Cancer Survivorship - a new challenge in cancer care

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SURVIVORSHIP

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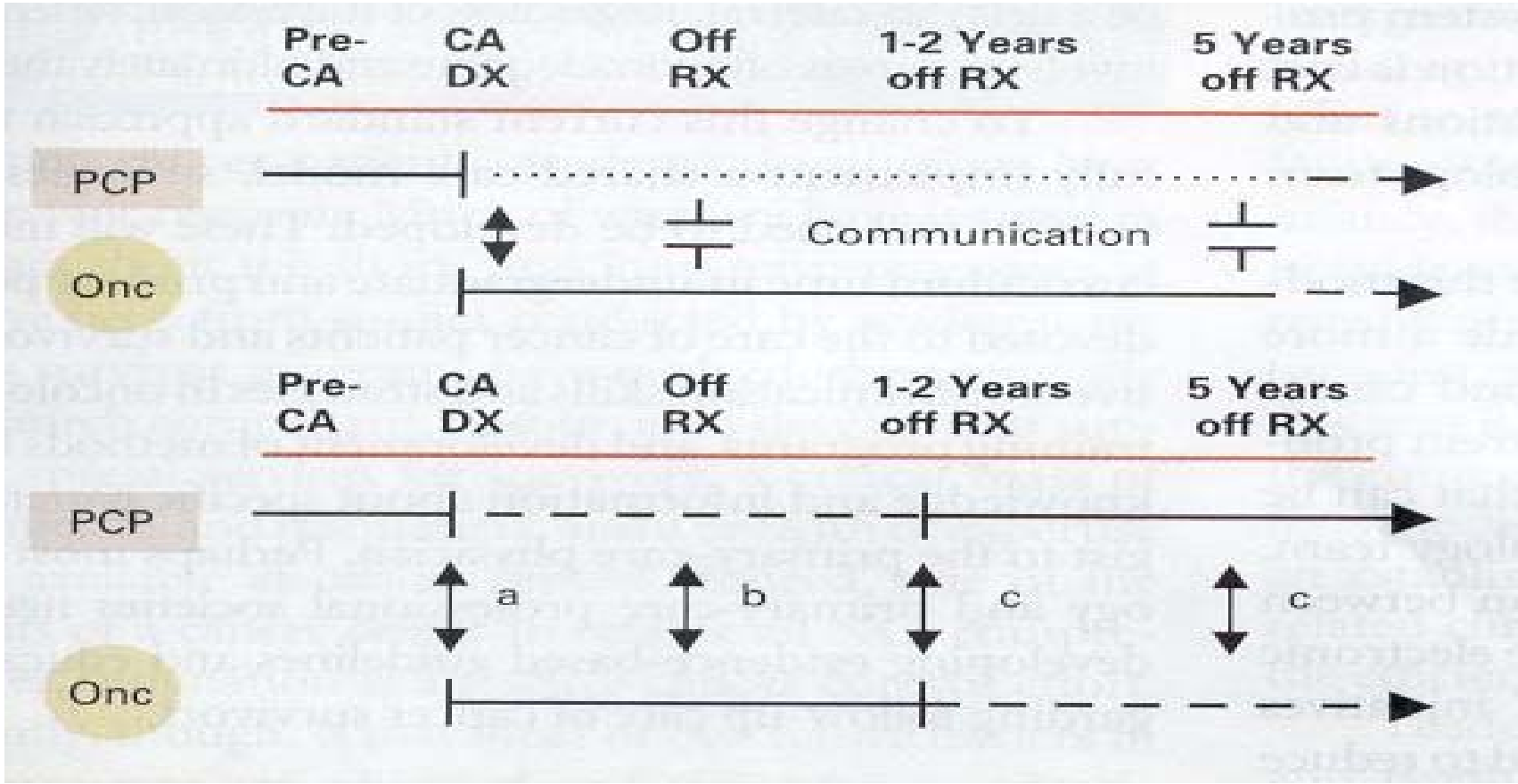
“Care givers and doctors are finally getting on the same page about cancer survivorship. Journey Forward has released a new computer based tool that can benefit anyone with cancer”.

