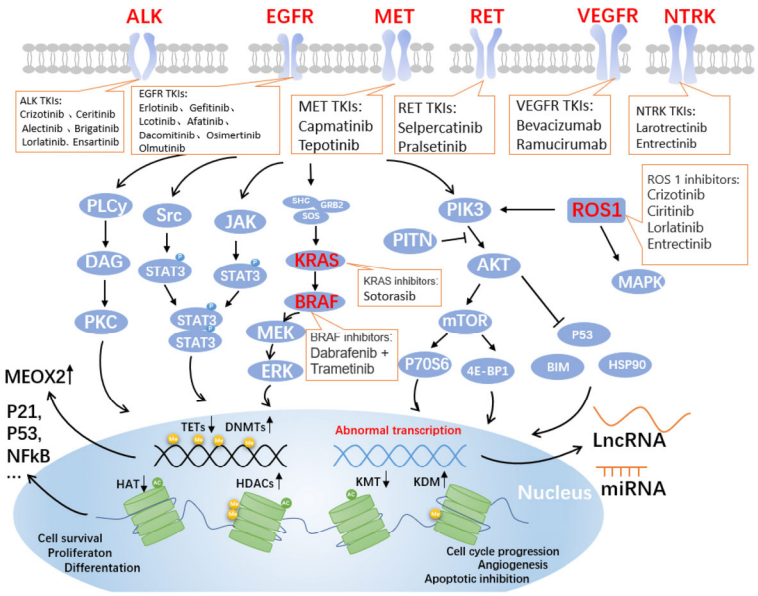
TARGETED THERAPY

Targeted therapies attack specific mutations, additions, deletions or rearrangements in cancer cell DNA.



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TARGETED THERAPY: ALLINA NGS LUNG PANEL FOR NSCLC

- Epidermal growth factor receptor (EGFR) - 10-15% cases
- MET exon 14 skipping or amplification – 5% cases
- Anaplastic lymphoma kinase (ALK) gene rearrangement – 4% cases
- ROS1 fusion or rearrangement – 1-2% cases
- RET rearrangement – 1-2% cases

These mutations associated with

- younger than average lung cancer patient
- primarily adenocarcinoma
- minimal to no smoking history

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TARGETED THERAPY: ALLINA NGS LUNG PANEL

- RAS gene mutations
  - KRAS G12C mutation – 10-13% cases
  - HRAS & NRAS – < 1% cases
  - Adenocarcinoma and SqCCa
- BRAF V600F mutation – 1-2% cases
  - Smoking history common
  - Adenocarcinoma
- ERBB2 / HER2 mutation – 2% cases
  - Little to no smoking history
  - Adenocarcinoma
- NTRK1/2/3 - <1% cases

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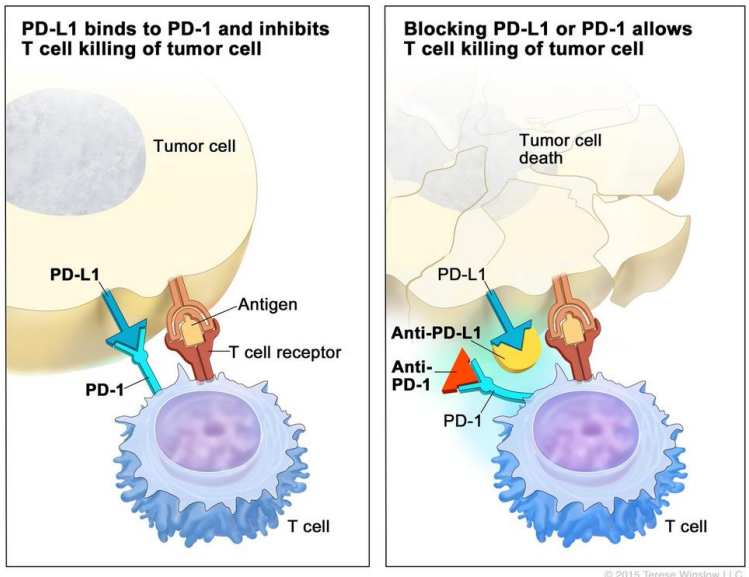
IMMUNOTHERAPY

Immunotherapy utilizes the immune system to kill cancer cells.

