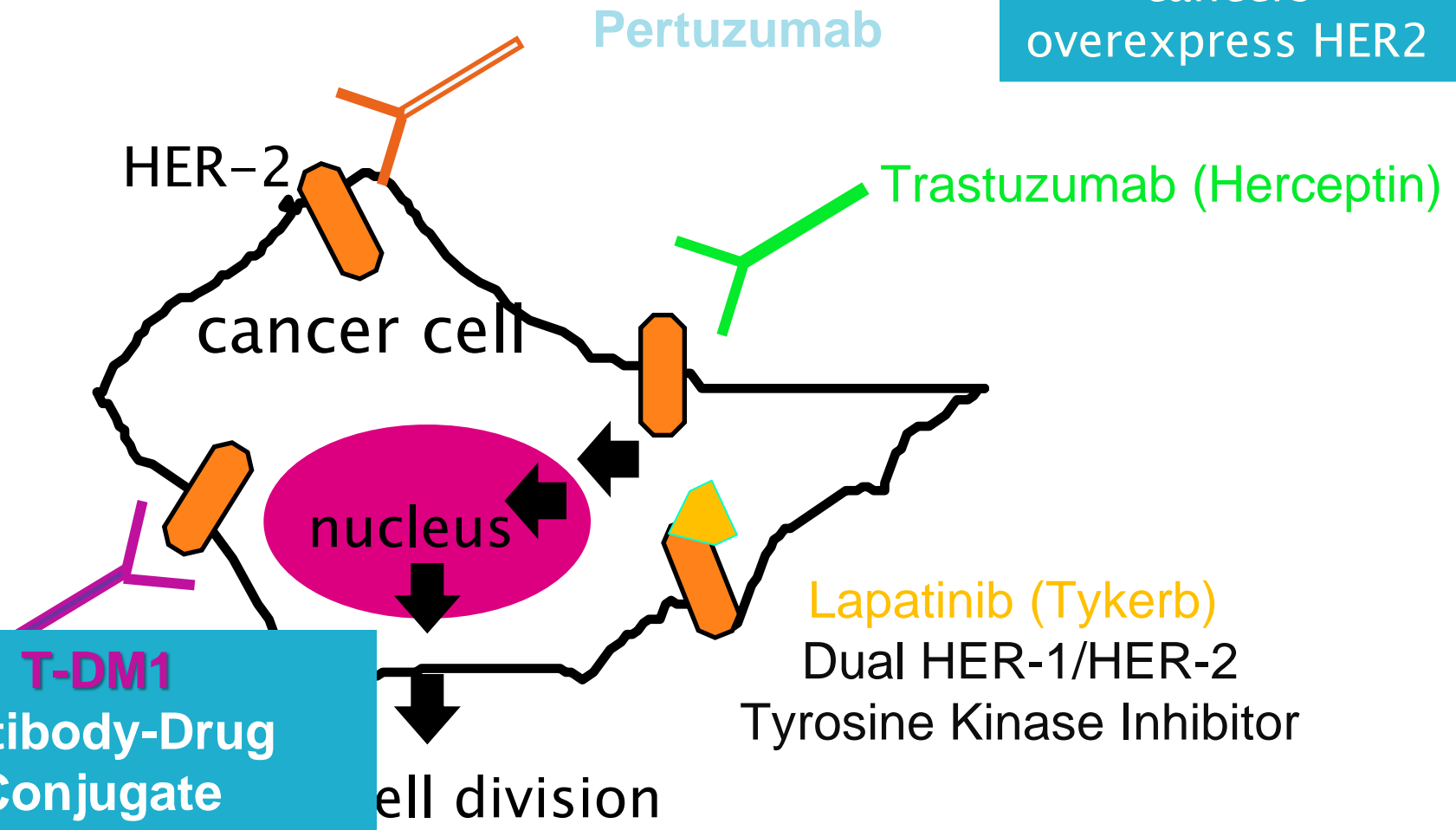


Monoclonal antibodies targeting a HER2 protein overexpressing cell

# Four US FDA-Approved Drugs with HER-2 as a Target

20-25% of breast cancers overexpress HER2



# Adjuvant (Early Stage) HER-2 Targeted Therapy

- ▶ Anti-HER2 monoclonal antibody trastuzumab (Herceptin) for 1 year is standard
  - Reduces recurrence by 1 / 2 & deaths by 1 / 3 when added to chemo in early stage breast cancer
  - Trastuzumab going off patent soon, and prices will drop
- ▶ All regimens include chemotherapy in addition to HER2 targeting therapy