“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 moths 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 orciectomy 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 bisphospohonates

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, <u>not</u> 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

Study	Percent Congestive Heart Failure	
	Control	Trastuzumab arm
B-31	0.7	4.1
N9831	0	2.2-3.3
HERA	0	0.5

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

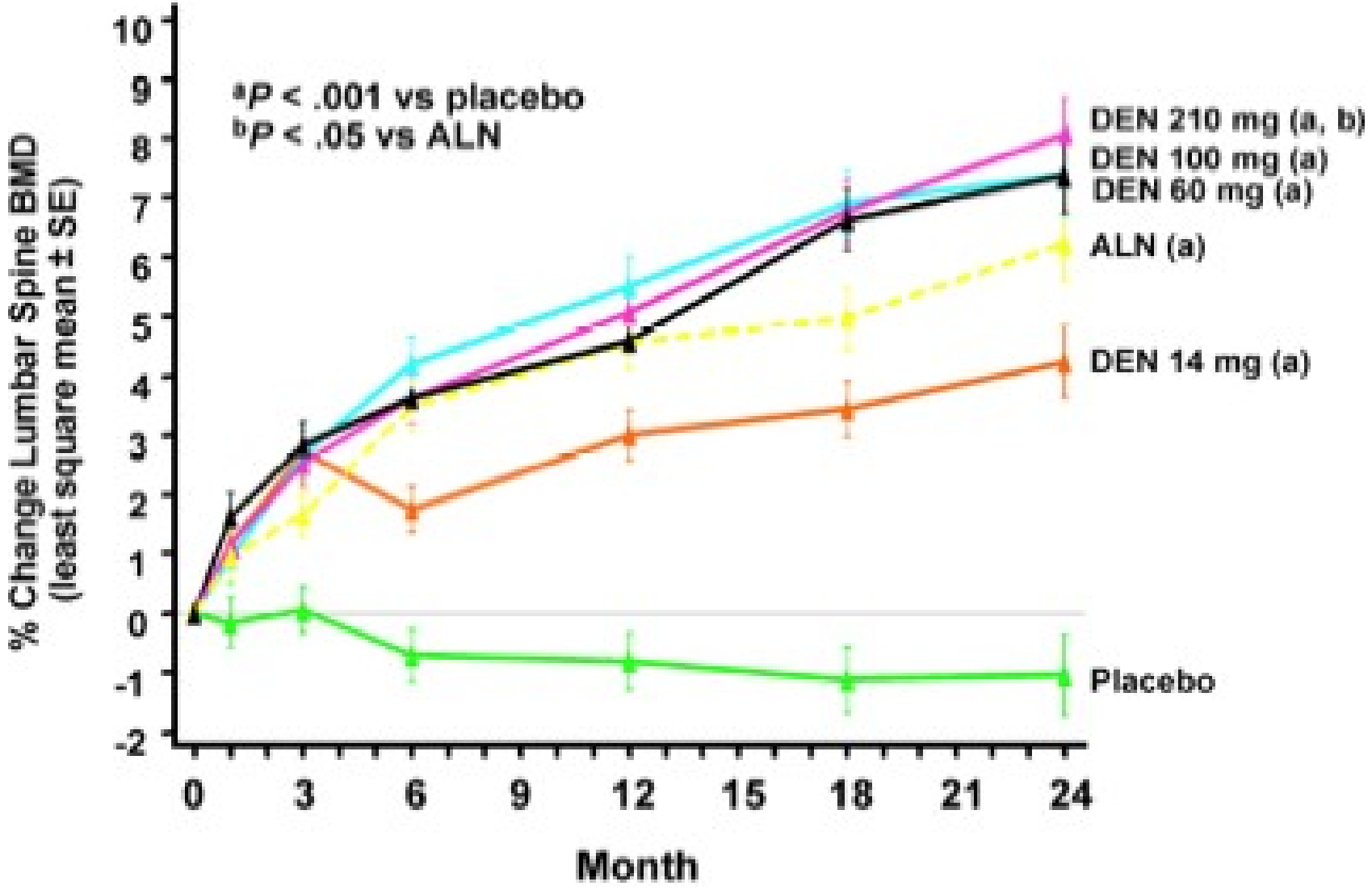
Long term side effects

- Lymph edema

  Early referral, sleeve, minimize trauma , prevent infections
- Bone health (especially on AI's in postmenopausal women)
  - Calcium and vitamin D
  - Weight bearing exercises
  - Stop tobacco
  - Bisphosphanates, 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
- Bisphopshonates, IV indicated in patients intolerant of oral
- Denusomab, indicated in women with an osteoporotic fracture or osteoporosis with multiple risks for fractures



