Breast cancer update. Special populations breed special problems".

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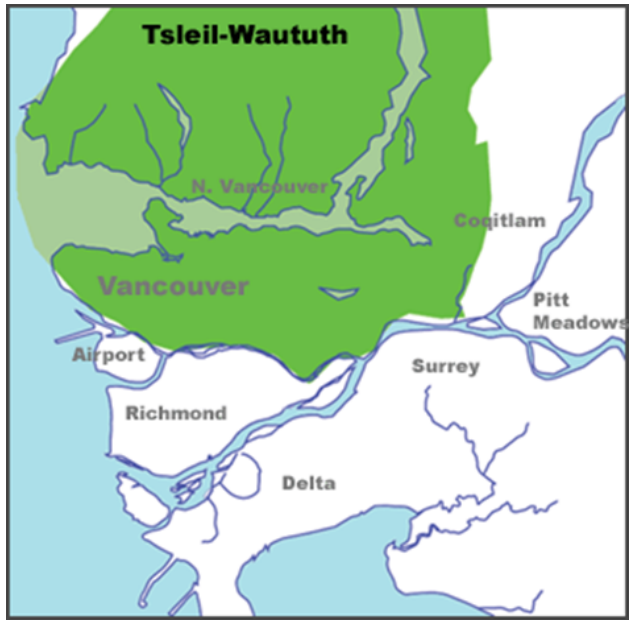
Fellow, Canadian Academy of Health Sciences

I would like to acknowledge that I am speaking to you from the **land of the Coast Salish peoples–Sḵwx̱wú7mesh (Squamish), Stó:lō and Səl̓ílwətaɁɬ/Selilwitulh (Tsleil-Waututh) and xʷməθkʷəy̓əm (Musqueam) Nations**.

We would like to acknowledge that we are gathered today on the traditional territories of the Musqueam, Squamish and Tsleil-Waututh peoples.

Source: www.johomaps.net/na/canada/bc/vancouver/firstnations/firstnations.html



Faculty /Presenter Disclosure

- Faculty : Karen Gelmon
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    - Novartis, AstraZeneca, Seagen, Merck
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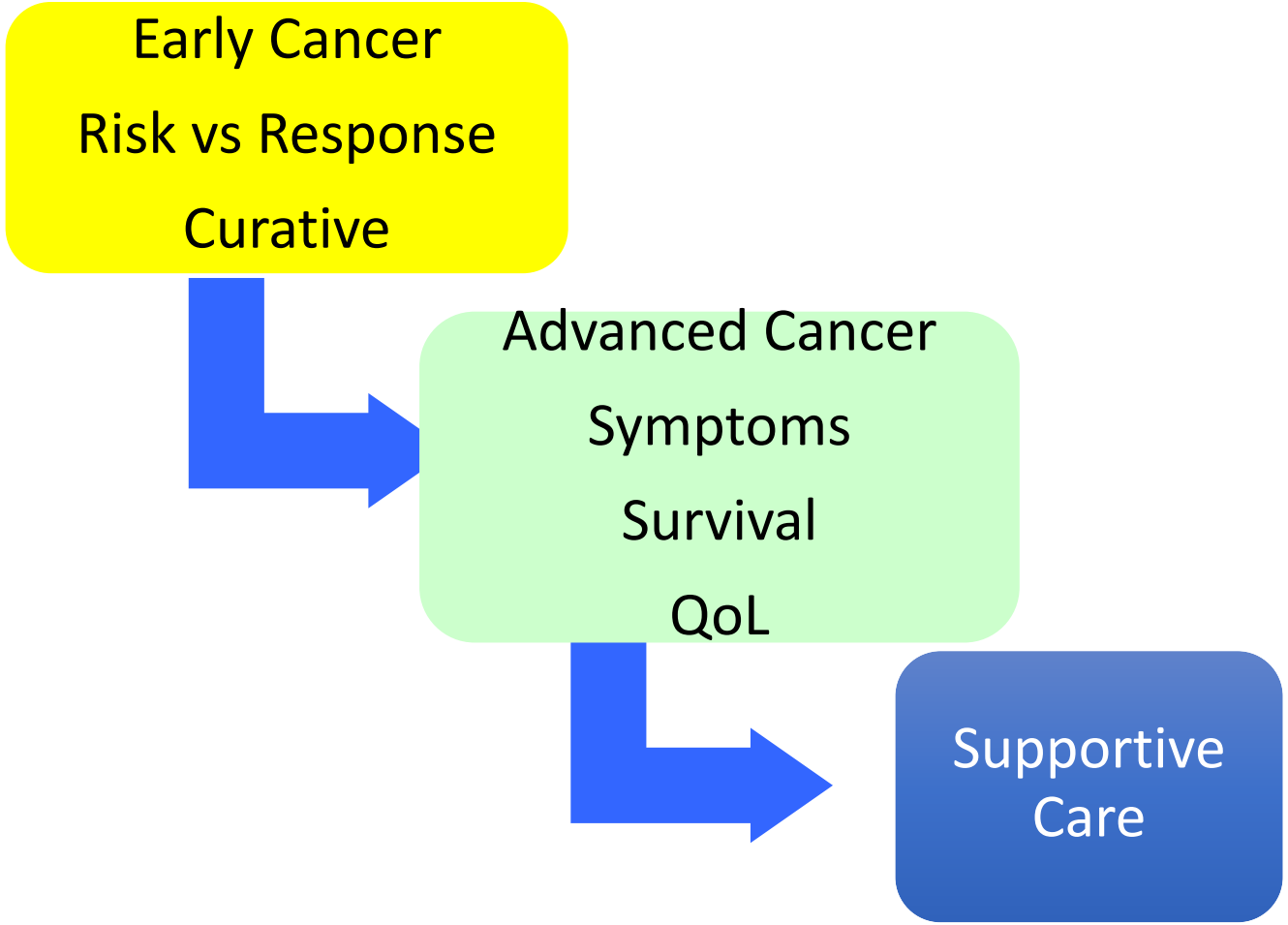
    - BMS, Pfizer, Novartis, Roche, AstraZeneca
  - Patents
    - None
  - Expert Testimony
    - Genentech

Breast Cancer Populations

- Early vs Advanced Breast Cancer
- Long term survivors- chronic disease
- Young women with breast cancer – defined as younger than 40 or younger than 35
- Elderly women with breast cancer – competing comorbidities/risks
- Germline Mutations in breast cancer
- Pregnancy Associated Breast Cancer and Pregnancy after breast cancer
- Advanced Breast cancer and Pregnancy
- Male Breast Cancer
- Challenges with HR + breast cancer in trans patients

Treatment Algorithms In Cancer Clinical Care



Treatment of Early Breast Cancer is Estimating the Risk of Relapse and Response to Treatment

Prognostic Features

What is the risk of relapse?. DFS/OS?
How to Decrease relapse to improve survival
HOW aggressive =**BIOLOGY**
HOW much cancer = **ARCHITECTURE**
(size and nodes)

Predictive Factors

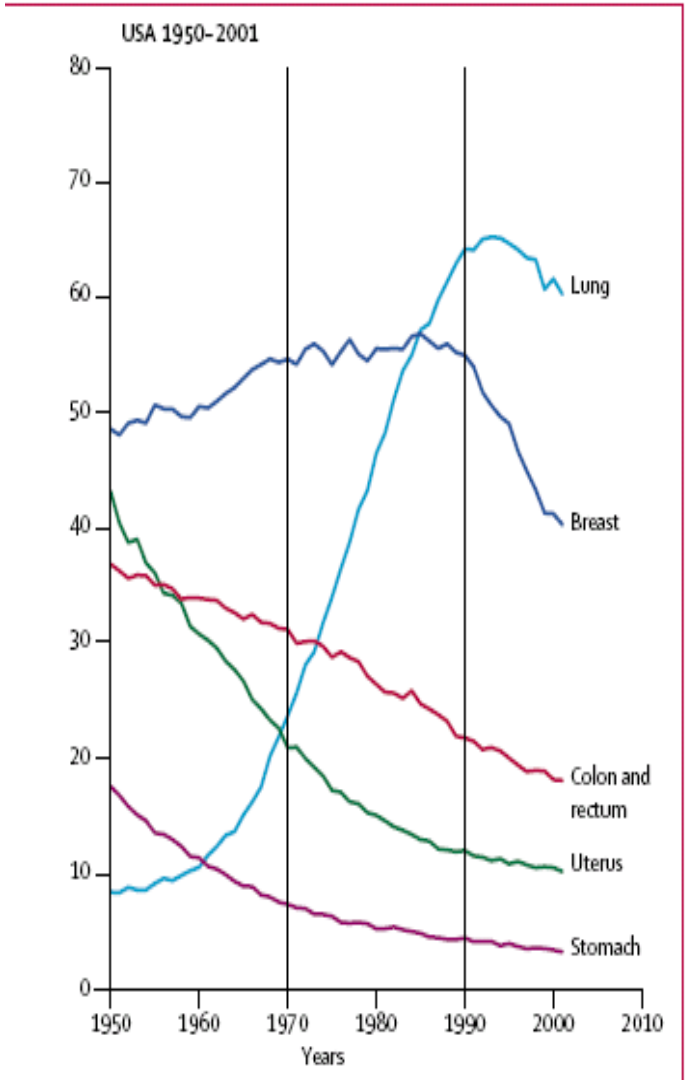
Will the tumour respond?