# *European School of Oncology Guideline: HER2 Targeted Therapy for Metastatic Breast Cancer*

Cardosa F et al, J Natl Cancer Inst 101:1174–1181, 2009

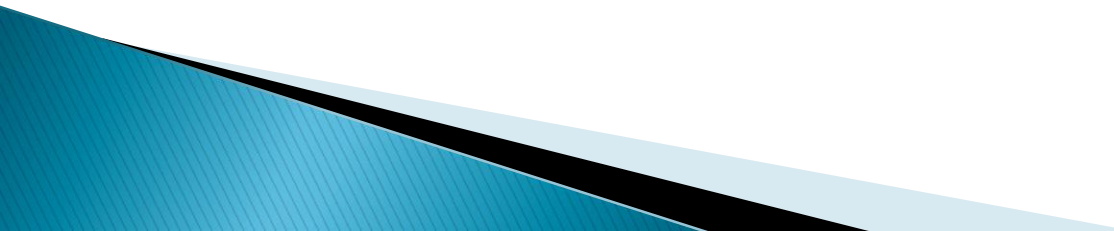
- ▶ Anti-HER2 therapy should be offered early to all HER2+ metastatic breast cancer patients unless contraindicated (or unavailable)
- ▶ Optimal duration of anti-HER2 therapy for metastatic breast cancer (when to stop) unknown

# Trastuzumab / Herceptin

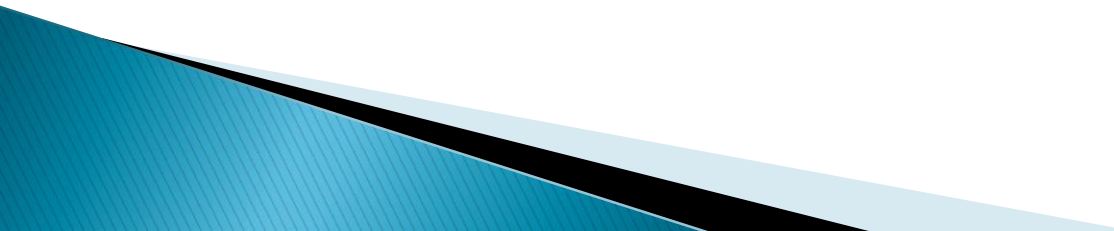


Given to patients whose cancer cells overexpress Her-2-neu as measured by IHC or FISH (25 to 30% of patients)

