

# MALE BREAST CANCER IN 2020. WHERE DO WE GO FROM HERE?

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## OBJECTIVES

- ▶ Provide an overview of male breast cancer
- ▶ Discuss the key differences between male and female breast cancer
- ▶ Discuss endocrine therapy treatment in male breast cancer

## MALE BREAST CANCER



## MALE BREAST CANCER

- Male breast cancer accounts for 0.5 and 1% of all breast cancers
- 1 in 1000 lifetime risk of developing breast cancer
- Found at a more advanced stage
- Risk of breast cancer rises with age.

## RISK FACTORS

1. Excess estrogen
  1. Obesity
  2. Hormone replacement
  3. Liver dysfunction
  4. Marijuana use
2. Family history of breast cancer
3. BRCA 2 mutation (6% lifetime risk)
3. Less common mutations PTEN, p53, PALB2, Lynch syndrome

## IS MALE BREAST CANCER THE SAME AS FEMALE BREAST CANCER?

- > 95% of male breast cancers are ER positive
  - 42% luminal A
  - 42% luminal B
  - 8.7% Her2 positive
- Histology of breast cancers in men
  - Ductal histology is most common
  - Lobular histology is rare
  - Papillary breast cancers more common
- BRCA 2 mutations common (4-16% of patients)

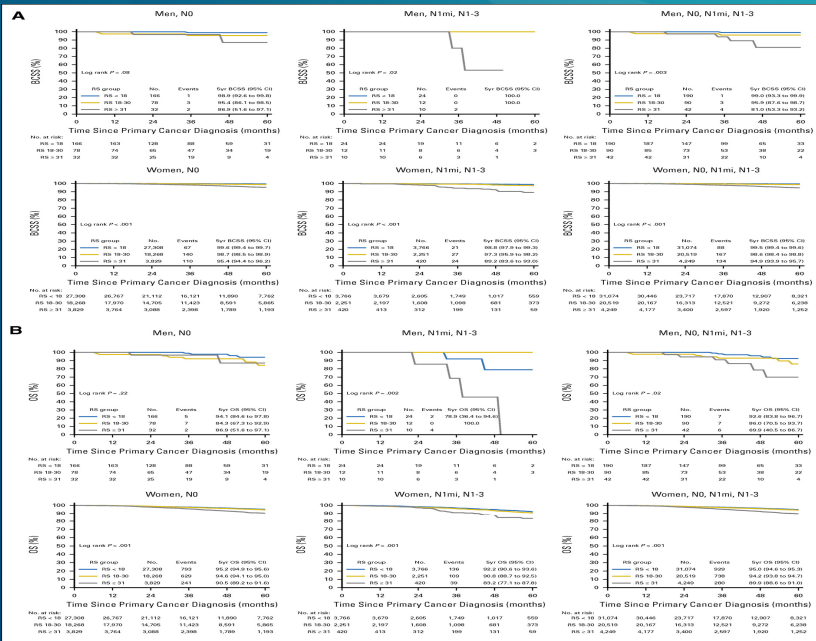
ONCOTYPE RS IN MEN

- Average recurrence score in men is 16.8
- 58% of men RS <18
- RS >31 more common in men than women (men <40)
- RS 0 and RS <11 more common in men than women (men >60)

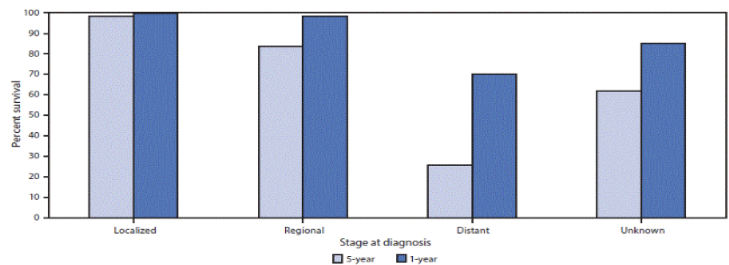
ONCOTYPE  
AND SURVIVAL

In each RS group the breast cancer specific survival and overall survival for men is worse.

This is most notable for men in the RS >31 group who have a particularly poor prognosis. 5 year BCSS 81%.



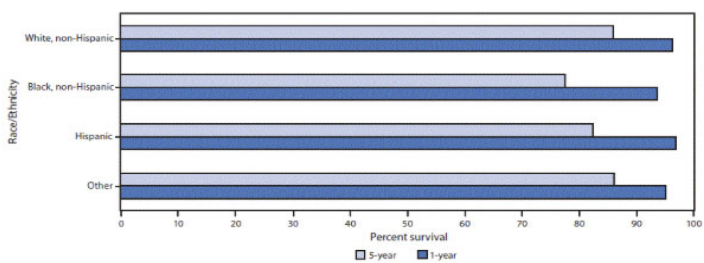
**FIGURE 2. Male breast cancer relative 1-year and 5-year survival by stage at diagnosis\* — United States, 2007–2016<sup>†</sup>**



\* Surveillance, Epidemiology, and End Results Summary Stage 2000

Morbidity and Mortality Weekly October 16, 2020/ 69 (41):1481-1484.