Denusomab Trials

Menopause/ premature ovarian failure

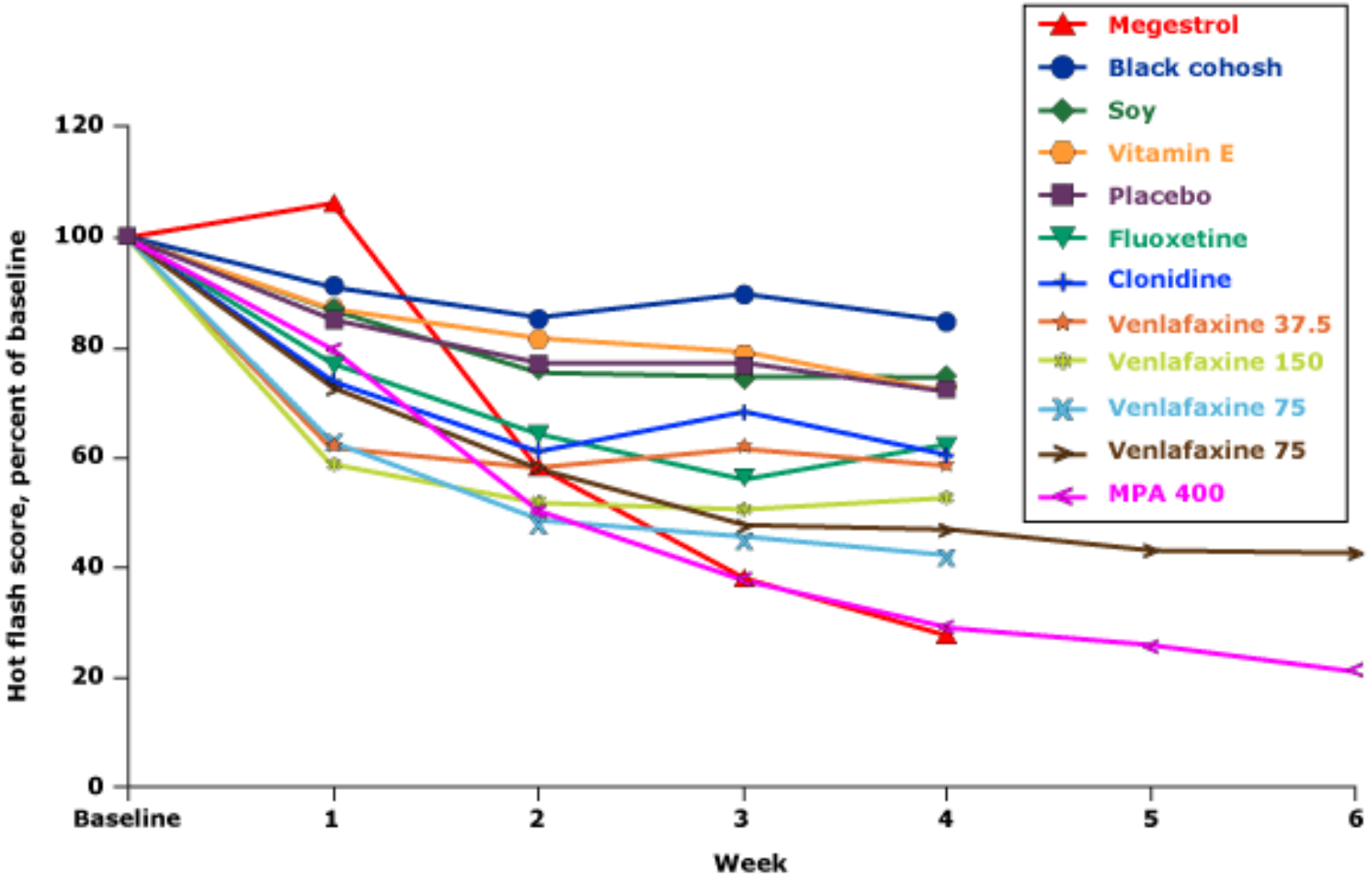
- Some chemotherapy, particularly alkylating agents like Cytoxan, are toxic to eggs.
- Effects are age- and dose-dependant
  - Younger women less affected presumably because have more eggs to start with.
  - Woman over 40 most likely to have permanent menopause.
  - Periods may stop, but can return up 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


Megestrol
Black cohosh
Soy
Vitamin E
Placebo
Fluoxetine
Clonidine
Venlafaxine 37.5
Venlafaxine 150
Venlafaxine 75
Venlafaxine 75
MPA 400
Hot flash score, percent of baseline
120
100
80
60
40
20
0
Baseline
1
2
3
4
5
6
Week

