Managing Side Effects of Hormonal & Targeted Therapy

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Breast Cancer Subtypes

75% Ductal: Invasive and non-invasive
15% Lobular Invasive
Prognostic Markers

- **Estrogen (ER):** 0-100%
- **Progesterone (PR):** 0-100%
- **HER-2:** 0 - 3+ (IHC)
- **HER-2:** > 2.0 (FISH)
Hormonal therapy for premenopausal ER + breast cancer

Receptors for certain hormones (estrogen) may be on cancer cells

These receptors can be blocked by medication (anti-estrogen) therapy

- Tamoxifen: is a SERM - selective estrogen receptor modulator
- Tamoxifen is an “anti-estrogen” therapy
- Tamoxifen binds to the estrogen receptor site on the cancer cell - preventing the cancer cell from using estrogen to grow
- Oral tablet, once daily from 5-10 years of treatment
Tamoxifen Side Effects

- Hot flashes
- Mood changes
- Blood clots
- Swelling (fluid retention in feet, ankles or hands)
- Loss of Libido
- Uterine cancer
Lifestyle strategies for Managing Hot Flashes

- Wear light clothing
- Stay in a cool environment when possible
- Cooling cloths, pillows, headbands, necklaces
- Keep a fan close by
- Avoid triggers (alcohol, sun exposure)
Medications commonly used to treat hot flashes

Antidepressants:
- Citalopram (Celexa) 10mg
- Venlafaxine (Effexor) 75mg

Anticonvulsant agent
- Gabapentin (Neurontin) 300mg

Anticholinergic agent
- Oxybutnin 2.5mg twice daily

Antihypertensive agent
- Clonidine (Catapress) 0.1mg
Non-pharmacological treatments for hot flashes

- **Acupuncture:** certain point triggers may impact hot flashes
- **Massage:** gentle, relaxation massage
- **YOGA:** certain movements decrease hot flashes
- **Meditation:** relaxation in a cool room
- **Exercise:** 20 minutes daily decreases hot flashes
- **Dietary:** spicy, greasy foods, caffeine, alcohol may trigger hot flashes
Managing mood swings

Journaling is a therapeutic exercise to help manage mood by expressing your thoughts/fears in a private and safe space.

Cognitive therapy (counseling) helps with processing the experience of cancer and learning mechanisms to cope with changes.
Guided imagery is a good method to help manage change in mood

Meditation/mindfulness strategies help focus and manage mood
Managing mood swings

• Medications may be necessary to manage mood swings if anxiety and/or depression is contributing to the issue

• Safest choices (if you are on Tamoxifen):
  • Effexor (venlafaxine)
  • Pristiq (desvenlafaxine)
  • Lexapro (escitalopram)
  • Celexa (citalopram)

• Avoid (if you are on Tamoxifen):
  • Paxil (paroxitene)
  • Prozac (fluoxitene)
<table>
<thead>
<tr>
<th>Manage mood swings by practicing self-love</th>
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<tbody>
<tr>
<td>Put yourself first</td>
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<tr>
<td>List one thing that brings YOU joy</td>
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<tr>
<td>Take breaks throughout the day just to deep breathe for 2 minutes</td>
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<td>Remove visible clutter - this calms the mind</td>
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<tr>
<td>Talk to your reflection in the mirror - you are beautiful</td>
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<td>Wear a favorite outfit</td>
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Manage mood swings by practicing self-love

- Take a selfie – focus on your smile
- Journal something special
- Prioritize your needs by making a list of the things your friends or family can do for you
- Get out in nature
- Seek alone time - read a book, practice yoga or meditate
Managing swelling

1. Drink plenty of fluid (1/2 your body weight in fluid) every day
2. Stay active: sedentary lifestyle causes dependent fluid
3. Discuss compression stockings with your provider
4. Elevate your feet in the evening if needed
5. Eat less salt in your diet and consider magnesium
Rare side effects of Tamoxifen

Blood clots (deep vein thrombosis and pulmonary embolism) with Tamoxifen
Risk of 1.0%

Uterine hyperplasia - uterine cancer (bleeding first sign) with Tamoxifen
Risk of 2.2%
Hormonal therapy for post-menopausal ER+ breast cancer

Aromatase Inhibitor Therapy:
- Anastrozole (Arimidex)
- Letrozole (Femara)
- Exemestane (Aromasin)

Works by blocking the enzyme aromatase (which is used to covert androgens produced by the adrenals glands) into estrogen. Tumor cells dependent on estrogens grow less when there is no estrogen.

