



Breast Ca Coalition 2013

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Metastatic Breast Cancer

MBC





Metastatic Breast Cancer

- ◆ What is metastatic cancer?
- ◆ What's the approach to therapy?
- ◆ Where are we going?



MBC terminology

- ◆ Primary
- ◆ Recurrent
- ◆ Metastasis
 - ◆ local metastasis
 - ◆ distant metastasis
- ◆ Staging Stage 1, Stage 2
 Stage 3, Stage 4



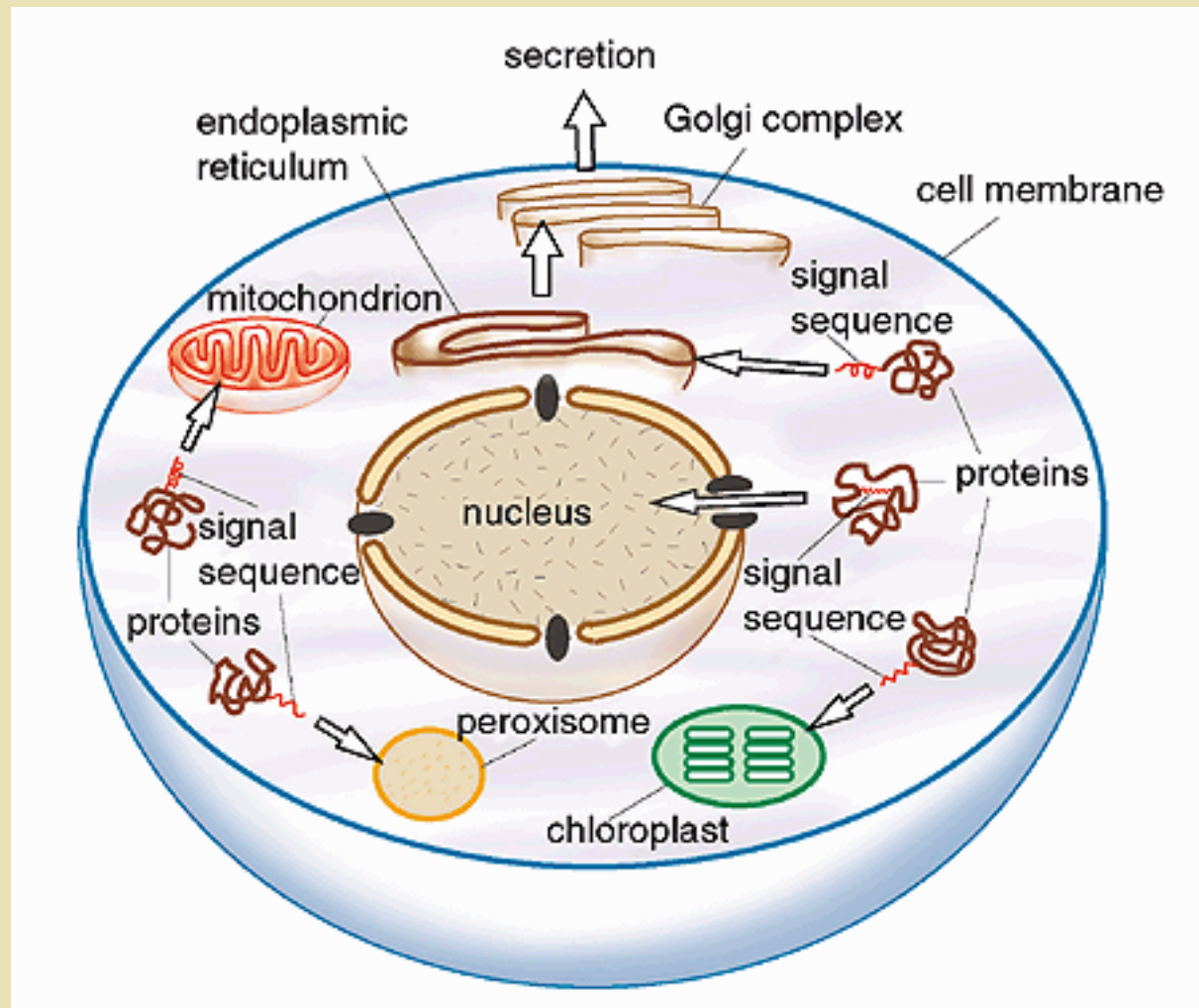
MBC

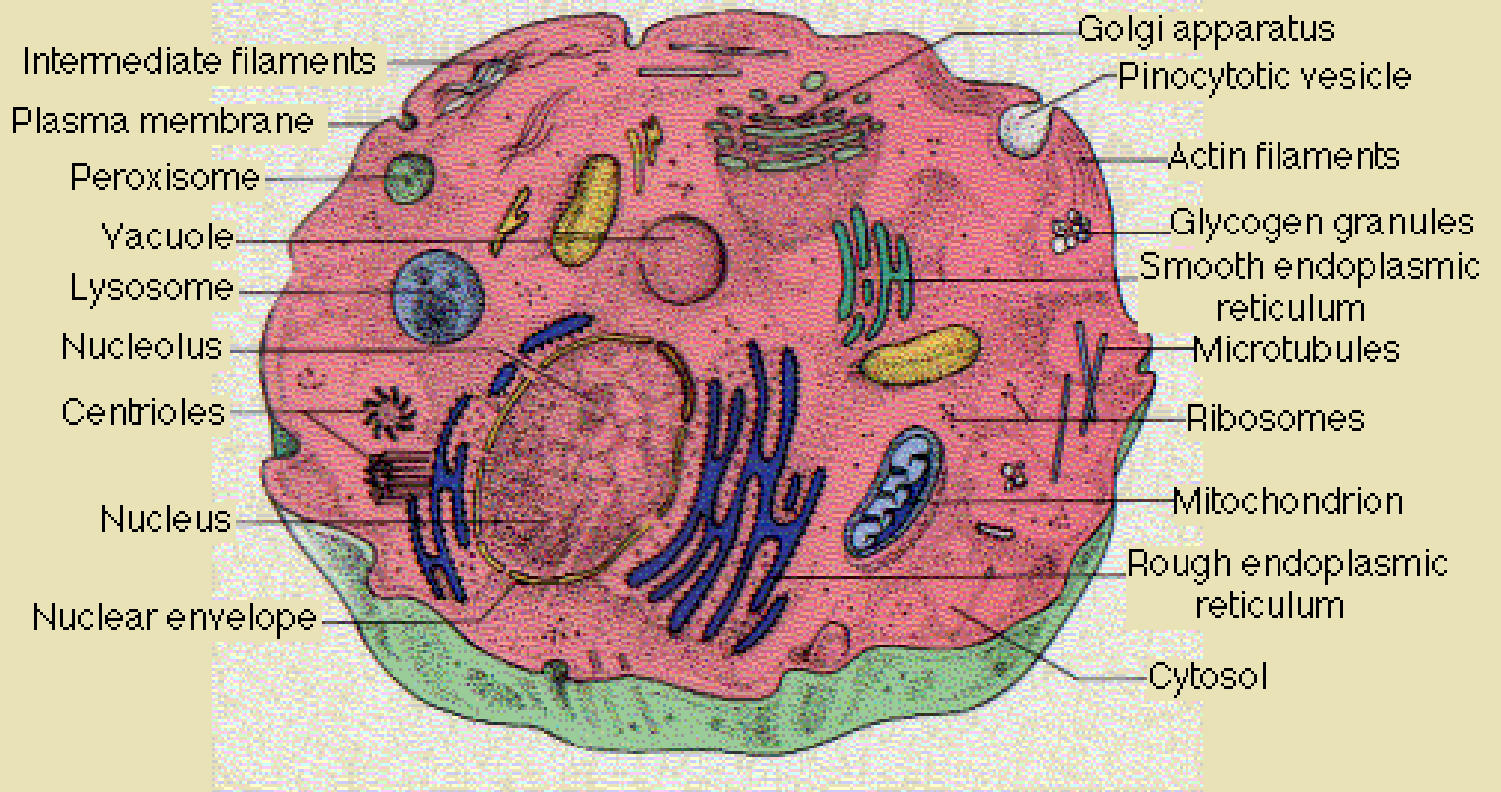
- ◆ ER/PR
- ◆ HER 2
- ◆ Adenocarcinoma
- ◆ Ductal carcinoma
- ◆ Lobular carcinoma