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 inflammatory cytokines, reduce oxidative stress
- Modafinil – wakefulness and cognitive enhancer
- Antidepressants
- Treat insomnia
- Herbal remedies

  Gingko Biloba and Ginseng – no standardized formulation
- Cognitive rehabilitation (R. Ferguson, Darmouth)

  Exercise, memory tasks, puzzles, avoid fatigue

Psychosocial Effects

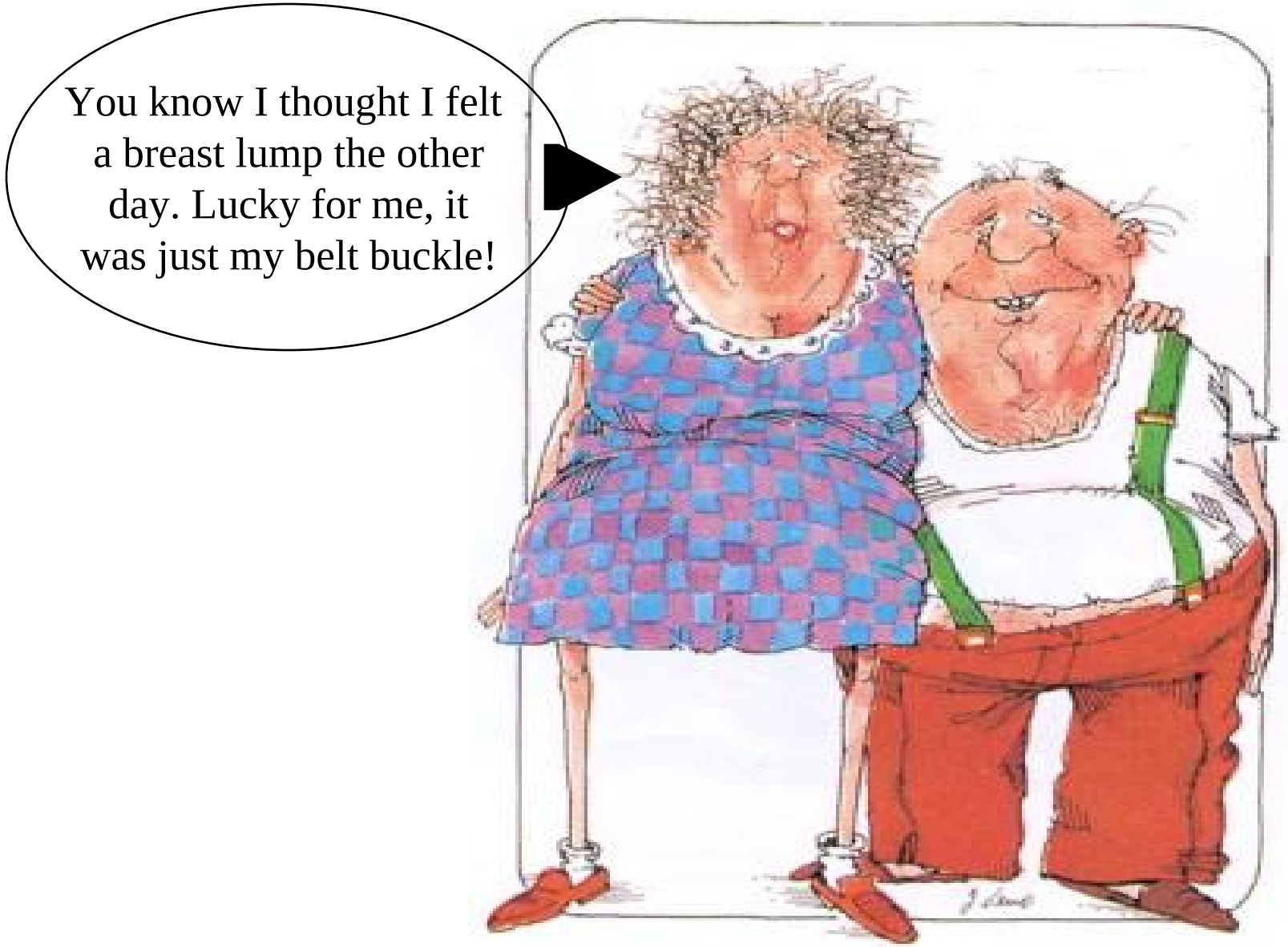
- Immediate
  - after chemotherapy finishes
- Delayed
  - “Will I ever be normal again?”
  - fear of recurrence

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 form my mouth and the wordless messages I convey in other ways.

May I always be an instrument of peace and healing in this world.