Oral tablets, once daily 5 years in adjuvant therapy

Also used in metastatic disease
Aromatase Inhibitor Therapy Side Effects

- Hot flashes
- Joint pain
- Vaginal dryness
- Osteopenia
- Insomnia
Managing joint pain

Keep moving! Exercise 30 minutes daily; walking, swimming, stretching

Seems to be worse first thing in the morning, feeling of stiffness - improves through the day

Vitamin D may help with joint pain - ask your provider what your level shows - you may need a supplemental dosage

Acetaminophen or ibuprofen may help with generalized joint pain

Talk to your provider BEFORE stopping therapy - be honest!
Managing vaginal dryness

- **OTC moisturizers/lubricants**
  - Replens, Lubrin, Astroglide & K-Y jelly, Luvena

- **Fruit & Vegetable Oil**
  - Coconut, Almond, Apricot & Vitamin E

- **Topical estrogen**
  - Premarin, Estrace, compounded prescriptions (estriol)

- **Laser therapy**
  - MonaLisa, Thermiva
Managing osteopenia

- **Weight resistance**: 150 minutes/week
- **Vitamin D & Calcium**: 600IU & 1200mg
Managing osteopenia

Medication (Oral, injection, infusion)
Actonel, Fosamax, Boniva, Prolia, Reclast

Assess your personal risk (FRAX)
Increasing age, family history of osteoporosis, personal history of fracture, smoking history, long-term use of steroids, bone density score
Managing insomnia

• Good sleep hygiene is critical to overall health; most women need 8-9 hours sleep/night
• Create an environment to stimulate relaxation/sleep (comfortable bedding, cool and dark room, “white noise”)
• No stimulating or upsetting activities before bedtime; avoid electronics 60 minutes prior to bedtime
• Low lighting (eye mask, room darkening curtains, dim electronic screens)
• If you can’t fall asleep - get up. Read a book, stretch or journal - when you get sleepy then try going back to bed
• Avoid eating late in the evening and avoid caffeine if that keeps you awake
Targeted therapy for HER-2 positive breast cancer

- Herceptin (trastuzumab) - early stage & metastatic
- Perjeta (pertuzumab) - early stage & metastatic
- Nerlynx® (neratinib) - early stage
- Tykerb (lapatinib) - metastatic
- Kadcyla (ado-trastuzumab emtansine) - metastatic
HER 2 Targeted Therapy Side Effects

- Heart issues - temporary and reversible for most
- Diarrhea - most severe with Perjeta and Nerlynx
- Low white count - increases with chemotherapy
- Liver problems - most common with Nerlynx and Kadcyla
- Fatigue - all HER-2 targeted therapies
- Rash - most common with early doses and Nerlynx
Managing heart problems

• ECHO or MUGA before and periodically during treatment
• Some heart medicines may improve heart function while on treatment
• May require holding treatment for heart function to improve
• Signs to report: Increasing shortness of breath, weight gain, swelling in the legs, heart racing or skipping beats and pressure in the chest when laying flat - these symptoms could be related to a heart problem (heart failure)
Managing diarrhea

Perjeta - at first sign of diarrhea start loperamide - 2 tablets with first loose stool and 1 tablet with each stool up to 10 tablets/day

Nerlynx - start loperamide 2 (2mg tablets) 3 times a day for 2 weeks; then 2 (2mg tablets) 2 times a day from day 15 to day 56 and then 2 (2mg tablets) as needed. In addition to Imodium take budesonide 9mg daily x 28 days
Managing diarrhea

- Stay well hydrated
- Avoid spicy, fried or greasy foods
- Dairy products may make the diarrhea worse
- Be cautious with alcohol and caffeine as these may trigger more diarrhea
- Use the BRAT diet if needed: bananas, rice, applesauce, toast
- Report increased stools to your provider
Managing white blood counts

Your doctor will check your counts when receiving a HER-2 targeted therapy with chemotherapy.

Once chemotherapy is completed, you won’t need your white count checked any longer.

Signs to report:

- Fever, chills, cough, burning with urination etc. may be an infection related to low white blood count.
Managing liver problems

**Check**
Your doctor will check a chemistry profile, periodically, while on Nerlynx and Kadcyla; this evaluates liver function

**Avoid**
Avoid alcohol and Tylenol especially if liver function is elevated

**Use**
Use caution with herbal supplements, as some will raise liver function
Managing fatigue

- Get to the root of the problem and treat appropriately
- Exercise increases natural endorphins which decrease fatigue
- Get plenty of sleep
Managing rash

- Keep skin moisturized with creams and lotions
- May need a prescription for a topical steroid
- Treatment may need to be held or stopped
- Antibiotic therapy may be necessary in some cases
Communicate to your provider!

• Make a list of side effects you are experiencing
• Schedule an appointment to discuss side effects with your provider
• Ask if supplements or complimentary therapies are safe BEFORE starting
• Be honest!
• Remember hormone and targeted therapies reduce the risk of recurrence in early stage cancer and delay progression in metastatic cancer
Questions????