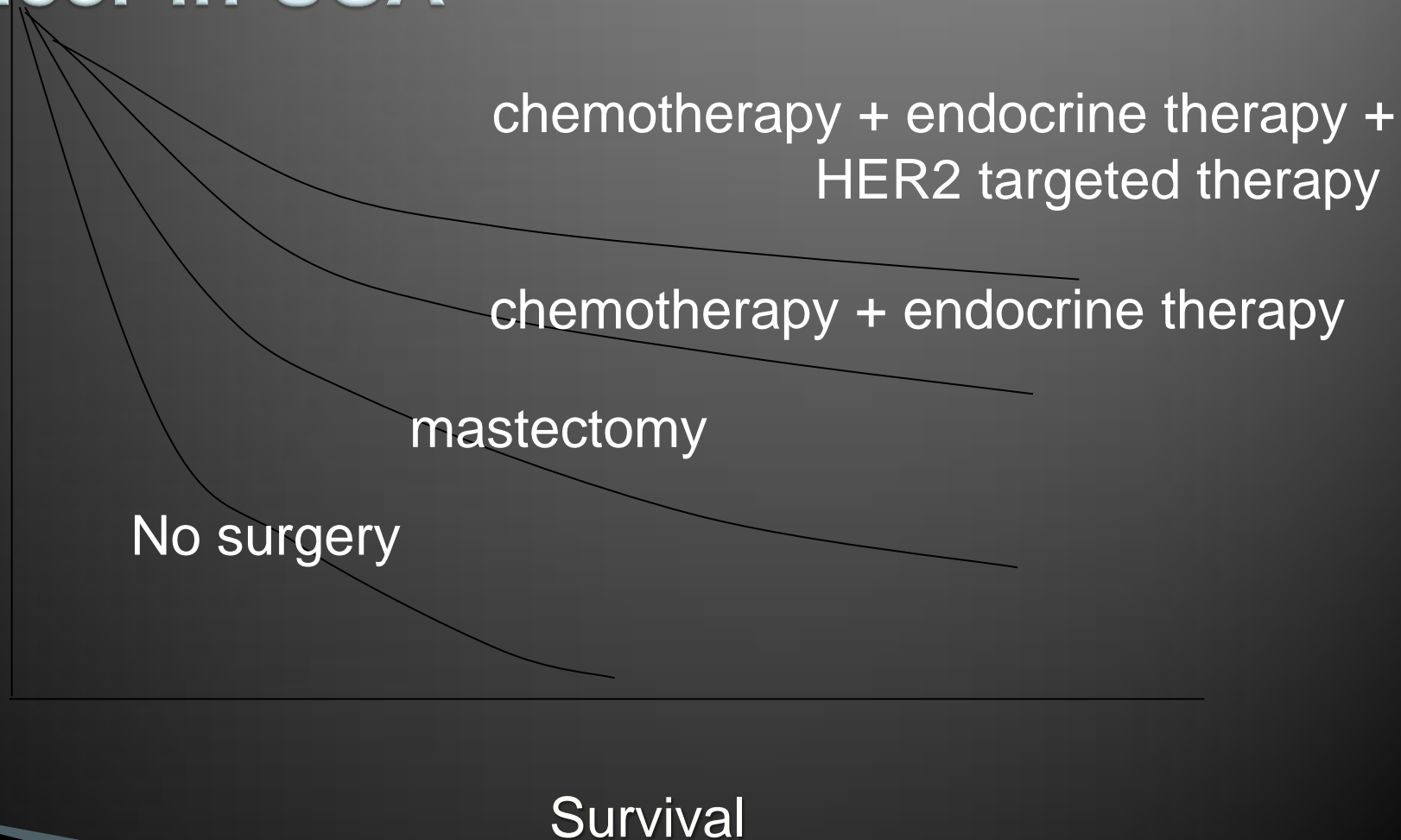
# Contraindications for Breast Conserving Therapy

- ▶ Absolute:
  - ▶ Prior radiation to the breast or chest wall
  - ▶ Pregnancy
  - ▶ Multicentric disease
  - ▶ Diffuse, malignant appearing microcalcifications
- 

## ▶ **Relative Contraindications for BCT**

- ▶ History of collagen vascular disease
  - ▶ Very large tumor > 5cms
  - ▶ Very large breasts
- 

# Incremental Benefit of Adjuvant Treatments in Early Stage Breast Cancer in USA





# Carcinoma in pregnancy

THEY ARE DIAGNOSED LATE

THEY BEHAVE THE SAME AS NON-PREGN.

