

General Principles in Oncologic Management

General Concepts:

- Never undertreat for cure, never overtreat for palliation
a.k.a "Go Big or Go Home [Hospice]"
- "Tissue is the Issue" "No meat, no treat" – management decisions should be based on pathologic certainty, if in doubt, repeat previous diagnostic procedures
- Bodurtha's Rule: "Doing a diagnostic test is like picking one's nose in public. Before doing it, figure out what you will do if you find something."
- Chemotherapeutic agents are often given as a combination of 2 or more agents to minimize rate of selecting for resistance mutations
- In general, maintain optimal doses at minimally tolerated intervals for maximal effect and support bone marrow suppression with growth factors
- Never use granulocyte growth factors within 24 hours before and after chemotherapy

Terminology:

Complete response: greater than 4 weeks of time with no measurable evidence of disease including signs, symptoms and biochemical changes related to the malignancy

Partial response: greater than 50% reduction in measurable tumor mass sustained over 4 weeks or more

Stable disease: less than 50% reduction or less than 25% increase in measurable tumor mass

Progression/Relapse: greater than 25% increase in measurable tumor mass, or the appearance of new areas of malignant disease

OS: Overall survival, expressed as % alive at x years

TTP: Median Time to progression (measured in months)

BSC: Best Supportive Care

Relapse free survival: time from start of *adjuvant* therapy to regrowth of tumor to detectable levels

Progression free survival: after relapse, time from initiation of *salvage* therapy to regrowth of tumor

Neoadjuvant chemo: therapy **prior** to definitive local management (surgery +/- XRT) (aka Induction) to address micrometastatic disease at sites remote from primary tumor. Advantages include 1) provides *in vivo* assay to determine biologic activity of chemo agents 2) earlier exposure of tumor cells to treatment 3) may alter extent of local management i.e. decrease breast tumor size to allow for BCT. Disadvantages include theoretical delay in definitive local management could change tumor from operable to inoperable. Proven survival benefit in cancers of the anal

canal, bladder, esophagus, SCC of head and neck, soft tissue sarcomas, osteosarcomas, and locally advanced breast cancer

Adjuvant chemo: therapy intended for those individuals at high risk of recurrence **after** definitive local management with removal of all evidence of cancer by surgical removal and/or radiation treatment

Maintenance chemo: prolonged, low-dose outpatient chemotherapy intended to prolong duration of remission and achieve cure in patients in remission

Second line therapy: treatment given when there is disease progression after or during first line therapy

Salvage chemo: after the failure of other treatments (surgery, radiation, or prior chemo), used to control disease or provide palliation

Dose dense chemo: Therapy given at a higher dose intensity per unit of time than conventional scheduling i.e. using standard dosages at 14 day cycles instead of 21 day cycles. This is used most commonly in adjuvant chemotherapy treatment of invasive breast cancer. Bone marrow recovery is augmented with granulocyte growth factors.

IFRT: Involved-field radiotherapy – focused radiation with less long term morbidity

Targeted therapy: therapy using the immunologic characteristics of tumor cells to target effect i.e. monoclonal antibodies against CD20 in lymphoma, antibodies directed to vascular endothelial growth factor (VEGF), Herceptin to Her2 – neu receptor in breast cancer, small molecule tyrosine kinase inhibitors down regulate signaling pathways to control cancer proliferation and invasion. Examples include Imatinib in CML and Erlotinib in lung cancer.

Radioimmunotherapy: specific therapy done by attaching radioisotopes to targeted monoclonal antibodies i.e. in follicular lymphoma attaching radioisotopes to anti-CD20 antibodies

Immunotherapy: vaccination with tumor antigens, and subsequent amplification of host cellular immunity with interferon, interleukin (biologic response modifiers), i.e. melanoma

FDG-PET: Positron emission tomography with fluorodeoxyglucose
This modality shows functional metabolic status and gives quantitative information. SUV/SUR (Standardized Uptake Value/Ratio) is a numerical value to label how much a particular anatomic location 'lights up'.

ECOG PS Eastern Cooperative Oncology Group Performance Status (0-4)
0 – Normal Activity
1 – Some symptoms, but no bed rest during daytime
2 – Bed rest for less than 50% of daytime
3 – Bed rest for more than 50% of daytime
4 – Unable to get out of bed