- Endocrine Rx?
- Chemotherapy
- Anti HER Rx
- IO
- PARPi
- Other treatments?

Stage distribution at presentation

Stage	Definition	% Patients
I	T1N0	50
IIA	T0N1 T1N1 T2N0	30
IIB	T2N1 T3N0	
IIIA	T0N2 T1N2 T2N2	15
IIIB	T4Nany	
IIIC	TanyN3	
IV	TanyNanyM1	5

- More than *3 million breast cancer survivors* in the US
- 5-year survival exceeds 90% for early stage patients
- Continued improvements in survival expected



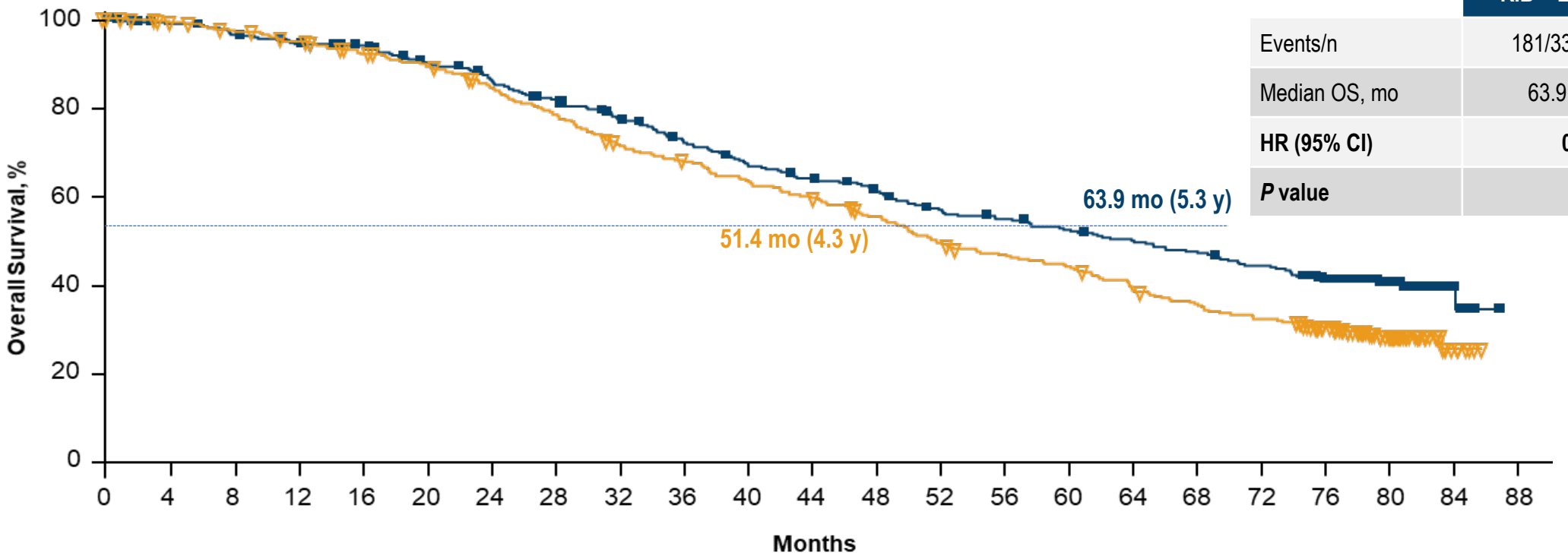
Trends in standardized death rates

Advanced or Metastatic Breast Cancer

- INCURABLE and goals are to decrease symptoms, maintain good quality of life, improve survival
- Previous median survival was 18 – 24 months
- ER+ cancers – treatment with AI and CDK4/6 inhibitors
- HER2 positive cancers –new agents
- Triple negative cancers – most aggressive, Chemo plus Immunotherapy
- In the last 2 decades we have finally seen treatments that do improve survival. Persons with advanced cancer are living longer and better but this has implications for the patients/family/caregivers
- Is this ‘chronic’ disease but is that a poor term for cancer and how do we distinguish these cancers to counsel our patients

Ribociclib achieved statistically significant OS benefit in ML-2

Improvement in median OS was 12.5 months with ribociclib plus letrozole



	RIB + LET	PBO + LET
Events/n	181/334	219/334
Median OS, mo	63.9	51.4
HR (95% CI)	**0.76 (0.63-0.93)**	
***P* value**	**.004**	

The P value of .004 crossed the prespecified boundary to claim superior efficacy

HR, hazard ratio; ML-2, MONALEESA-2; LET, letrozole; OS, overall survival; PBO, placebo; RIB, ribociclib.

Challenges of Long-Term Toxicity

- Chronic toxicity with systemic therapies
  - Neuropathy
  - Bone loss
  - Cognitive changes
  - Cardic
- Long term toxicity of WBRT
  - Cognitive changes are becoming more apparent and more significant with long term survival
- Toxicity of SBRT
  - Radionecrosis increased with SBRT and long term followup of many patients
- Toxicity of bisphosphanates
  - Atypical Fractures

- Fear of progression symptoms/ pain
- Funding/economic/costs
- Interpersonal relationships with family/friends
- Care issues/normalization of other health
- Long term relationships with oncologist/other health care providers
- Figuring out how to live as a *healthy* person vs *a patient* with advanced cancer
- Existential issues

Cancer Communication Study

Sally Thorne et al, CCSRI Funding

- Decade of study
  - Different tumour sites, conditions about cancer communication
  - Total study - 600 subjects
  - Longitudinal study – 250
  - Interpretive Description which is an Applied qualitative approach
- Trends and patterns of communication
- Discovery of a New Species
  - Chronic metastatic
  - Identified themselves as having different communication issues
- People defining themselves as chronic metastatic
- Secondary analysis of the study
- Specific issues were highlighted by this group

Thorne SE, Oliffe JL, Oglov V, Gelmon K; Qual Health Researc, 2013, DOI: 10.1177/1049732313483926

Challenges of Care

- Myopic focus on the cancer issue
- What about other health issues? ‘the rest of the person’
- Screening for other health issues – is it appropriate?
- We may be dismissive of other issues as we are so ‘proud’ of the cancer success
- Giving time to the other needs of long term survivors – Who are the best health care providers?
- Gratitude and dread, gratitude for what has happened but dread for when it will no longer be possible
- Exhaustion of care by both the patient and the health care provider

Survivorship – what is it

- Survivorship: state of being a survivor
- Survivor: anyone diagnosed with cancer. Survivorship starts at the time of disease diagnosis and continues throughout the rest of the patient's life. Family caregivers and friends are also considered survivors
- Cancer survivorship has three distinct phases: living through, with and beyond cancer
- Cancer survivorship emphasizes success in treatment but creates its own issues
- Health care professionals need to be aware of the needs of this group

Ms DK

- 1999 at age 52, mass in breast, Diagnosed with a 2.3 cm infiltrating ductal carcinoma, ER+, PR-, GR 3
- Staging – metastases in liver and bone
- Paclitaxel and trastuzumab
- Trastuzumab continued after 6 cycles of paclitaxel with good PR in liver, started on letrozole with trastuzumab
- 2004 – noticed change in her speech, solitary brain metastases resected – ER+, PR-, HER2+, WBRT
- April 2018 while on trastuzumab, exemestane, and intermittent bone modifying agents developed progressive bone mets – T-DMI – hemorrhage in brain
- Changed to pertuzumab /trastuzumab/ exemestane which she remains on
- *Working, writing a history, participating as the lay rep on grants,*
- *Children married and enjoying being a grandmother which she did not expect*
- ***Bothered by cognitive difficulties, concerned about health care issues such as screening, cholesterol, heart risk, Changes in health care professionals as they retire***

Ms JD

- Presented at age 36, single mother with an ER+, PR+, HER2 negative 2cm, 1/5 node positive tumor treated with FEC, followed by radiation, tamoxifen
- 5 months after starting the tamoxifen, relapse in multiple lung nodules – biopsy confirms same pathology in lungs
- Started on study of biweekly paclitaxel in 1992
- Started on anastrazole after the study
- Remains in a CR in 2021 and on anastrazole

- *Difficulties with jobs as she tells people she has had advanced cancer. Husband died of lung cancer just weeks before her recurrence leaving her with huge debts.*
- *Difficulties with long terms significant neuropathy*