▶ THEY ARE TREATED THE SAME

▶ NO BREAST CONSERVING SURGERY

▶ NO RADIOTHERAPY; TERATOGENIC

▶ NO CHEMOTHERAPY IN THE FIRST TRIMESTER

▶ NO HORMONAL THERAPY; BECAUSE

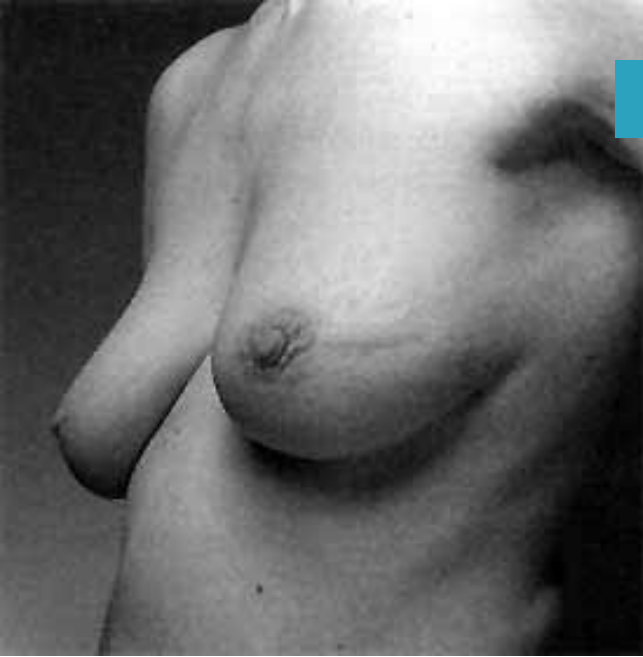
THEY ARE HORMONE RECEPT.-VE

# BRCA1 / BRCA2?

- No “treatment”
- Mastectomy cuts risk by 90%
- Hysterectomy slashes another 50%
- Tamoxifen
  - anti-estrogen drug
  - Lowers risk of diagnosis of benign tumors Influenced by estrogen
  - Reduces risk about 28%
  - May reduce need for biopsies in high-risk women
  - Intervenes before invasive cancer begins

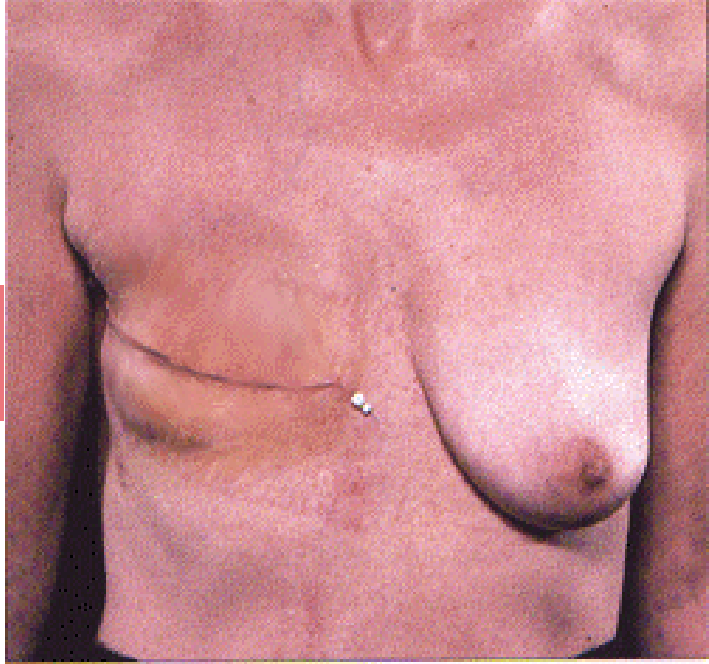
# *Surgery*

- ▶ Lumpectomy
  - removal of the cancerous tissue and a surrounding area of normal tissue
- ▶ Simple mastectomy
  - removes the entire breast but no other structures
- ▶ Modified radical mastectomy
  - removes the breast and the underarm lymph nodes