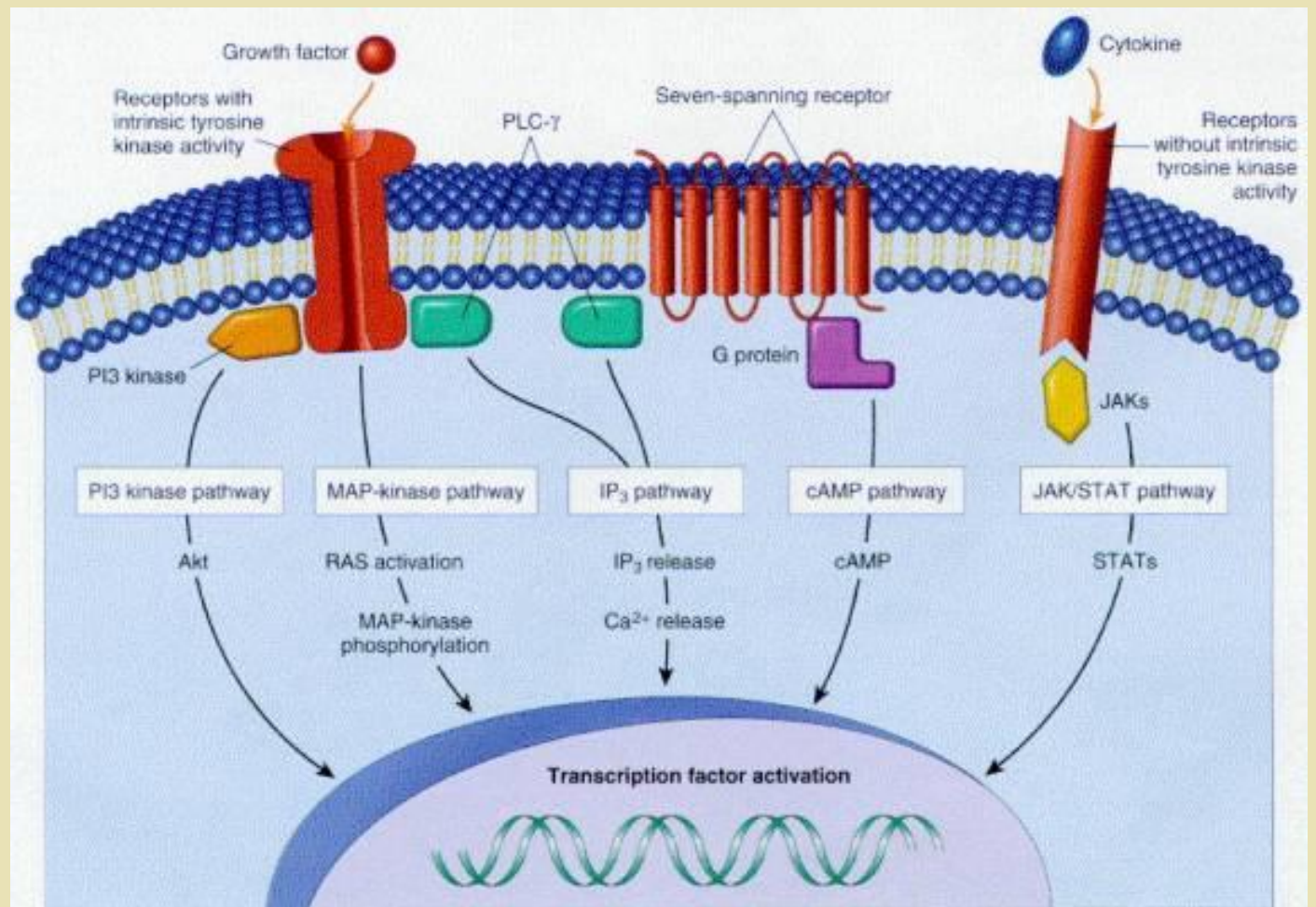


MBC

- ◆ Chemotherapy
- ◆ Hormonal therapy
- ◆ Targeted therapy
- ◆ Radiation therapy
- ◆ Surgical therapy