Example: Checkpoint Inhibitors



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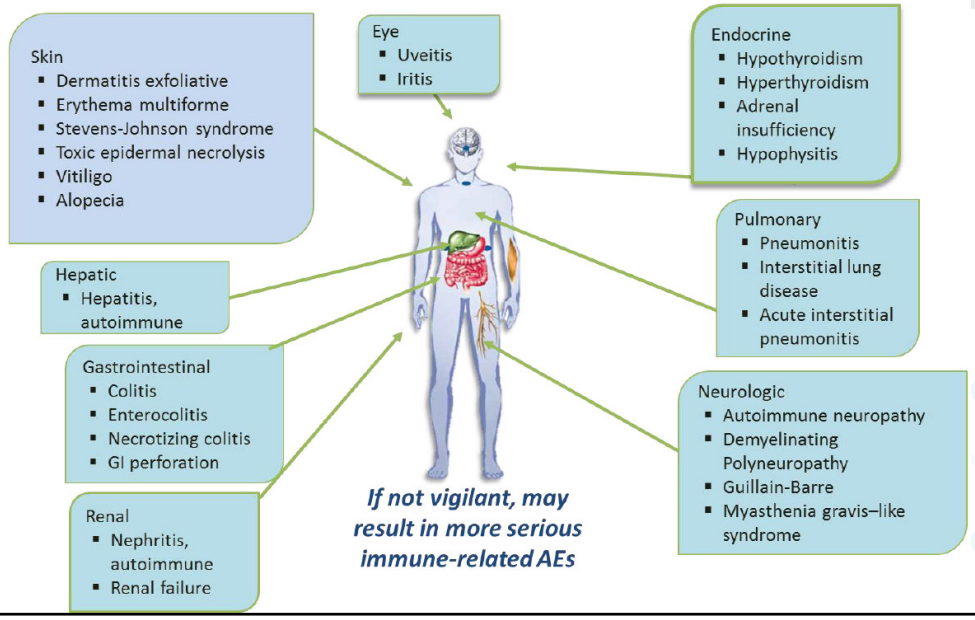
IMMUNOTHERAPY ADVERSE EFFECTS



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SURVEILLANCE SMALL CELL LUNG CANCER

Limited Stage: Follow up with medical oncology every 3 months for first 1-2 years; then every 6 months for year 3; then annually.

Extensive Stage: Follow up with medical oncology every 2 months for first year; then every 3 months for years 2 and 3; then every 6 months for years 4 and 5; then annually. Surveillance CTs every 2 – 6 months depending on stage and clinical indications. CTs more frequently in years 1 and 2 and less so in subsequent years.

Imaging:
Surveillance CT Chest (abdomen / pelvis) every 2 – 6 months depending on stage and clinical indications. CTs more frequently in years 1 and 2 and less so in subsequent years.

MRI Brain or CT head every 3 – 4 months during year one and then every 6 months duration at provider discretion; then as clinically indicated.

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SURVEILLANCE NON SMALL CELL LUNG CANCER

Stage I–II (primary treatment included surgery ± chemotherapy)
- H&P and chest CT ± contrast every 6 mo for 2–3 y, then H&P and a low-dose non– contrast-enhanced chest CT annually

Stage I–II (primary treatment included RT) or stage III or stage IV (oligometastatic with all sites treated with definitive intent)
- H&P and chest CT ± contrast every 3–6 mo for 3 y;
- then H&P and chest CT ± contrast every 6 mo for 2 y;
- then H&P and a low-dose non–contrast-enhanced chest CT annually
- Residual or new radiographic abnormalities may require more frequent imaging
- Smoking cessation advice, counseling, and pharmacotherapy
- PET/CT or brain MRI is not routinely indicated

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REFERENCES

- National Cancer Institute (NIH): “Non-Small Cell Lung Cancer v1.2014”
- National Comprehensive Cancer Network (NCCN): “Non-Small Cell Lung Cancer v 3.2023”
- National Comprehensive Cancer Network (NCCN); "Management of Immunotherapy- Related Toxicities"
- National Comprehensive Cancer Network (NCCN); "Survivorship"

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