Cancer Survivorship - a new challenge in cancer care

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SURVIVORSHIP

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“Care givers and doctors are finally getting on the same page about cancer survivorship. Journey Forward has released a new computer based tool that can benefit anyone with cancer”.

“After I completed treatment, I received survivorship Care Plan which charted my follow up care. I can feel like I am taking charge of my health, my life again and it is very empowering” said a patient.
Importance of Survivorship care

- Overall, 64% of patient diagnosed with cancer can be expected to live more than 5 years
- Preventive services are more reliably received if primary care is involved
- Screening services are more reliable if Onc is involved.
Shared care models
Barriers to Shared care

• Cancer patients are treated intensely for 1 year followed by 1-2 years of close monitoring for recurrence. Minimal attention to other medical issues (HTN, DM, Chol)

• Primary care feels Onc “steals” patient, “keeps” patient, “takes over” patient

• Onc believes Primary acre “not interested”, disengaged, “not comfortable, results in delays in diagnosis

• Increased Curriculum time, with emphasis on Survivorship care is important
AIMS

- Prevention of new cancers and other late effects
- Surveillance for cancer and assessment of medical and psychosocial late effects
- Intervention for consequences of cancer and its treatment
- Coordination between specialists and primary care providers to ensure that all of the survivors health needs are met.
SURVEILLANCE

• History : Personal
  – Weight loss
  – Bone pain/ low back pain
  – Headaches, new onset
  – Dyspnea
  – Any new lumps
  – New medications

• Family History
  – Update Family history with each visit

• Social History
  – Ask about smoking, alcohol intake
SURVEILLANCE

• Physical exam
  – Focus on breast exams, testicular exams, lymph nodes and any sites of symptoms
  – Coordinate between specialist and Primary care. Typically 3-4 months in the first 2 years, every 6 months thereafter

• Lab Investigations
  – CBC, CMP, regular health maintenance
General Principles

• Intensive Screening Protocols
  – Early detection with potential curative resection. Shown to be of value in colorectal Stage II/III patient based on 3 meta analyses
  – Patients should be healthy/ have a long enough survival
  – Downside is cost, anxiety, radiation exposure
Less Intense Surveillance

• No clear cut benefit in terms of Overall Survival with intense screening protocols in most studies.
• Leads to anxiety, increased costs
• Radiation exposure has become a prominent issue
• Does not take in to consideration individual patients with potentially resectable asymptomatic disease picked up on imaging studies.
Colorectal cancer surveillance

- **ASCO**
  - History/PE 3-6 months for 3 years, 6 months yr4,5, then annual
  - CEA q 3 months for 3 years after completion of adjuvant therapy
  - LFTs not recommended
  - CBC not recommended
  - Chest X-ray not recommended
  - Annual CT chest and abdomen for years recommended. Consider adding pelvic CT
  - Colonoscopy 1 year, then 3, followed by 5 years thereafter

- **NCCN**
  - H and P every 3-6 months for 2 years, then 6 months for 5 years
  - CEA 3-6 months for 2 years, 6 months for 5 years
  - LFTs not recommended
  - CBC not recommended
  - Chest X-ray not recommended
  - Consider annual CT chest, abdomen for patients with high risk of recurrence
Surveillance Colonoscopy

- Perioperative colonoscopy to detect synchronous cancers and polyps
- Within 1 year of surgery- metachronous cancers occur in 1.5 – 3 occur in the first 5 years. Incidence slightly higher in younger patients
- Anastamotic cancers occur in 5-10 %, mostly in rectal cancers
- If the 1 yr colonoscopy is negative, then recommended at 3 and every 5 years thereafter
Breast Cancer surveillance

• ASCO guidelines
  – H &P 3-6 months for 3 years, 6 months year 4,5, then annual
  – Specifically ask about new lumps, bone pain, chest pain, dyspnea, headache
  – Monthly breast self exam
  – Mammogram 1 year from previous, at least 6 months after radiation
  – Yearly pelvic exam, especially on Tamoxifen
  – Not recommended - blood tests, imaging studies or tumor markers
  – Breast MRI for patients at high risk/BRCA mutations
Testicular cancer

• Post orchiectomy surveillance if RPLND is not performed
  – Physical exam, chest X-ray, serum tumor markers every other month for 2 years, every 4 months in year 3, annual thereafter
  – Abdominal MRI / CT scans every 4 months for 2 years, then periodically
Hodgkin's Disease

• Screening for lung cancer yearly in smokers
• Mammogram yearly in women treated with mantle radiation beginning 10 years after treatment or age 40.
• Colonoscopy? At an earlier age, there is increased risk of colon cancers in this population
• Post splenectomy/ asplenia, pneumococcal and H flu vaccine every 6 years
• Flu vaccine yearly
• Also consider screening for cardiovascular disease
Other cancers