Life of a Cancer Cell

- ◆ Nourish itself
- ◆ Break away from its home
- ◆ Travel in blood stream
- ◆ Set up housekeeping in another organ
- ◆ Nourish itself there

How does it do that?





Location of metastases

- ◆ Local Metastases
- ◆ Distant Metastases lung, liver, bone,



Biopsy

- ◆ Why repeat the biopsy?
- ◆ to be sure of diagnosis
- ◆ to recheck the ER/PR, HER 2

Local Recurrence

- ◆ Recurrence in a breast
- ◆ Recurrence in skin or nodes after mastectomy





Local Recurrence

- ◆ Recurrence in breast – mastectomy
- ◆ Recurrence after mastectomy – surgical resection, then radiation
- ◆ Recurrence after mastectomy and radiation, surgically resection

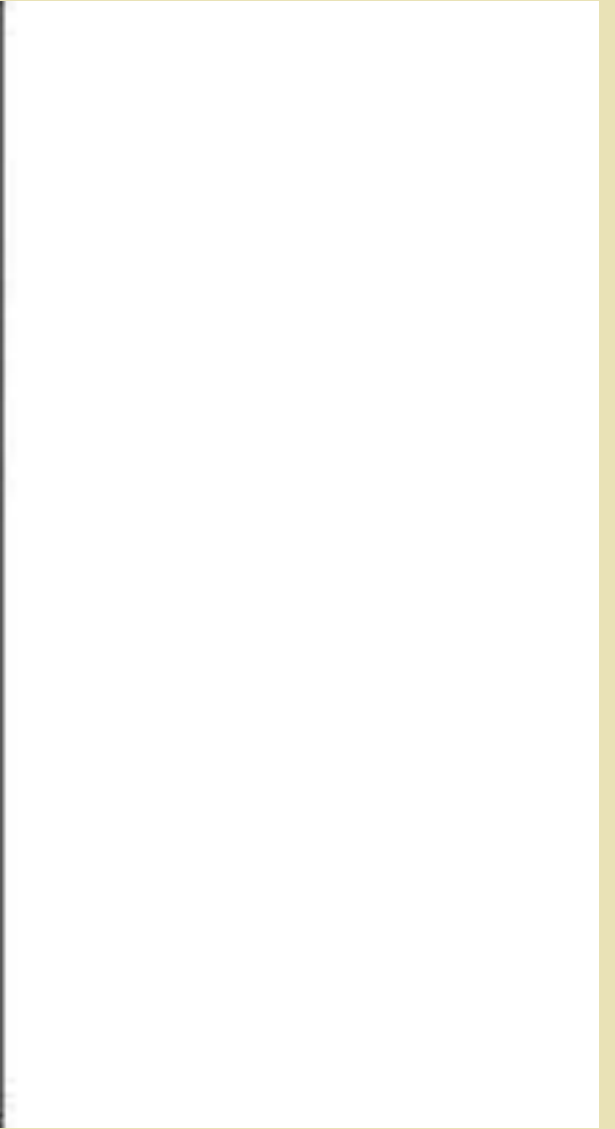
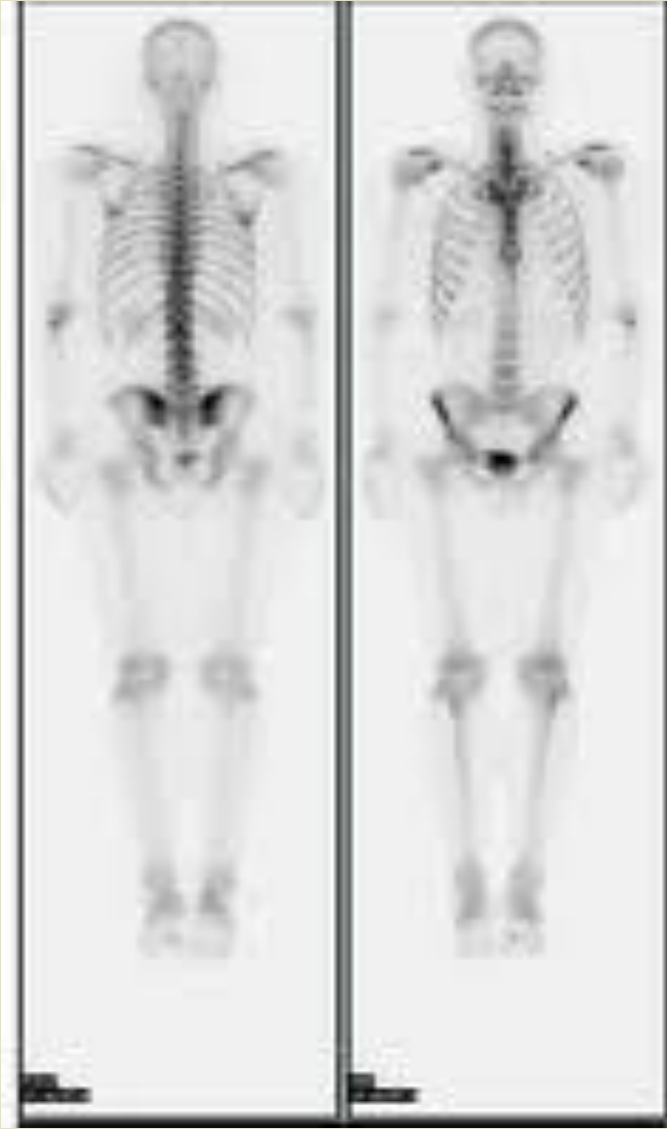


