Palliative and Hospice Care for Patients with Cancer

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Cancer Care

- Overview of general palliative cancer treatment
- Case examples
  - Anal sac tumors
  - Urinary tract tumors
  - Bone tumors
  - Oral tumors
Chemotherapy

- Cytotoxic
- Metronomic
- Targeted
Cytotoxic Chemotherapy

“Traditional”
- High dose (MTD) intermittently
- Goal to kill as many cancer cells at a time as we can
- Side effects are fairly predictable
  - GI
  - Bone marrow
Cytotoxic Chemotherapy

- Type used depends on type of tumor
- Not expected to have high response rates in most tumors
  - Exception lymphoma
- If response is seen, treatment should be continued until progressive disease
Cytotoxic Chemotherapy

- Overall side effect rate ~20%
- 10-15% mild to moderate
  - Skipped meal, brief episodes of vomiting or soft stool/diarrhea
  - Low neutrophil count that requires oral antibiotics, but no fever or lethargy noted
  - Tolerable, usually treatable at home
Cytotoxic Chemotherapy

- Overall rate of side effects ~20%
- 5-10% severe
  - Vomiting or diarrhea that requires hospitalization, IV fluids, injectable anti-nausea or anti-diarrheals
  - Neutropenia causing fever and illness requiring hospitalization, IV fluids, and injectable antibiotics
Cytotoxic Chemotherapy

- **GI side effects**
  - Usually occur 2 to 5 days after the treatment
  - Mild expected to last 24-48 hours

- **Neutropenia**
  - Usually 7-10 days after treatment
  - Most patients, even with profound neutropenia, will have the count rebound within 48-72 hours
Metronomic Chemotherapy

- Low dose, oral chemotherapy
- Decreases ability of new blood vessels to form
- Delays tumor progression
- Anti-angiogenic
- Works best with microscopic disease
- Also used after other treatments to delay tumor progression as well
  - Cytotoxic chemotherapy
  - Radiation therapy
Metronomic Chemotherapy

- Usually well tolerated
- Minimal side effects
- Monitor CBC intermittently
- Some drugs better tolerated longer term than others
- Can see cumulative bone marrow toxicity after many months to years
Metronomic Chemotherapy

- Chlorambucil
- Cyclophosphamide
- Lomustine
- Satraplatin
- Etoposide
- Piroxicam
Metronomic Chemotherapy

- Drug choice not dictated by “tumor response” like with cytotoxic
- Effectiveness can be more wide spread because it is not direct effect on the cancer, more so the cancer environment
- Not well studied overall, but has lots of potential
- Can be combined with targeted therapy
Targeted Therapy

- Targets receptors
- Veterinary Drugs
  - Palladia (toceranib)
- Human Drugs
  - Gleevec (imatinib)
  - Herceptin (trastuzumab)
  - Iressa (gefitinib)
  - Avastin (bevacizumab)
Targeted receptors can be abnormal because of:

- Increased number
- Constitutively activated
- Abnormal signaling
- Mutated receptor
Targeted Therapy

- Palladia
- Developed originally as c-kit inhibitor
- VEGF and PDGF in same receptor domain
- Technically anti-angiogenic due to VEGF blocking capability
Targeted Therapy

- Palladia has response documented with many carcinomas, some sarcomas including osteosarcoma and hemangiosarcoma
- C-kit also mutation present in GI stromal tumors
- Human multiple myeloma treated with Gleevec which is c-kit inhibitor as well
Targeted Therapy

- Most common side effects are gastrointestinal
  - Vomiting
  - Decreased appetite
  - Soft stool/diarrhea
  - Weight loss without loss of appetite
- Timing variable
Targeted Therapy

- In human medicine, recommended to be combined with metronomic chemotherapy as well
  - Usually dose Palladia M, W, F
  - Metronomic chemotherapy +/- NSAID on Tu, Th, Sa
- Chronic therapy
Targeted Therapy

Cases with success reported

- Primary pulmonary carcinomas
- Metastatic osteosarcoma
- Multiple myeloma, plasma cell tumor
- Nasal tumors
- Oral squamous cell carcinomas
- Diffuse hepatic tumors
- Neuroendocrine tumors (adrenal, chemodectoma)
- Tonsillar SCC
- Osteosarcoma
Radiation Therapy

- Localized therapy like surgery
- Finite treatment period
- No systemic side effects
- Requires anesthesia
- Temporary side effects
- Rarely permanent side effects
- No standard of care
Radiation Therapy

- Goal is to at least stabilize the tumor, but regression in the size is ideal.
- Results are typically seen within a few weeks, and maximal tumor response may not be seen for a few months.
  - Documented well with thyroid tumors.
- Duration of response is variable.
Radiation Therapy