Ms WD

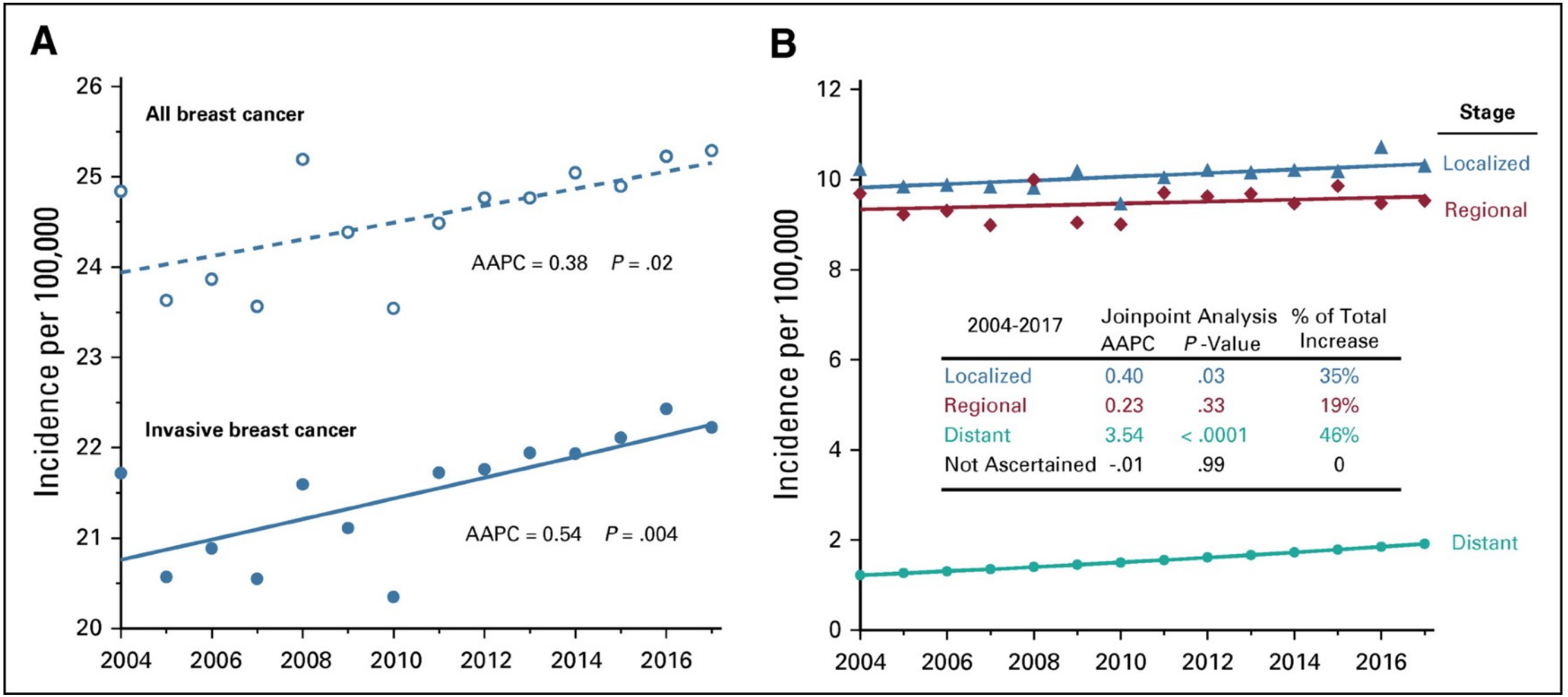
- 2005 at age 32 presented with TNBC with 23 nodes positive, treated with dose dense AC/paclitaxel
- 1 year later, summer of 2006 relapse in celiac nodes with small liver metastases, biopsy proven – treated with capecitabine and some local RT to celiac area
- Progression in early 2007 in nodes and liver
- Treated with cisplatin/gemcitabine to CR
- No further chemotherapy since October 2007
- *Since diagnosis has gone to a professional school but during school did not know if she would be well or not and continuing*
- *Isolating experience –*

Is Breast Cancer in Young Women Different?

- Up to 70% of cancers in young women are ER+ but young women consistently have worse outcomes
- More frequently diagnosed at Stages III and IV
- Early data 2000 Lancet – IBCSG - 3700 women regarding CT PLUS HT
  - Relapse and death occurred earlier
  - 10 year disease-free survival of 35% (SE 3) versus 47% (1) (hazard ratio 1.41 [95% CI 1.22-1.62], p<0.001)
  - Overall survival of 49% (3) versus 62% (1) (1.50 [1.28-1.77], p<0.001)..
- More recent data suggesting a more aggressive phenotype in young women
  - higher Ki67, greater number HER2+, methylation

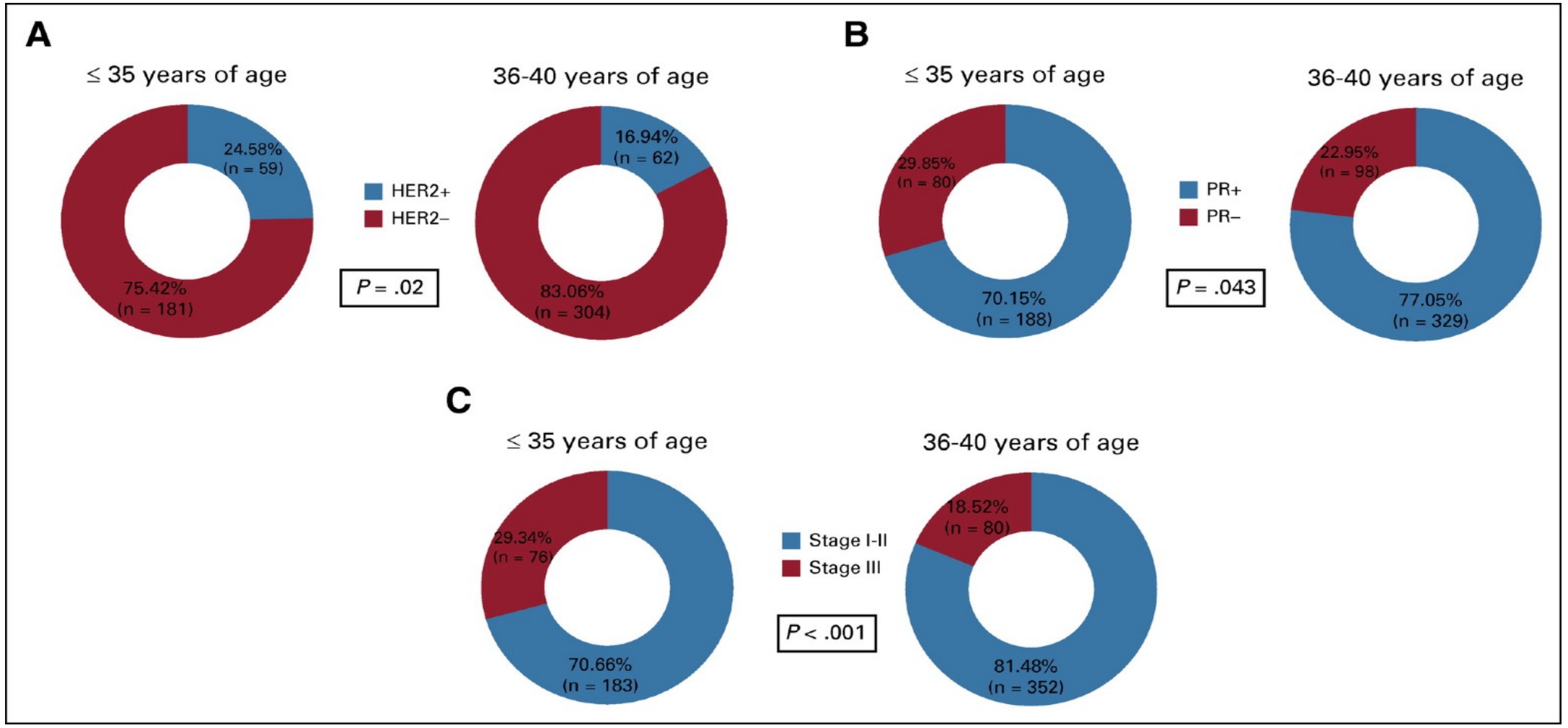
. Annual Incidence of Breast Cancer in Women, age 15-39, 2004-2017, SEER18,

(A) All and invasive breast cancer. (B) Invasive breast cancer by stage



Published in: Elizabeth J. Cathcart-Rake; Kathryn J. Ruddy; Archie Bleyer; Rebecca H. Johnson; *JCO Oncology Practice* Ahead of Print
DOI: 10.1200/OP.20.00793

Distribution of HER2, PR, Stage < and > 35 years of age



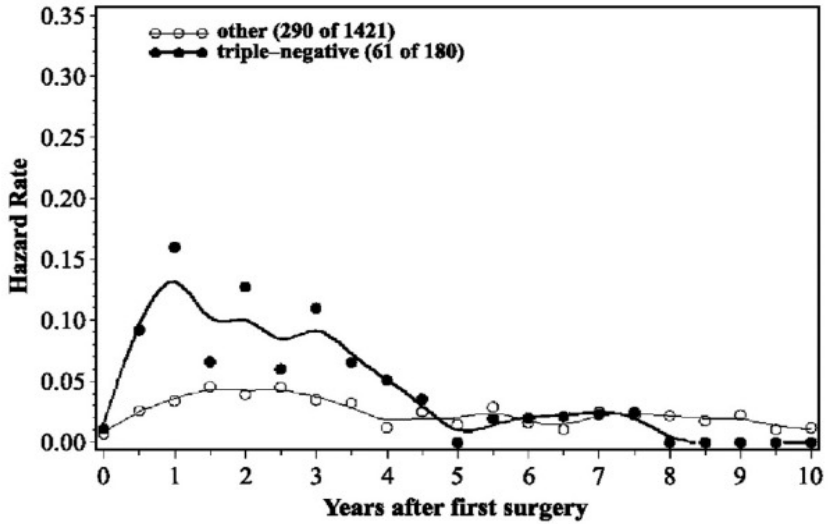
Published in: Verónica Fabiano; Pablo Mandó; Manglio Rizzo; Carolina Ponce; Federico Coló; Martín Loza; Jose Loza; Mora Amat; Daniel Mysler; María Victoria Costanzo; Adrián Nervo; Jorge Nadal; Florencia Perazzo; Reinaldo Chacón; *JCO Global Oncology* 2020 6639-646.
DOI: 10.1200/JGO.19.00228