**FIGURE 1. Relative 1-year and 5-year survival of male breast cancer patients, by race/ethnicity\* — United States, 2007–2016<sup>†</sup>**



Morbidity and Mortality Weekly October 16, 2020/ 69 (41):1481-1484.

## TWO DISTINCT BIOLOGICALLY SUBTYPES OF BREAST CANCER IN MEN

- Very low RS disease subtype in older men
- High RS aggressive disease subtype in younger men (BRCA 2 mutation?)

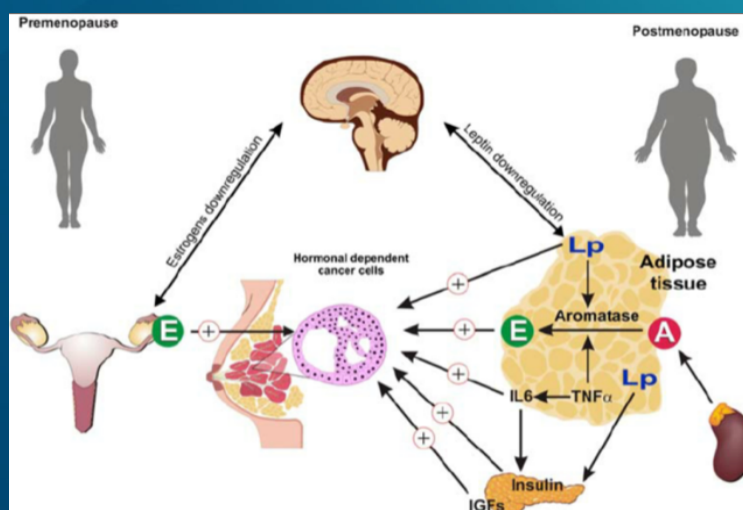
## MALE BREAST CANCER TREATMENT 2020

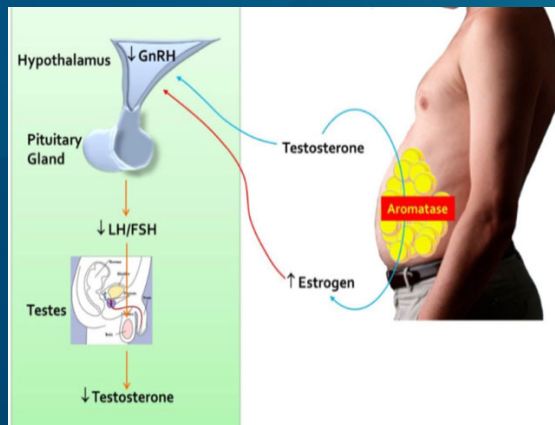


## ADJUVANT TAMOXIFEN REMAINS THE GOLD STANDARD

- Tamoxifen associated with improved survival in men
- Small studies have shown AI use is inferior to tamoxifen in the adjuvant setting
- Limited research in adherence to Tamoxifen in men
  - one small study showed 65% compliance at 12 months and only 18% compliance by year 5

## THE PROBLEM WITH AROMATASE INHIBITORS IN MEN





## THE PROBLEM WITH AROMATASE INHIBITORS IN MEN

1. Men have higher levels of estradiol than postmenopausal women because of a higher level of peripheral androgens
2. 20% of estradiol in men is produced from testes. This testicular production of estrogen is NOT inhibited by AI

## AROMATASE INHIBITORS IN MEN

1. Data showing efficacy in metastatic setting
2. Addition of GnRH analogues is recommended
  1. Improved clinical benefit rate
  2. Does not seem to improve survival



## FULVESTRANT IN MALE BREAST CANCER

- Results from pooled analysis of 23 patients in 5 studies
- Patient characteristics
  - Metastatic disease
  - Failed Tamoxifen (87% received adjuvant Tamoxifen)
  - 40% received Fulvestrant in first or second line
  - 60% received Fulvestrant in third line or beyond
- Response to Fulvestrant. Median PFS 5 months.
  - 26% partial response
  - 48% stable disease
  - 26% progressive disease

## WHERE DO WE GO FROM HERE?

1. Continue to explore the differences between male and female breast cancer at the genomic level.
2. Continue to encourage breast cancer studies to include men and encourage male participation in clinical trials

- Breast Cancer Survival Among Males by Race, Ethnicity, Age, Geographic Region and Stage- US 2007-2016. Morbidity and Mortality Weekly October 16, 2020/ 69 (41):1481-1484.
- Adjuvant therapy with Tamoxifen Compared to Aromatase Inhibitors for 257 male breast cancer patients. Eggeman H, Ignator A, Smith BJ et al. Breast Cancer Research and Treatment 137: 465-70, 2013.
- Molecular Characteristics and Mortality from Breast Cancer in Men. Suleiman Alfred Massarweh, George W. Sledge, Dave P. Miller, Debbie McCullough, Valentina I. Petkov, and Steven Shak. Journal of Clinical Oncology 2018 36:14, 1396-1404
- Fulvestrant and male breast cancer: a pooled analysis. Breast Cancer Res Treat 2015 Jan;149(1):269-75.