- Very effective in treating bone pain due to cancer
- Not just limited to primary bone tumors
- Many oral tumors invade into the bone
- Nasal tumors can cause facial deformity due to bone invasion
- Bone pain due to neoplasia is described to be extremely debilitating in people
Radiation Therapy

- Treatment can be repeated if was successful initially
- Not many references for how long subsequent treatment will benefit the patient for, but likely at least half the time
- Safe in most cases because dose is low overall
- Most concerning when late responding tissues are treated and have potential to affect quality of life if side effects develop
  - In cases where patients live longer than we expect
Anal Sac Carcinoma

- Presents with:
  - Primary anal sac mass
  - Metastatic pelvic lymph nodes
  - Lung metastasis
  - Hypercalcemia
Palliative Radiation Therapy

- Typically well tolerated
- Acute Side Effects
  - Mild, temporary colitis, proctitis
  - Rarely skin side effects due to target being within body, so skin is spared
- Responses within weeks
- Late Side Effects
  - Rarely an issue due to time frame until they develop
  - Stricture or perforation of the rectum or colon
Palliative Chemotherapy

- Mitoxantrone
- Carboplatin
- Doxorubicin
- Palladia
- Piroxicam
Hospice Care

- Common complications:
  - Physical obstruction causing constipation
  - Incontinence
  - Hypercalcemia
  - Local infection
  - Urethral compression causing obstruction
  - Lymphatic obstruction causing edema in PLs
  - Nerve compression causing neurologic deficits
Medical Therapy - General

- Piroxicam
- Other NSAIDs
- Steroids
- Lactulose
- Antibiotics
- Prebiotics
- Probiotics
- Diet
- Pain medications
- Antianxiety medications, sedatives
Medical Therapy - Hypercalcemia

- Furosemide
- Prednisone
- Gallium nitrate
- Fluids
- Bisphosphonates
  - Pamidronate
  - Zoledronate
  - Aledronate (oral)
Other Hospice Care

- Wound management
- Recumbent care
- Compression sores due to edema
- Neurologic deficits
  - Slings
  - Booties
  - Acupuncture
Bone Tumors

- Primary or metastatic
- Multiple myeloma lesions
- Palliative Treatment
  - Radiation therapy
  - Medical therapy
  - Hospice Care
  - Pain management
Surgery

- Amputation
  - Technically still palliative for most primary bone tumors
  - Provides immediate pain relief
  - Necessary in cases of pathologic fracture
  - Not advised if patients have significant pre-existing orthopedic or intervertebral disc disease
Palliative Radiation Therapy

- Very effective
- Few days to a few weeks to take effect
- Minimal side effects
- Mostly skin over site on extremities
- Rarely neurologic issues even with vertebral tumors
- Number of treatments range from 2 to 6
- Daily to weekly
Chemotherapy

- Not likely to benefit in a palliative sense
- Reduces risk for metastasis
- If large soft tissue portion may shrink, but not likely to change pain management
  - Carboplatin
  - Doxorubicin
  - Palladia
Medical Therapy

- Pain management
  - NSAIDs or Steroids
  - Narcotics
    - Tramadol, Codeine, Fentanyl
  - Neuropathic pain medication
    - Gabapentin, Pregabalin
  - Amantadine
  - Bisphosphonates
Bisphosphonates

- Pamidronate
- Zoledronate
- Aledronate

- Up to 40% response rate noted
- Treat up to every 4 weeks IV
  - Pamidronate and zoledronate
- Oral dosage daily
  - Aledronate
Hospice Care

- Pain management
- Mobility support
- Braces
- Slings
- Infection/discharge management
  - Lick site due to pain
  - Skin stretches over site due to growth of tumor
Urinary Tract Tumors

- Transitional cell carcinoma
  - Bladder, urethra, prostate
- Other primary prostate tumors
  - Adenocarcinoma, hemangiosarcoma
- Rarely seen tumors
  - Lymphoma, osteosarcoma
Palliative Radiation Therapy

- Localized and effective
- Obstructed patients can have improved urination within days to a week or so
- Tumor regression provides symptom relief
  - Stranguria, pollakiuria, obstruction, incontinence, hematuria
Palliative Radiation Therapy

- **Side effects**
  - **Mild, temporary acute**
    - Colitis, proctitis
  - **Late side effects**
    - Rarely an issue due to time frame until they develop
    - Stricture or perforation of the rectum or colon
Chemotherapy

- Actually treatment of choice since surgery usually not an option
- Mitoxantrone
- Vinblastine
- Cisplatin
- Carboplatin
- Piroxicam
- Chlorambucil
Urethral Stenting