Young Women and Treatment

- **Hormone Positive Early breast cancer**
  - Benefit of ovarian suppression plus oral tamoxifen/exemestane
  - Use of genomic testing to determine benefit of adding chemotherapy
    - Confounding issues of age, menopausal status, adequate hormone therapy
- Issues of QoL, sexual issues, duration of therapy
- Fertility – storing of eggs/embryo/use of GNRH to avoid infertility
- **Advanced breast cancer** –
  - Many trials did not include premenopausal women
  - Need for ovarian suppression for AIs, fulvestrant, other SERDs
- **Increased incidence of germline mutations**
  - early testing may change therapy
- **PsychoSocial Needs**
  - Greater anxiety, depression, impact on economic/job/family situation

Historical Studies of TNBC which is more common in young women

Risk of relapse over time



- Relapse pattern:
  - Higher risk, early timing
  - Sites of involvement differ from luminal:
  - CNS involved in up to 25-46%
  - Bone, lung,

Sites involved	N	Bone	Soft Tissue	Viscera
TNBC	79	13%	13%	74%
ER+	123	39%	7%	54%
HER2+	78	7%	12%	81%

Dent, Clin Cancer Res 2007; Liedtke, JCO 2008; Lin, Cancer 2008, Kennecke 2010

Ms BJ

- 33 years old, late October 2019 presented 8 weeks pregnant
- 4.5 cm GR3, ER/PR/HER2-, mass in L breast, positive nodes Staging negative
- Maternal Aunt with premenopausal breast cancer, another maternal aunt died of ovarian cancer, Invitae 84 gene screen negative
- Initial response to chemo but then tumour grew
- Urgent Surgery in second week of April 2020 (COVID time) with a mastectomy and immediate reconstruction
- Pathology – 2.2 cm Gr 3, ER/PR/HER2 - infiltrating ductal with 22/24 nodes positive
- Post operative local regional radiation and capecitabine
- End of October 2020 – nodes in contralateral neck. Biopsy shows metastatic disease ER/PR/HER-, CT PET shows bilateral neck, mediastinal, and hilar nodes
- Enrolled on compassionate access Atezo/Abraxane
- Nodes decreased, Neuropathy increased and panic problems

Ms BJ

- Mid February 2021 – CT/PET showed new bone mets, liver mets, pleural disease, and increase in mediastinal nodes
- Small brain mets – received SBRT and started on bisphosphanates
- Received 3 cycles of sacituzumab. She has less pain and feeling better, nodes are no longer palpable but imaging showed progression
- Treated with eribulin x 3 cycles with progression
- Progressive brain mets – Whole Brain RT
- Sequencing of tumour shows evidence of overexpression of AR (androgen receptor) and of
- Started on enzalutamide
- Died 23 months after her diagnosis

Elderly Persons with Breast Cancer

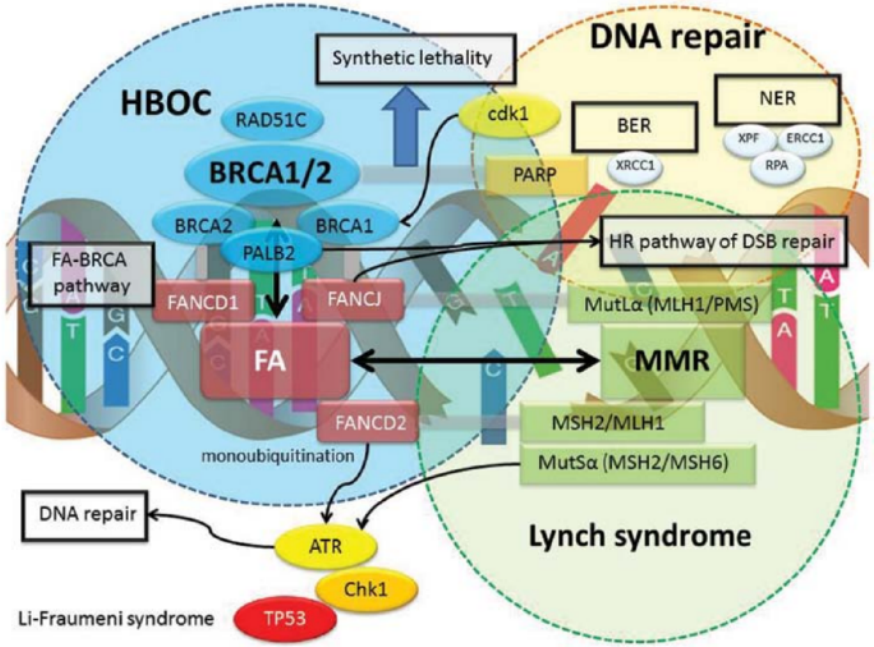
- Risk of breast cancer increases with age , Generally luminal (ER+)
- 20% of women are currently diagnosed over age 75
- Cases will double by 2030 in US due to aging population
  - persons 70 – 84 rising to 35% of women diagnosed (24% in 2011)
  - women 50 -69 will decrease to 44 % 55% in 2011)
- Functional age and comorbidities must be considered
- No evidence of lesser effect with treatment but increased toxicity
  - Chemo toxicity calculator, Geriatric assessment tool
- Surveillance mammography- guidelines for women > 75 published 2021
  - Individualized and continue surveillance if life expectancy > 10 years
  - Discussion about life expectancy of 5 – 10 years, individualize
- Multidisciplinary care

Hurria et al JCO 2011

Freedman et al JAMA Oncol 2021

Hereditary Breast & Ovarian Cancer Syndromes

- **BRCA1 /2**
- **Li Fraumeni Syndrome**
- ***p53* mutation**
- ***PTEN*/Cowden Syndrome**
- ***ATM* mutation**
- **Lynch Syndrome**
- ***MLH1*, *MSH2*,*MSH6, EPCAM* and *PMS2* mutations**
- ***RAD51* mutation**
- ***BRIP1* mutation**
- ***PALB2* mutation**
- ***CHEK2* mutation**
- ***STK11* mutation**
- **(Peutz-Jeghers Syndrome)**
- ***CDH1* mutation**

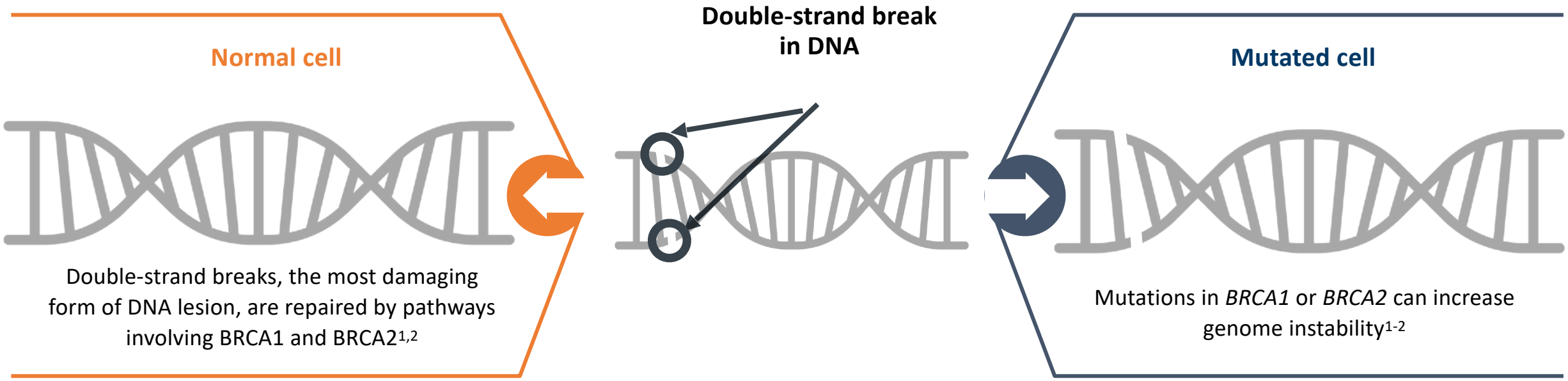


Kobayashi H et al, Oncol Rep, 2013

Clinical implications for prevention and screening not well understood for all these mutations…..