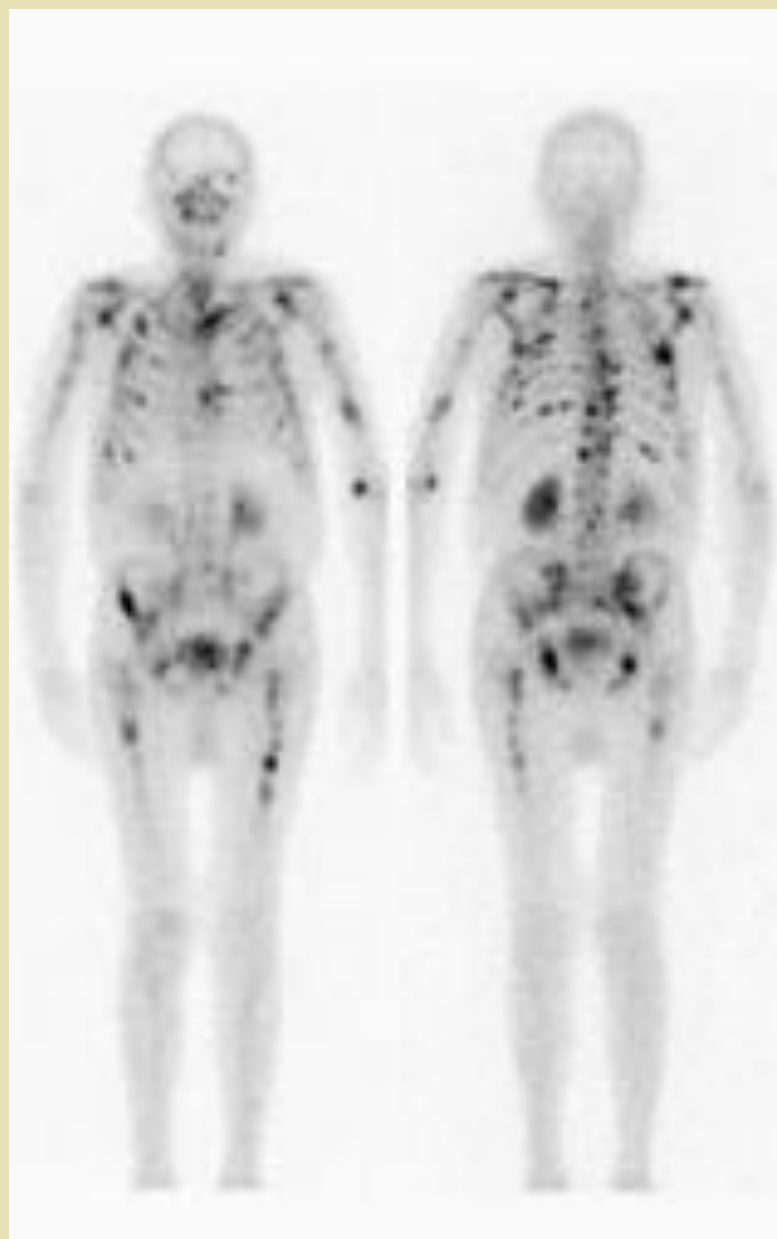
Local Resection

- ◆ Whether lumpectomy, or mastectomy or mastectomy with radiation – after the appropriate local resection, consider ADJUVANT systemic therapy again

MBC Bone Metastases









MBC – Distant Metastases

- ◆ Bone metastases
- ◆ Therapy – We want to consider a bone strengthener
- ◆ We may want to consider radiation therapy
- ◆ We will want to consider systemic therapy, which may be chemo or antiestrogen or targeted therapy depending on tumor characteristics



MBC Bone Metastases

- ◆ Bone strengthener
- ◆ Bisphosphonates Aredia, Zometa
- ◆ These are in the same family of meds used for osteoporosis
- ◆ 2 years at least
- ◆ ONJ – osteonecrosis of jaw



MBC

- ◆ Xgeva (Denosumab)
- ◆ Compared to Zometa and slightly better
- ◆ Given subQ
- ◆ Also used for osteoporosis
- ◆ ONJ



MBC

- ◆ Lung mets
 - ◆ shortness of breath/chest pain
- ◆ Liver mets
 - ◆ nausea/lack of appetite/abdominal pain
- ◆ Brain mets
 - ◆ headaches/dizziness/confusion