• Lung cancer
  – Stage I/II resected lung cancer, chest X-ray every 3 months, H&P every 3 months for 3 years, 6 months for yr 4,5, yearly afterwards
  – CT scan every year

• Prostate
  – No clear cut recommendations. PSA, DRE, Physical exam
Lymphomas

• Most guidelines are better defined for Hodgkin's disease.
• H&P, biochemical profile, ESR should be evaluated every 3 months for 3 years, every 6 months for yrs 3-5, annually afterwards
• CT / Pet scan one month after treatment with chemotherapy alone, 3 months after radiation therapy
• NCCN guidelines recommend follow up CT scan every 3 months for 3 years, not accepted by every group.
Genetic counseling

- Family History should be obtained every few months
  - BRCA testing/ counseling - breast, ovarian cancer
  - HNPCC testing – colorectal, endometrial cancers
  - P53 mutations – sarcomas, brain tumors, clustering of other cancers
Physical Symptoms

• Weight gain
  – Fatigue, persistent
  – Hypothyroidism
  – Depression
  – pain
• Ear problems
  – Hearing loss due to chemotherapy, antibiotics
• Dental problems
  – Radiation causing dryness
  – Osteonecrosis of the jaw due to bisphosphonates
Physical symptoms

• Dyspnea
  – CHF (anthracyclines, Trastuzamab, Bevacizumab)
  – Lung toxicity due to radiation, chemotherapy

• GI symptoms
  – Chronic diarrhea, post surgery,
  – Abdominal pain
  – Rectal bleeding

• Arthralgias
  – Aromatase inhibitors, Tamoxifen
Cardiotoxicity

• Anthracyclines
  – Adriamycin=doxorubicin,(epirubicin), Herceptin)

• Cardiomyopathy (heart muscle weakness, not coronary artery disease → MI)

• Predisposing factors:
  – preexisting heart disease, longstanding hypertension, lifetime dose >500 mg/m2, age > 70
  – 25%

• If no risk factors, <0.5%

• Monitor heart function with MUGA or ECHO

• Use noncardiotoxic regimens if necessary (TC)
### Summary of Cardiac Toxicity in Herceptin Studies

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Herceptin cardiotoxicity often reversible
Secondary malignancies

Leukemia/myelodysplastic syndromes:
- linked to higher doses of Cytoxan (epirubicin) in some but not all studies
- occurs 3 to 7 years after treatment
- incidence < 0.5% with standard doses
- something to think about in second breast cancers
Long term side effects

- **Lymph edema**
  - Early referral, sleeve, minimize trauma, prevent infections
- **Bone health** (especially on Al’s in postmenopausal women)
  - Calcium and vitamin D
  - Weight bearing exercises
  - Stop tobacco
  - Bisphosphonates, Denosumab (monoclonal antibody to RANK Ligand)
  - DEXA scan every 2 years
- **Thromboembolic disease**
  - Increased incidence on tamoxifen
  - Education, stop smoking, activity, weight loss
Osteoporosis Management

- Activity, regular exercise program
- Decreased alcohol, caffeine
- Stop smoking
- Calcium and vitamin D supplementation
- Bisphosphonates, IV indicated in patients intolerant of oral
- Denusomab, indicated in women with an osteoporotic fracture or osteoporosis with multiple risks for fractures
Denusomab Trials

% Change Lumbar Spine BMD (least square mean ± SE)

- a P < .001 vs placebo
- b P < .05 vs ALN

- DEN 210 mg (a, b)
- DEN 100 mg (a)
- DEN 60 mg (a)
- ALN (a)
- DEN 14 mg (a)
- Placebo

Month

0 3 6 9 12 15 18 21 24
Menopause/
premature ovarian failure

- Some chemotherapy, particularly alkylating agents like Cytoxan, are toxic to eggs.
- Effects are age- and dose-dependant
  - Younger women less affected presumably because have more eggs to start with.
  - Woman over 40 most likely to have permanent menopause.
  - Periods may stop, but can return up to 2 years later, particularly in women under 40 (use birth control even if not menstruating)
I’m still hot, it just comes in flashes now!
Psychomotor symptoms

• Hot flashes
  – Venlafaxine – doses of 37.5 to 75 mg 60% reduction
  – Paxil – 10- 20 mg a day. Possible interaction with Tamoxifen
  – Gabapentin – 900 mg bid equally effective, but more drowsiness
  – Clonidine
  – Aspirin
  – Megace _ very effective, but concern in breast cancer

• Insomnia
  – Yoga, small , non randomized trials in all comers showed benefit
  – Acupuncture
  – Sleep therapy
  – Medications
Hot flashes
Gonadal/ Sexual effects