BRCA1 and BRCA2 proteins are key components in DNA damage repair[1,2]

DNA damage is a constantly occurring event[1,2]



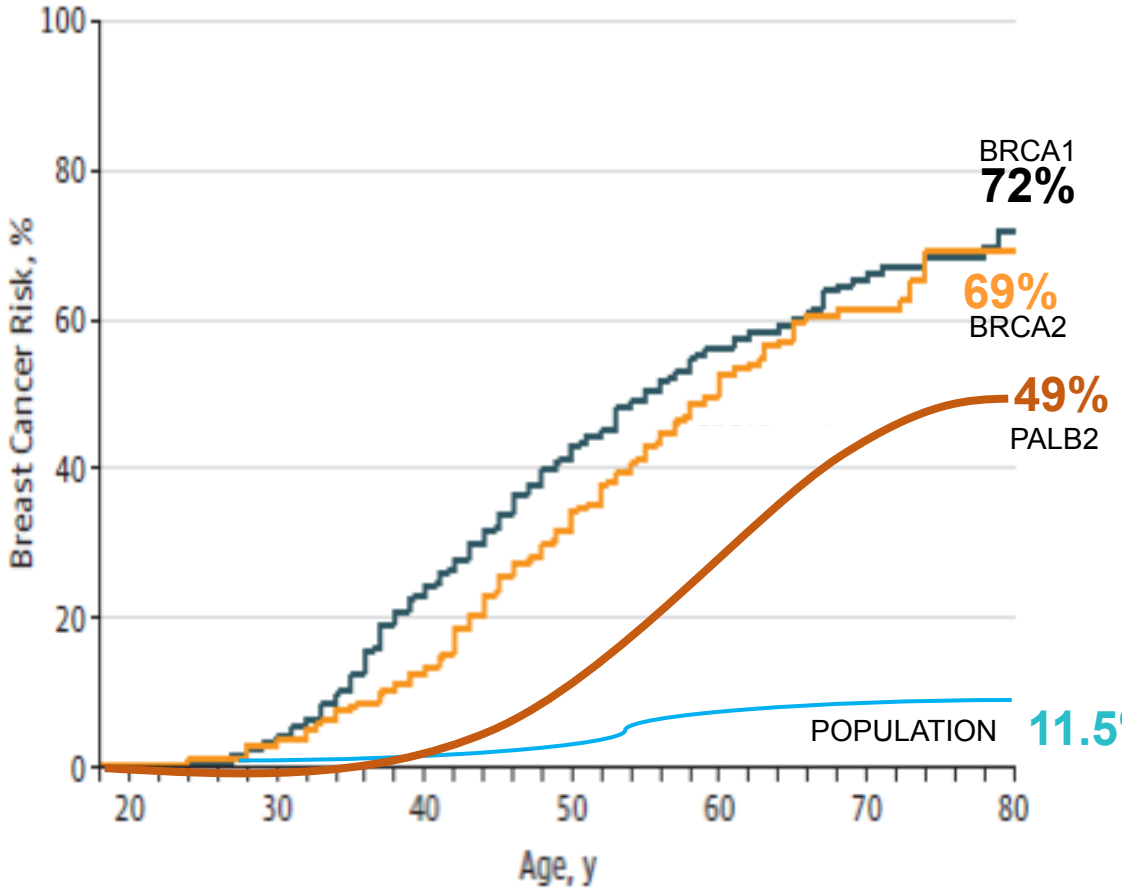
- **Mutations in BRCA genes can increase the risk of developing BC[1-2]**
- **The risk of developing BC by 80 years old among those harbouring mutations in *BRCA1* or *BRCA2* is 72% and 69%, respectively[3]**

BC = breast cancer; BRCA = *BRCA1* and/or *BRCA2;* BRCA1 = breast cancer type 1 susceptibility protein; *BRCA1* = breast cancer gene 1; BRCA2 = breast cancer type 2 susceptibility protein; *BRCA2* = breast cancer gene 2.

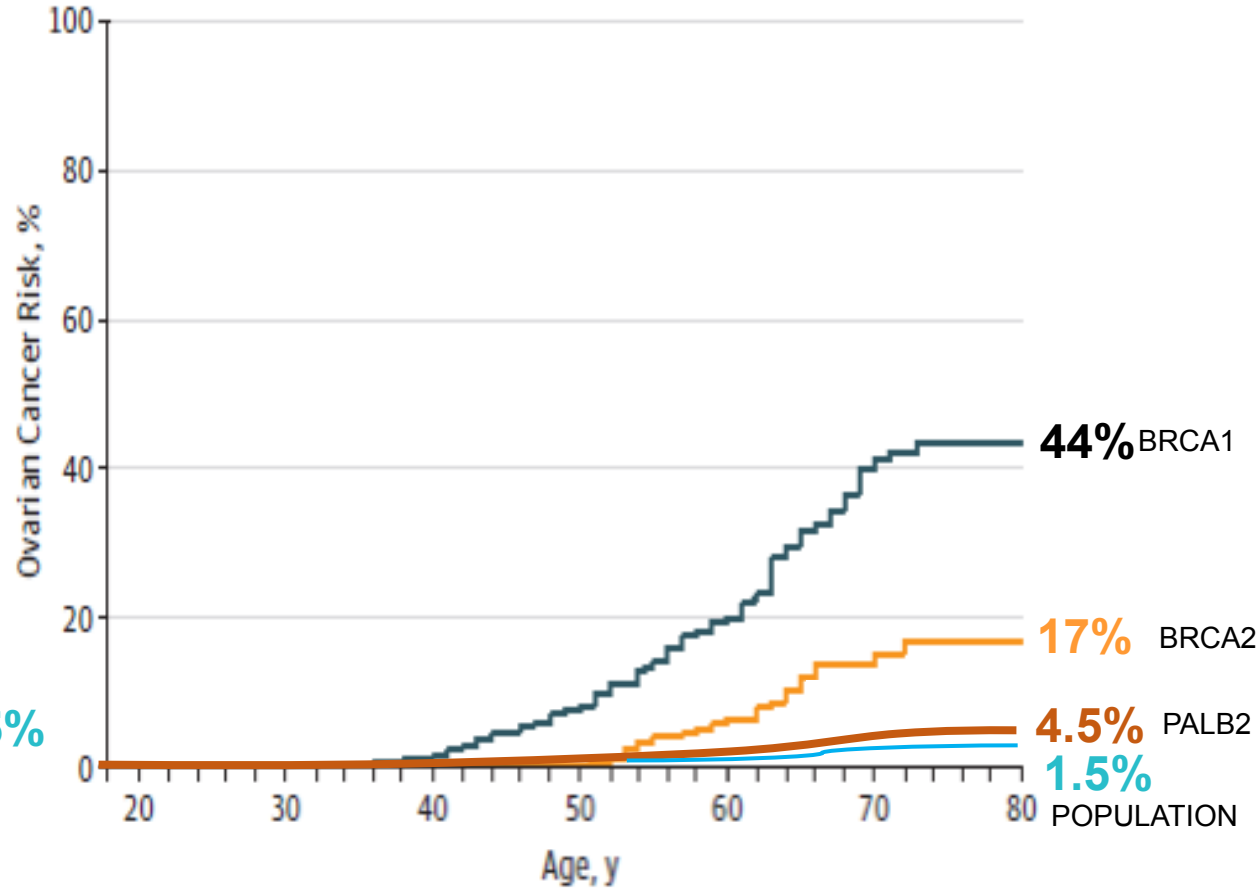
1. O'Connor MJ. *Mol Cell*. 2015;60(4):547-560. 2. Lord C, Ashworth A. *Nature*. 2012;481(7381):287-294. 3. Kuchenbaecker KB, et al. *JAMA*. 2017;317(23):2402-2416.

Cancer susceptibility genes: *BRCA1*, *BRCA2*, *PALB2*

Cumulative risk of first breast cancer among *BRCA1* and *BRCA2* mutation carriers