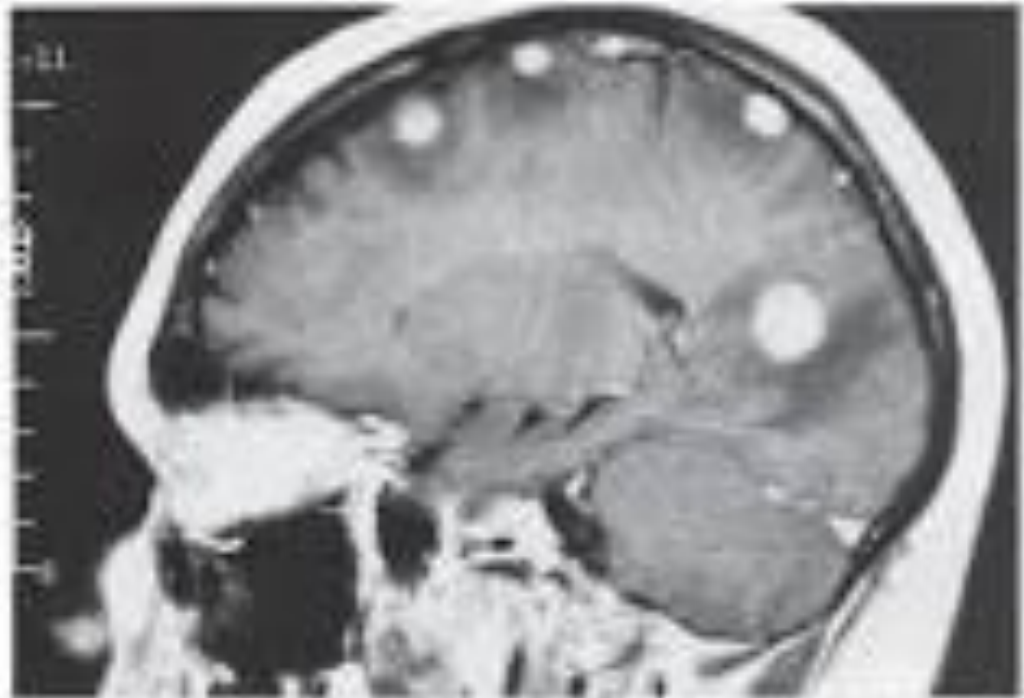


FIGURE 11: Gadolinium-enhanced MRI scan demonstrating multiple brain metastases. Note the edema surrounding each lesion.



Systemic Therapy

- ◆ Chemotherapy
- ◆ Hormonal Therapy
- ◆ Targeted Therapy



Chemotherapy

◆ Adriamycin

◆ Taxol

◆ Gemzar

◆ Xeloda

◆ Ixempra

◆ Abraxane

Cytosan

Taxotere

Navelbine

Methotrexate

Eribulin



Hormonal Therapy

- ◆ Antiestrogen Therapy Endocrine Therapy
- ◆ Tamoxifen
- ◆ Aromatase Inhibitors
 - Arimidex (Anastrozole)
 - Femara (Letrozole)
 - Aromasin (Exemestane)
- Faslodex



Hormonal Therapy

- ◆ Androgens
- ◆ Megace
- ◆ Lupron
- ◆ High Dose ERT
- ◆ BSO (bilateral ovary removal)



HER 2 Therapy

- ◆ Herceptin (Trastuzumab)
- ◆ Pertuzumab
- ◆ Kadcyła

Kadcyla

- ◆ Antibody Drug Conjugate





Elements of an Antibody-Drug Conjugate (ADC)

Antibody

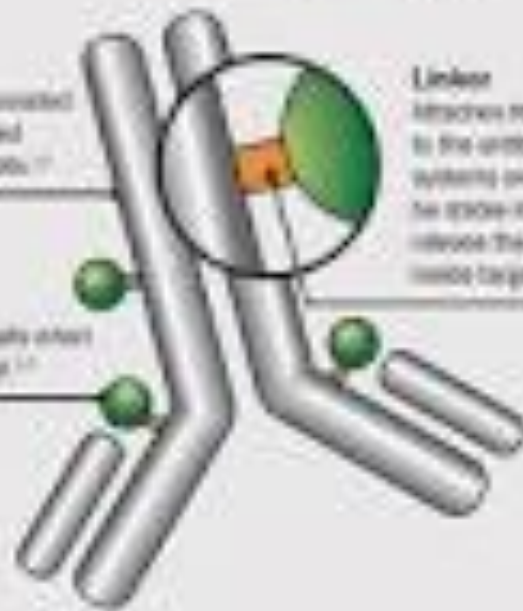
Specific for a tumor-associated antigen that has increased expression on tumor cells.¹⁷

Cytotoxic agent

Designed to kill target cells when internalized and released.¹⁷

Linker

Attaches the cytotoxic agent to the antibody. newer linker systems are designed to be stable in circulation and release the cytotoxic agent inside targeted cells.¹⁷



Reference: 1. Gupta R et al. *Cancer*. 2008;14(5):134-144. 2. Jones RF. *Can J Immunol Allergy*. 2009;57(2):208-216. 3. Fisher JC et al. *Cancer Res*. 2001;61(20):7282-7288.