- In cases of partial or complete obstruction
- Becoming more readily available
- Typically, more aggressive treatment with radiation therapy and chemotherapy are advised due to the expense and complication of the procedure
- Eventual re-obstruction is anticipated, but is good for acutely obstructed patients
Medical Therapy

- **Antibiotics**
  - At risk for infections, may use pulse therapy
  - Can get quite resistant due to inability to clear completely because of abnormal anatomy
Medical Therapy

Stranguria/Pollakiuria
- Anti-inflammatories
- Cranberry supplement
- Bethanechol if no obstruction to help with complete emptying
- Prazosin to decrease spasm
- If prostatic:
  - Finasteride to decrease prostatic size, although not likely to significantly help
Urinary Catheters

- With obstruction or incomplete emptying
- Temporary or permanent
- Repeated placement may be difficult
- May have risk of rupture
- Infection common

Cystostomy Tube

- Avoid urethra completely
- Can be accidentally pulled out
- More aggressive surgical procedure
Oral Tumors

- **Canine tumors**
  - Melanomas
  - Squamous cell carcinomas
  - Fibrosarcomas, osteosarcomas, plasma cell tumors, epulides

- **Feline tumors**
  - Squamous cell carcinomas
  - Fibrosarcomas, lymphoma, osteosarcomas
Palliative Radiation Therapy

- Response rates quite high for melanoma and squamous cell carcinoma in dogs
- Can treat SCC in dogs primarily with fairly good results
  - Full course
- Unfortunately not very good responses for feline squamous cell carcinoma
  - Some improvement seen with hyperfractionated/accelerated protocols
Palliative Radiation Therapy

- **Acute Side Effects**
  - Low risk of clinically significant
  - Gums, lips, and tongue very sensitive to radiation
  - Large fields may cause increased risk of side effects affecting the patient
  - Mucositis starts 7-14 days after starting treatment and resolve within 2 to 3 weeks
Palliative Radiation Therapy

Skin side effects
- 3 to 5 weeks after starting treatment
- Alopecia and leukotrichia late SE

Eye lids and ear canal can also be affected
- 4 to 6 weeks after starting treatment
- Epiphora, blepharospasm, conjunctivitis, corneal ulceration, temporary dry eye
- Otitis
Palliative Radiation Therapy
Palliative Radiation Therapy
Palliative Radiation Therapy
Chemotherapy

- Most oral tumors do not have great responses to chemotherapy
- Can see rare benefits or stabilization
- Lymphoma and plasma cell tumors are most likely to respond to chemotherapy
- Palladia has been studied in cases of feline SCC
Medical Therapy

- Common complications:
  - Secondary infections
    - Antibiotics
    - Pulse or constant
  - Pain
    - NSAIDs
    - Narcotics, gabapentin, amantadine
Medical Therapy

- Physical impedance for eating
  - NSAIDs, prednisone
  - Appetite stimulation
- Bleeding
  - Yunnan baiyao
- Topical Therapy
  - Miracle mouthwash
  - Honey
  - Green tea
Hospice Care

- Feeding tubes
  - E-tubes
  - PEG tubes
- Diet modification
  - Softened
  - Canned
  - Meatballs
  - Gruel
General Guidelines

- Regardless of tumor type:
  - Focus on quality of life
  - Identify what the symptoms are deteriorating quality of life for patient and owners
  - Try to anticipate and inform the owners of what may or may not happen in the coming months
General Guidelines

- **Anti-inflammatory**
  - Decrease inflammation around the tumor
  - Provide at least mild pain relief, even if not sure patient is in pain
  - I usually mention that even if a mass is not perceived to be painful, the presence of the mass may be uncomfortable to the patient.
General Guidelines

- Appetite

  - Regardless of the type of tumor, we can see an alteration in the appetite of the patient for any number of reasons that we may or may not understand
  - Never wrong to offer appetite stimulants to help ease the owners mind
    - Mirtazapine, cyproheptadine, prednisone
General Guidelines

- Pain
  - NSAIDs
  - Prednisone
  - Tramadol
  - Fentanyl patch
  - Gabapentin
  - Pregabalin
  - Amantadine
  - Codeine
General Guidelines

- Nausea, vomiting, decreased appetite without known reason
  - Metoclopramide
  - Maropitant
  - Ondansetron
  - Chlorpromazine
  - Omeprazole
  - Famotidine
  - Ranitidine
General Guidelines

- Diarrhea/Soft stools
- Metronidazole
- Sulfasalazine
- Loperamide
- Prebiotics/probiotics
- Clay supplements
General Guidelines

- Sedatives/Behavior Modifiers
  - Acepromazine
  - Trazodone
  - Fluoxetine
  - Clomipramine
  - Amitriptyline