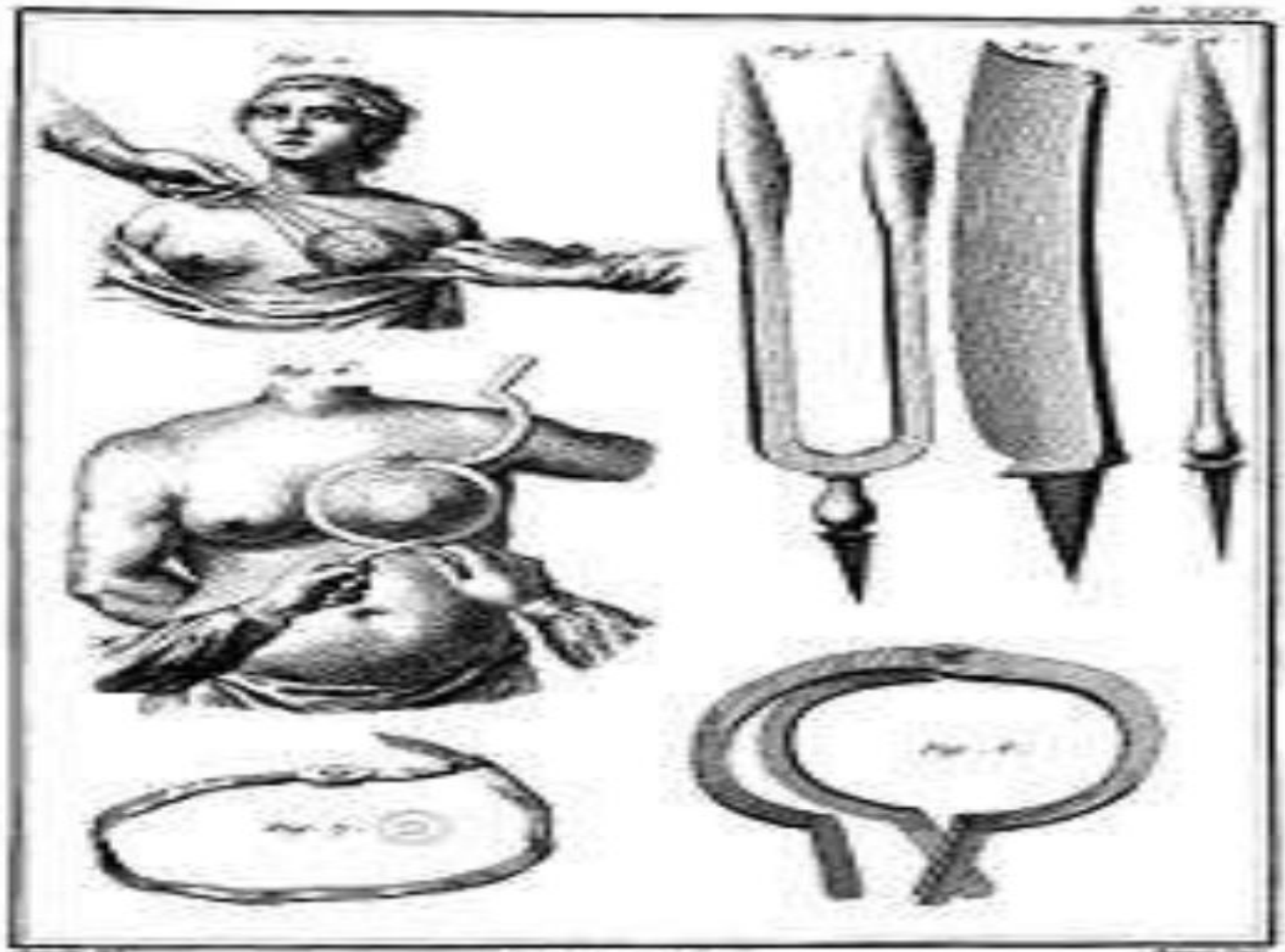


← Lumpectomy

Simple Mastectomy →



← Modified Radical



*Chirurgie*

Breast cancer surgery in 18th century



Breasts after double mastectomy followed by nipple-sparing reconstruction with implants

# *Surgical treatment of early breast cancer :*

## **Modified radical mastectomy** --- **Pate's operation**

### **Indications:**

1st & 2nd Stage of breast cancer

Retract pectoralis major at lateral border to expose pectoralis minor