- Premature menopause
- Pelvic pain
  - radiation, surgery
- Decreased Libido
  - Fatigue, loss of body image, vaginal dryness with painful intercourse
    - Vaginal lubricants, testosterone can help
- Erectile Dysfunction
  - Surgery for prostate cancer, GnRH analogues, pelvic radiation
    - Medications, mechanical devices
Physiological Side Effects

• Short term side effects:
  
  – Improved with better supportive care drugs
    • Antiemetics (emend, Aloxi, Kytril, Zofran)
    • Growth factors (Neupogen, Neulasta, Procrit, Aranesp)
Physiological Side Effects

• Long term side effects
  – Fatigue: treat anemia, exercise, sleep, depression?
  – Weight gain: exercise to boost metabolism
“Chemo brain”

- poorly understood, difficult to quantify
- neurocognitive testing before and after chemo
- may be tied to fatigue, depression, lack of sleep
- dementia drugs may help
Cognitive dysfunction

Memory loss

• Trouble paying attention
• Trouble finding the right word
• Difficulty with new learning
• Difficulty managing daily activities
Predictors of Cognitive Deficits

• Type of chemotherapy?
• Education level and IQ
• Depression
• Co-morbid illness
• History of traumatic brain injury
• History of learning disability
• Genetic variables
• Hormonal factors
Cognitive defects

- Low blood counts
- Stress
- Depression
- Anxiety
- Fatigue and sleep disturbances
- Medication to treat side effects
- Hormonal changes resulting from some cancer treatments
Interventions

Possible pharmacologic interventions

• Erythropoietin
• Methylphenidate (Ritalin)
• Statins – HMG-CoA reductase inhibitors
to preserve blood flow, decrease inflammatorycytokines, reduce oxidative stress
• Modafinil – wakefulness and cognitive enhancer
• Antidepressants
• Treat insomnia
• Herbal remedies
  Gingko Biloba and Ginseng – no standardizedformulation
• Cognitive rehabilitation (R. Ferguson, Darmouth)
  Exercise, memory tasks, puzzles, avoid fatigue
Psychosocial Effects

• Immediate
  – after chemotherapy finishes

• Delayed
  – “Will I ever be normal again?”
  – fear of recurrence
Psychosocial Effects

• After chemotherapy:
  – “Why aren’t I elated?”
    • After all, finishing treatments that make one bald and sick should be a joyous time.
    • Miss the support of the nurses, doctors and fellow patients in the treatment room.
    • The immediate “job/crisis” is over of getting through the chemo, and now it is time to “get on with the rest of one’s life” which is daunting.
    • People around you expect you to be back to normal.
Psychosocial Effects

• Delayed: “Will I ever be normal again?”
  – life changing experience, one is never the same person
  – often a time of spiritual growth, redefinition of life goals
  – antidepressants
  – support groups
You know I thought I felt a breast lump the other day. Lucky for me, it was just my belt buckle!
Psychosocial

• Employment issues
  – Losing a job
  – Finding it harder to obtain another job
  – Coworkers often supportive, but sometimes may be resentful
  – Cognitive disturbances may affect performance
Cancer Survivor statistics

• If you think there is a bias toward Breast Cancer— it is true!

• 11.1 million survivors
  – 23% breast, 16% prostate, 10% colorectal, 9% GYN
  – Average frequency of co morbidities is 25% for all cancers, 19% with breast cancers
  – Average age tends to be younger
FAQs

• Wine and breast cancer risk
  – UK study (million women study) found increased risk with as little as 2 drinks a day

• Aspirin use
  – Nurse’s health study. Observational. Found decrease in risk if taking 2-3 times a week. No specific dose mentioned
FAQs

• Diet
  – WINS study suggested benefit with less than 15% fat intake
  – WHEL study did not show benefit
  – Reduced meat and increased vegetables reduce colon cancer risk

• Exercise
  – Nurses Health study showed an improvement in survival for both colorectal and breast cancer with regular exercise. Improved fatigue and quality of life
Psychosocial Effects

- “Exit Interview” or debriefing
  - being told what commonly happens is enormously reassuring, even if it doesn’t prevent it
  - don’t be surprised if not elated, and if more depressed than ever.
  - peaks over about 2-3 months and gradually fades.
Treatment Summary

• Include:
  – Chemotherapy regimen, doses, toxicities experienced
  – Names and contact information for all treating physicians
  – Information regarding side effects, surveillance, plan of care and interval of follow up.
  – Use web sites such as Journey Forward to formulate individual plans
  – Gives a the patient a sense of control
Prayer for Caregivers

Dear God,
Thank you for placing your trust in me and blessing me by calling me a care giver.
Thank you for these special gifts.
Keep me ever mindful of the words that issue from my mouth and the wordless messages I convey in other ways.
May I always be an instrument of peace and healing in this world.