Cumulative risk of ovarian cancer among *BRCA1* and *BRCA2* mutation carriers

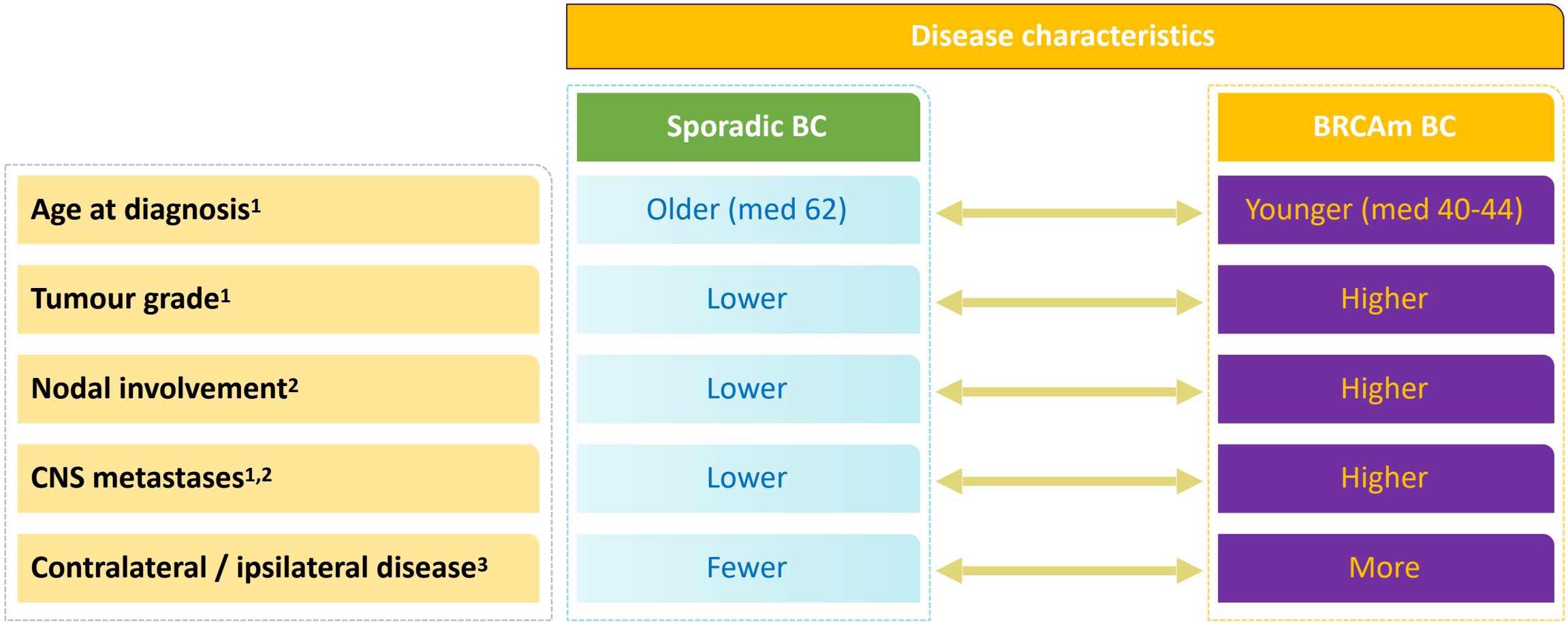


BRCA=BReast CAncer gene; PALB2=partner and localiser of *BRCA2*; y=year.

1. Kuchenbaecker KB, et al, *JAMA*. 2017;317(23):2402-2416; 2. Antoniou AC, et al. *N Engl J Med.* 2014;371(17):497-506; 3. Personal communication with Clare Turnbull. October 2021.

Patients with BRCAm BC have distinct tumour characteristics compared with the sporadic population[1]

- BRCAm BC is characterised by a more aggressive phenotype than sporadic disease[1-3]



BC = breast cancer; BRCA = *BRCA1* and/or *BRCA2; BRCA1* = breast cancer gene 1; *BRCA2* = breast cancer gene 2; CNS = central nervous system.

1. Fasching PA, et al. *J Clin Oncol.* 2021;39(15):1619-1630. 2. Song Y, et al. *Cancer*. 2020;126(2):271–280. 3. Valachis A, et al. *Breast Cancer Res Treat*. 2014;144:443–45.

A higher proportion of patients with TNBC have BRCA mutations than those with HR-positive disease

~24%

of **TNBC** patients have BRCA mutations

~9%

of **HR-positive** patients have BRCA mutations

gBRCAm sBRCAm

BRCA = *BRCA1* and/or *BRCA2; BRCA1* = breast cancer gene 1; *BRCA2* = breast cancer gene 2; HR = hormone receptor; TNBC = triple negative breast cancer.
Winter C, et al. *Ann Oncol*. 2016;27:1532–1538: Supplementary Appendix.

However, because of the higher incidence of HR-positive cancer, there are more patients with BRCA mutations in this subtype

Estimated prevalence of BRCAm within unselected BC patients by receptor subtype

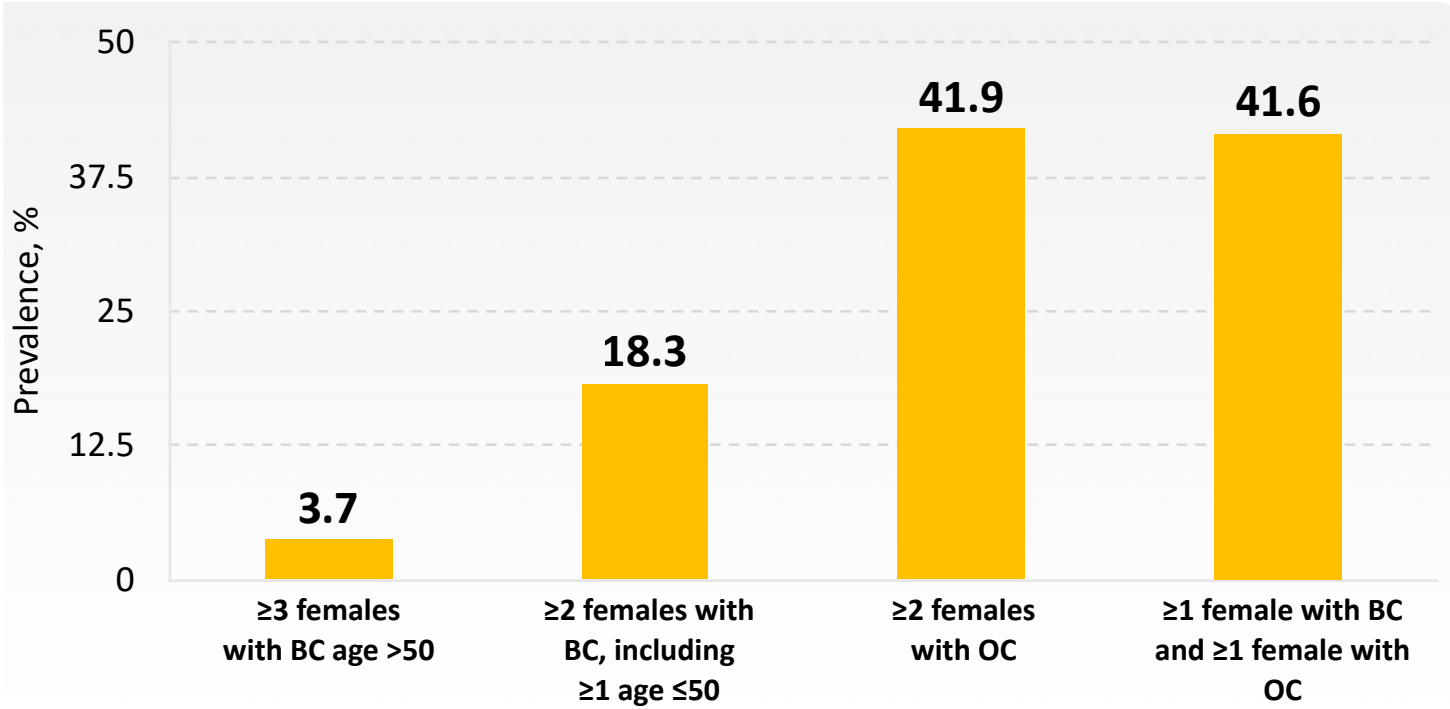
BC = breast cancer; BRCA = *BRCA1* and/or *BRCA2; BRCA1* = breast cancer gene 1; *BRCA2* = breast cancer gene 2; BRCAm = BRCA mutation; HER2=human epidermal growth factor receptor 2; HR-positive=hormone receptor-positive; TNBC=triple negative breast cancer.
Winter C, et al. *Ann Oncol*. 2016;27:1532–1538: Supplementary Appendix.

Family history alone does not identify all patients with BRCA mutations[1]

>5%

of patients with BC have a BRCAm[1]

BRCAm *prevalence is higher in patients with a family history of breast or ovarian cancers*[2]



62%

of BC patients with a BRCAm were reported to occur without a family history of ovarian or breast cancer[a] (57/92)[3]

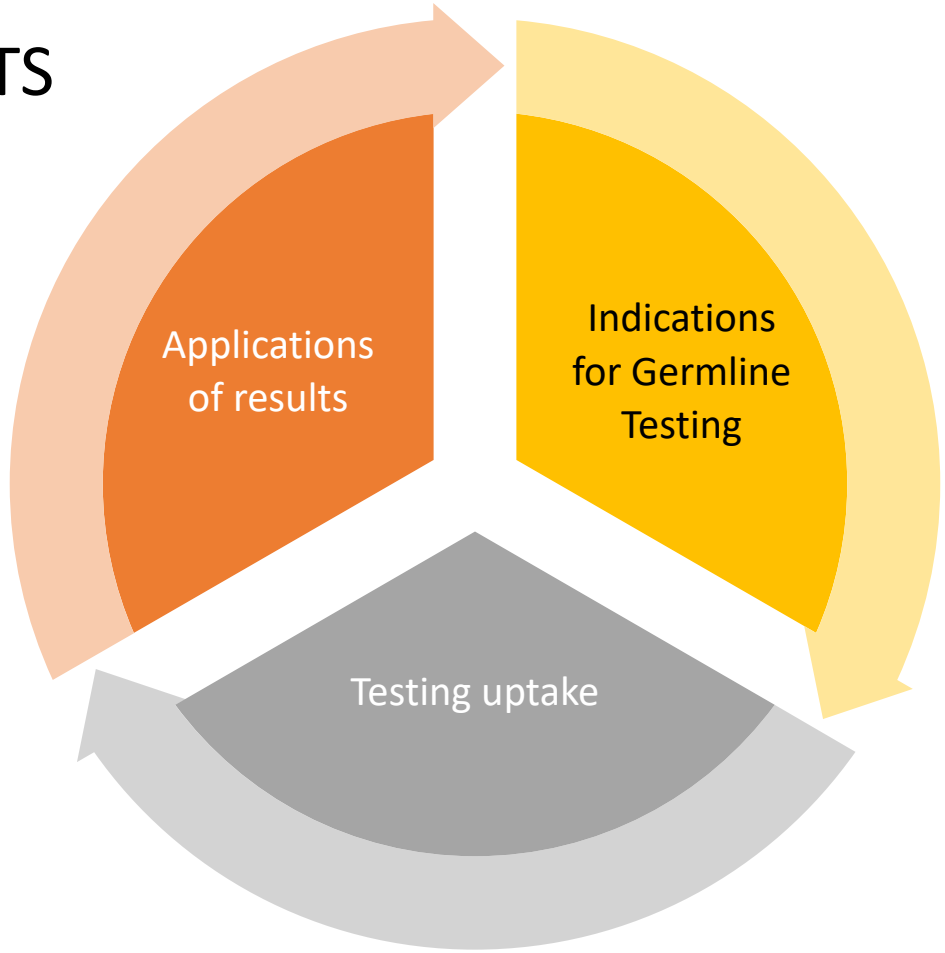
[a]Note that the Swedish Breast Cancer Group criteria for recommending *BRCA1/2* testing also includes young age at onset, male breast cancer, and multiple tumours.
BC = breast cancer; BRCAm = BRCA mutation; BRCA = *BRCA1* and/or *BRCA2; BRCA1* = breast cancer gene 1; *BRCA2* = breast cancer gene 2; OC = ovarian cancer.
1. Winter C, et al. *Ann Oncol*. 2016;27:1532–1538. 2. Kast K, et al. *J Med Genet*. 2016;53(7):465-471. 3. Li J, et al. *Int J Cancer*. 2019;144(5):1195-1204.