Targeted Therapy

- ◆ Herceptin
- ◆ Avastin
- ◆ PARP inhibitors
- ◆ Everolimus

Everolimus

- ◆ An M-TOR inhibitor (a step in one of the pathways)





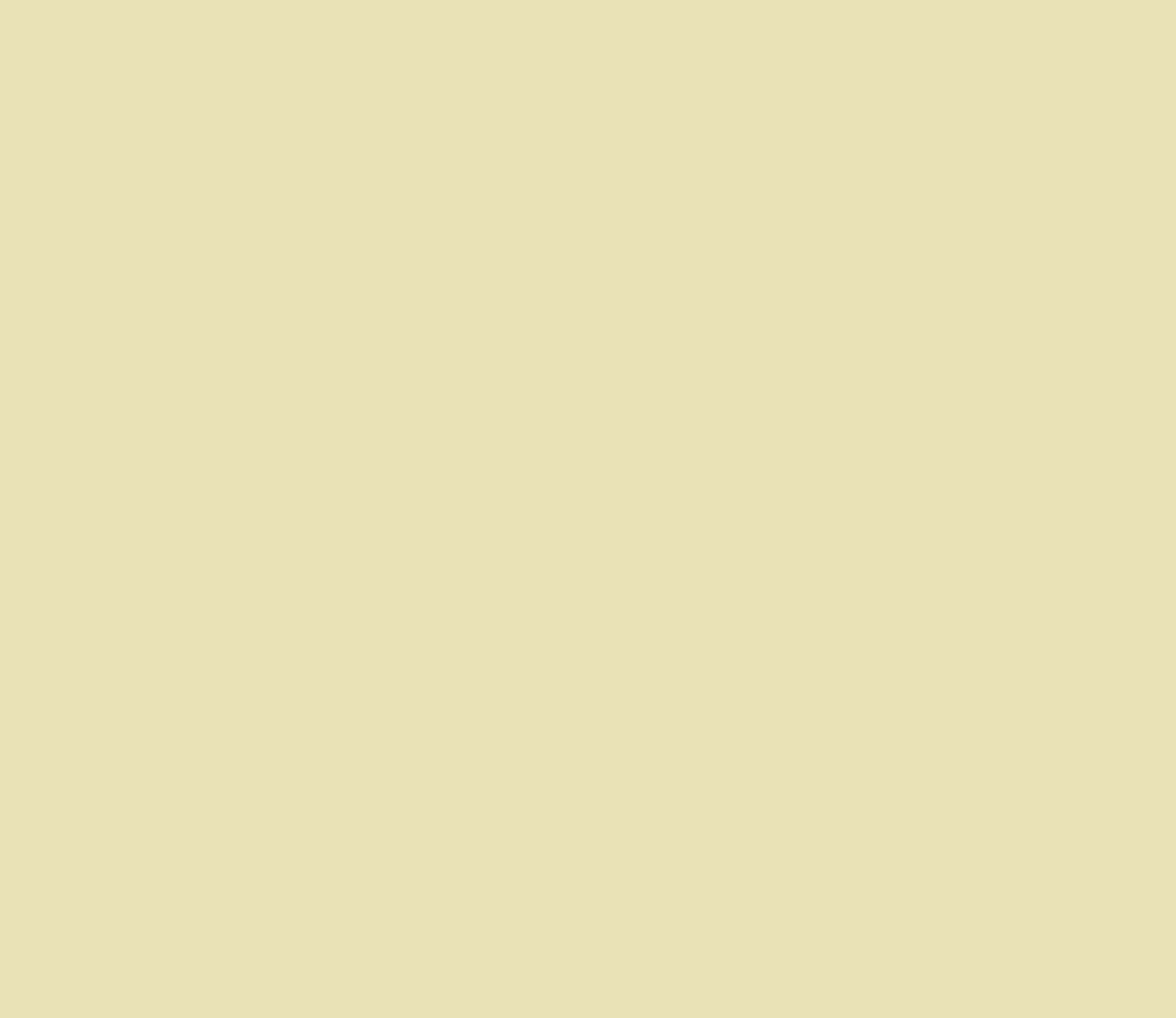
4 New Things

- ◆ Adjuvant systemic treatment (usually antiestrogen) after local therapy
- ◆ Pertuzumab
- ◆ Kadcyca
- ◆ Everolimus plus antiestrogen

Currently being studied

- ◆ PARP inhibitors









◆ Let's find a cure now...

So our daughters won't have to



You are not alone.



Thank You