Key Components of TESTING

APPLICATION OF RESULTS

For Early Breast Cancer
- Surgery
- Adjuvant Rx

For Advanced Breast Cancer
- Chemotherapy
- PARPi



INDICATIONS FOR TESTING

To identify carriers for optimal treatment and to identify unaffected carriers

TESTING UPTAKE

Oncologists need to ORDER the TESTING
Patients need to UNDERSTAND the TEST
Systems need to FUND the TESTING

When to test?

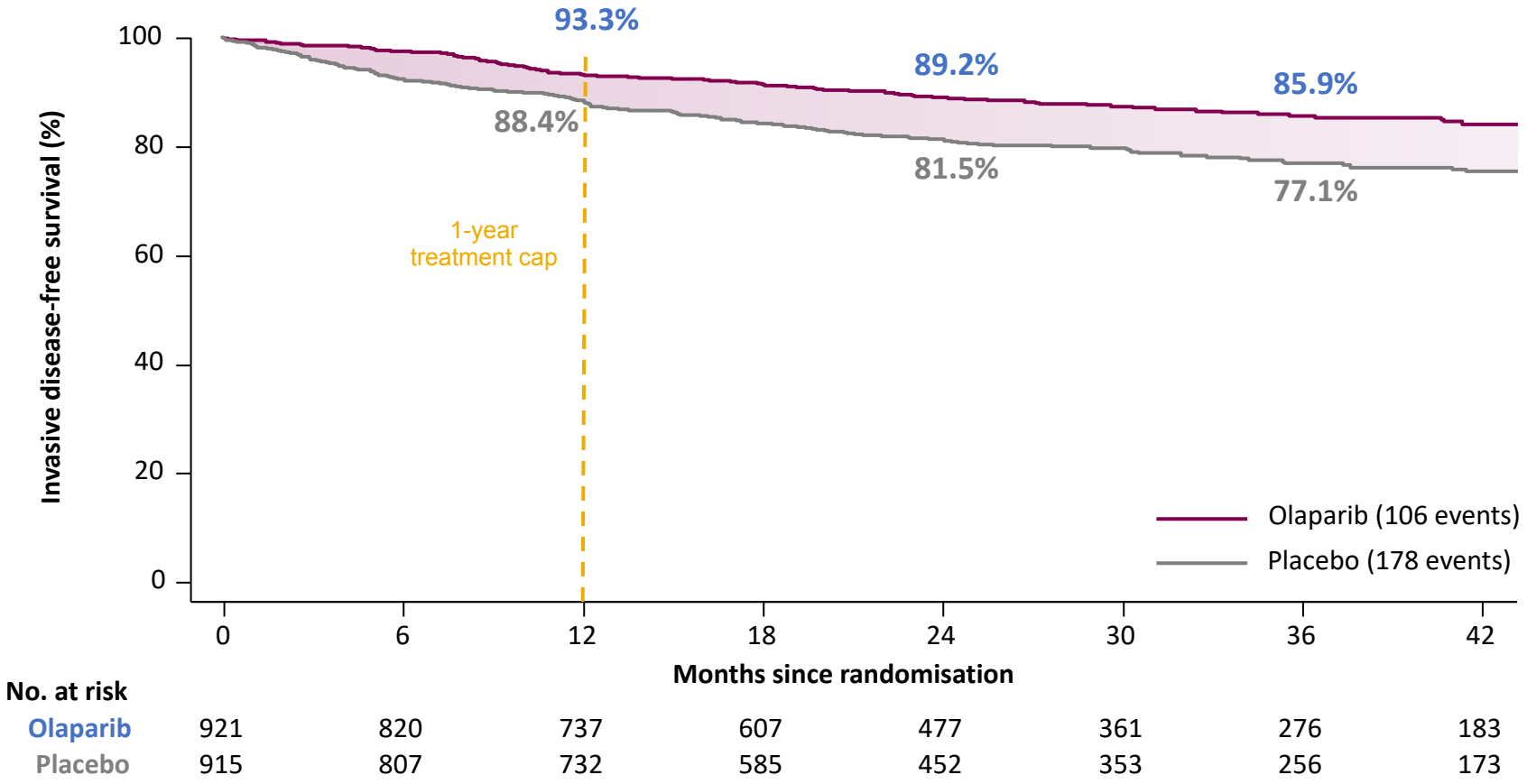
Testing IMPACTS care and should ideally be done early

- **Early breast cancer**
  - May have impact on local and systemic treatment decisions – IMPROVE CARE
  - Ideally test early to improve care
  - Testing in 2021 should be panel testing
  - With new data for impact in neoadjuvant or adjuvant treatment upfront tumour testing should become standard
  - Tumour testing at diagnosis would provide a more rationale approach that could be then confirmed as germline or somatic mutations

- **Advanced Breast Cancer**
  - May have impact on treatment decisions
  - Role of platinum agents
  - Role of PARPi
  - Enrollment in clinical trials

PARPi=poly (ADP-ribose) polymerase inhibitor

OlympiA: Primary end point of invasive disease-free survival (ITT) in Early High Risk Breast Cancer- Olaparib vs Placebo



No. at risk								
Olaparib	921	820	737	607	477	361	276	183
Placebo	915	807	732	585	452	353	256	173

IDFS

HR 0.58[a]
99.5% CI 0.41–0.82
P<0.001

3-year IDFS rate[b]

Olaparib (n=921)	**85.9%**
Placebo (n=915)	**77.1%**

Difference 8.8%
95% CI 4.5–13.0

[a]Stratified Cox proportional hazards model; 99.5% CIs are shown for the HR because p<0.005 was required to indicate statistical significance for this end point. [b]Kaplan–Meier estimates.
CI = confidence interval; HR = hazard ratio; IDFS = invasive disease-free survival; ITT = intent to treat.
Tutt A, et al. *N Engl J Med*. 2021;384(25):2394-2405.

Some of the Issues for Persons Getting Screening for Germline Mutations

- Cancer Prevention Issues

- Risk reducing surgery
- Chemoprevention
- Lifestyle intervention
- Screening for early detection:

✓ Breast & Ovarian cancer

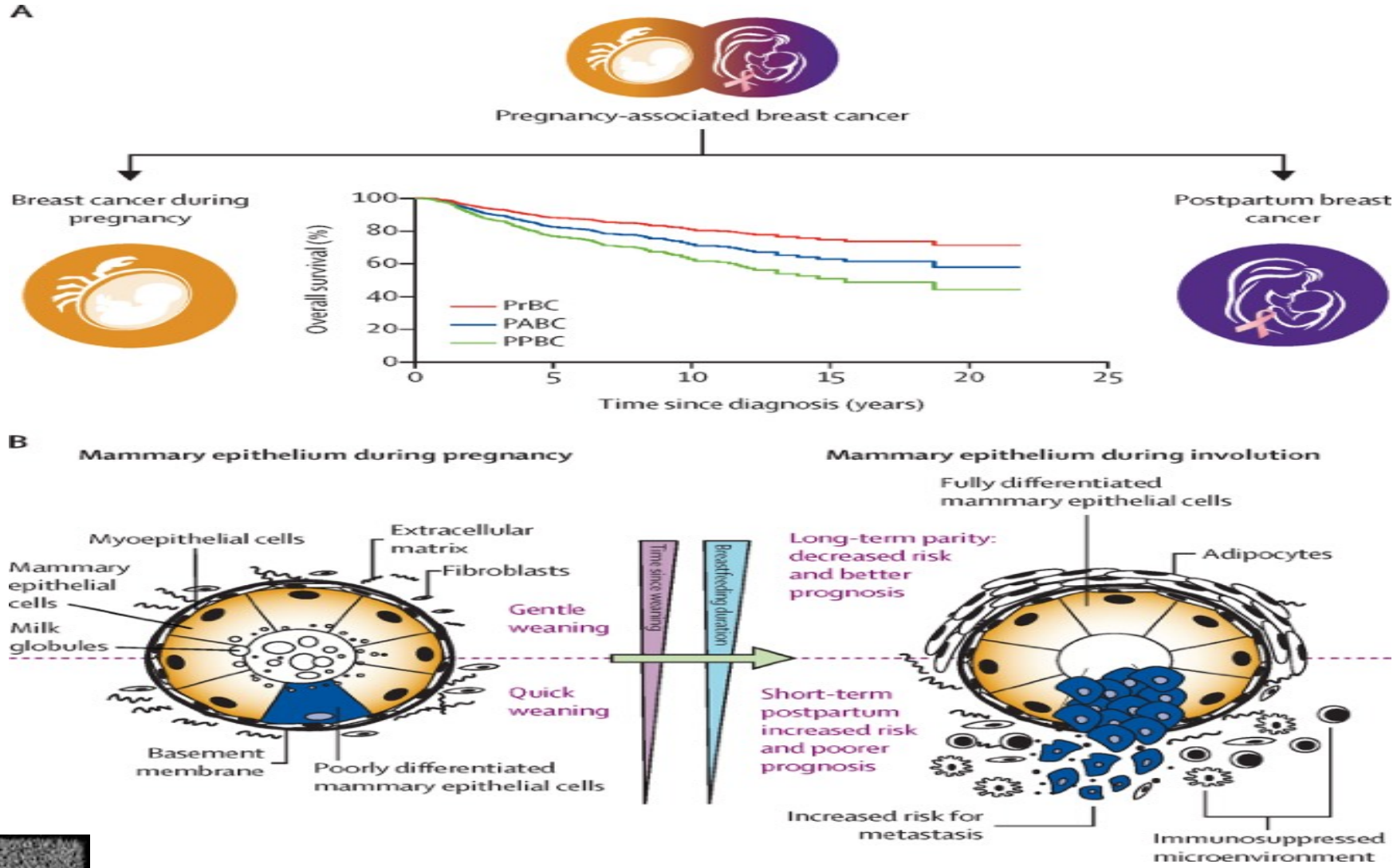
?? Pancreatic cancer, prostate cancer

- Reproductive issues
- Timing of RRSO (risk reducing oophorectomy)
  - For BRCA1 – between 35-40
  - For BRCA2 – 40-45
- Fertility preservation
- Understanding the clinical significance of reduced ovarian reserve in *BRCA* carriers
- PGD – pre-implantation genetic diagnosis
- Premature menopause – impact on sexual health, bone health, quality of life
- Understanding the hormonal axis & breast cancer in *BRCA* carriers:
  - Role of oophorectomy in ↓ BC risk & mortality
  - HRT in healthy & affected *BRCA* carriers

Pregnancy Associated Breast Cancer

- During pregnancy (PrBC) or within 1 (2) years of delivery (PPBC)
  - Pr BC 4% of breast cancer in women younger than 45 years
  - Is this the correct definition – Lancet Oncology – June 2021
  - Postpartum period is 5 – 10 years after birth and has 35-55% of cases of bc in women < 45
  - Incidence of PABC is increasing with increasing maternal age
- Associated with worse outcomes in some series but controversial
  - If PABC reviewed same but if divided into PrBC and PPBC differences compared to general cohort especially if PPBC is considered 5 – 10 years
  - Breast involution in the presence of subclinical disease increases metastatic potential
  - Stage, worse for those in PPBC rather than Pr BC

Pregnancy Associated Breast Cancer



The Lancet Oncology 2021 22753-754DOI: (10.1016/S1470-2045(21)00183-2)

Treatment of Pregnancy Breast Cancer (PrBC)

- Median age is 33
  - Treatment needs to be multidisciplinary
  - No evidence of consistent neonatal long term issues except often premature delivery
  - Large series from Netherlands suggested increased TNBC (38.3% vs 22.0%) and fewer hormone positive (37.9% vs 67.3%) (1)
  - Modified diagnostic workup
- Treatment depends on timing of diagnosis
  - Early 1st trimester – conception to 4 weeks – avoid treatment
  - 1st trimester
    - 1-2% risk of miscarriage with surgery
    - High risk of severe fetal abnormalities and miscarriage with RT, chemo and hormone therapy, no good data with anti HER2
  - 2nd and 3rd trimester
    - Avoid radiation, chemotherapy may cause growth restriction and myelosuppression but can be given
    - Most Data with AC but also data with paclitaxel
    - Anti HER2 – reports of oligohydramnios/anhydramnios
    - Insufficient data with hormone therapy
    - Immunotherapy – increased risk of stillbirth, premature delivery, infant mortality (3)
  - Avoid bisphosphonates, AntiVEGF, PARPi
  - Deliver patient as soon as safe for baby
  - Surgery can be done at any stage of pregnancy
    - Series of BCS done during pregnancy including 1st trimester with good outcomes (2)
  - Avoid radiation, radioactive scans- unless necessary and then shielded

1. Suelmann et al, Br Ca Resear and TR, 2021
2. Blundo et al, Front Oncol 2021
3. Tesarova et al, Jour of Personalized Med - 2020

Pregnancy **AFTER** a Diagnosis of Breast Cancer

- No data to suggest worse prognosis but studies are small and often from a single centre
- Also with longer definition of PPBC we need to re-evaluate older studies
- POSITIVE study – international study of 500 ER+ women who enrolled in the study, stopped their endocrine therapy after 18 – 30 months and tried to have a pregnancy. If no pregnancy after 2 years went back on HT. If a pregnancy went back on after delivery to complete 5 – 10 years
- Outcomes pending but DSMC has not voiced any concerns
- Outcomes – Recurrence, OS, rate of successful pregnancy, QoL

Pregnancy During Advanced Breast Cancer

- Young women with advanced breast cancer are increasingly needing to discuss options for pregnancy

- Issues:
  - Advanced breast cancer(ABC) is not curable
  - Survival is variable but shortened
  - Treatment is usually continuous for ABC so treatment either DURING pregnancy or a treatment HOLIDAY
  - Respect for autonomy of patients

Male Breast Cancer

- 1 % of breast cancer
- 10% of male breast cancers have a germline mutations most commonly BRCA2
- Over 95 % are ER+
- Treated the same as female breast cancer in terms of surgery, radiation, chemotherapy, tamoxifen
- Confusing data on AI – efficacy less well demonstrated, questions of castration or not
- Data on other drugs such as CDK4/6 is equivalent
- Mammogram follow-up if enough breast tissue

Breast Cancer in Transgender Patients

- Generally small studies but Dutch study of 3289 persons with median duration of hormone therapy of 15 – 18 years
  - Risk for trans women > than for cisgender men but lower than cis women
  - Risk for trans men < than for cisgender women, especially with mastectomy
  - Supplemental hormone therapy appears to cause a lower risk than HRT in ciswomen
- Usually presents as a lump
- Supplemental hormonal therapy may need to be stopped if there are concerns about interference with therapy
- Psychological, physical impact, body image impact
- Labelling of patients may be damaging
- Mammograms for women or men with residual breast tissue
- Screening should be offered to transgender individuals according to local guidelines considering individual anatomy and risk factors

De Blok, e al BMJ 2019: 365 Nikoic et al, Breast Can Res Treat 2018 Hartley et al, Eur J Surg Oncol, 2018 Stone et al, Eur J Surg Oncol, 2018 Brown et al, Breast Can Res Treat, 2014

Mr. GL

- Presented at age 61 in December 2018 with mass in right breast with skin involvement and palpable nodes
- History of Rheumatoid arthritis since 1998
- Transitioned in early 2000s
- Biopsy showed ER 8/8, PR 4/8, HER2 negative infiltrating breast cancer T4, N1 – started on chemotherapy AC (Adriamycin/cyclo)
- Staging showed diffuse bone mets
- After 6 doses of AC started on palbociclib and letrozole
- TOXICITY with brain fog
- After 14 months progressions
- Found to have PI3K mutation and started on study of Apelisib/Faslodex
- Increasing brain fog and fatigue - apelisib stopped
- After 12 month progression – started on capecitabine

Mr GL

- Issues
- Forgot he had breasts – ignored breast mass
- Pain in back – assumed it was his rheumatoid arthritis
- When he started on treatment for advanced incurable breast cancer his testosterone was stopped due to concerns about interference with his treatment
- Issues with labelling in cancer environment
- When he progressed and started on capecitabine chemotherapy issue of restarting testosterone for body image/Quality of LIfe

Pearls

- Cancer does not discriminate
  - EVERYONE can get it, including your healthiest patients
  - Germline mutations are important but only for a minority of persons
  - Survival improves with early diagnosis so a level of suspicion is necessary
- Special groups need to be acknowledged
  - Treatment protocols may need to be modified
  - Outcomes may vary/ QoL and psychological needs vary
  - Support – individual/groups may feel very isolated
- Disparities continue to exist in access to therapies and treatment during therapy
  - Geographic, psycho/social, socio economic
  - Many groups do not feel safe with the health system and avoid it
- Impact of new therapies on these groups needs to be assessed
  - Data on response and outcomes need to be considered
  - Enrollment of special groups in clinical trials is necessary

Thank you for your attention