

Essere madri dopo carcinoma mammario

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Disclosure Information

Relationship Relevant to this Session

Poggio, Francesca:

No relevant relationship to disclose.

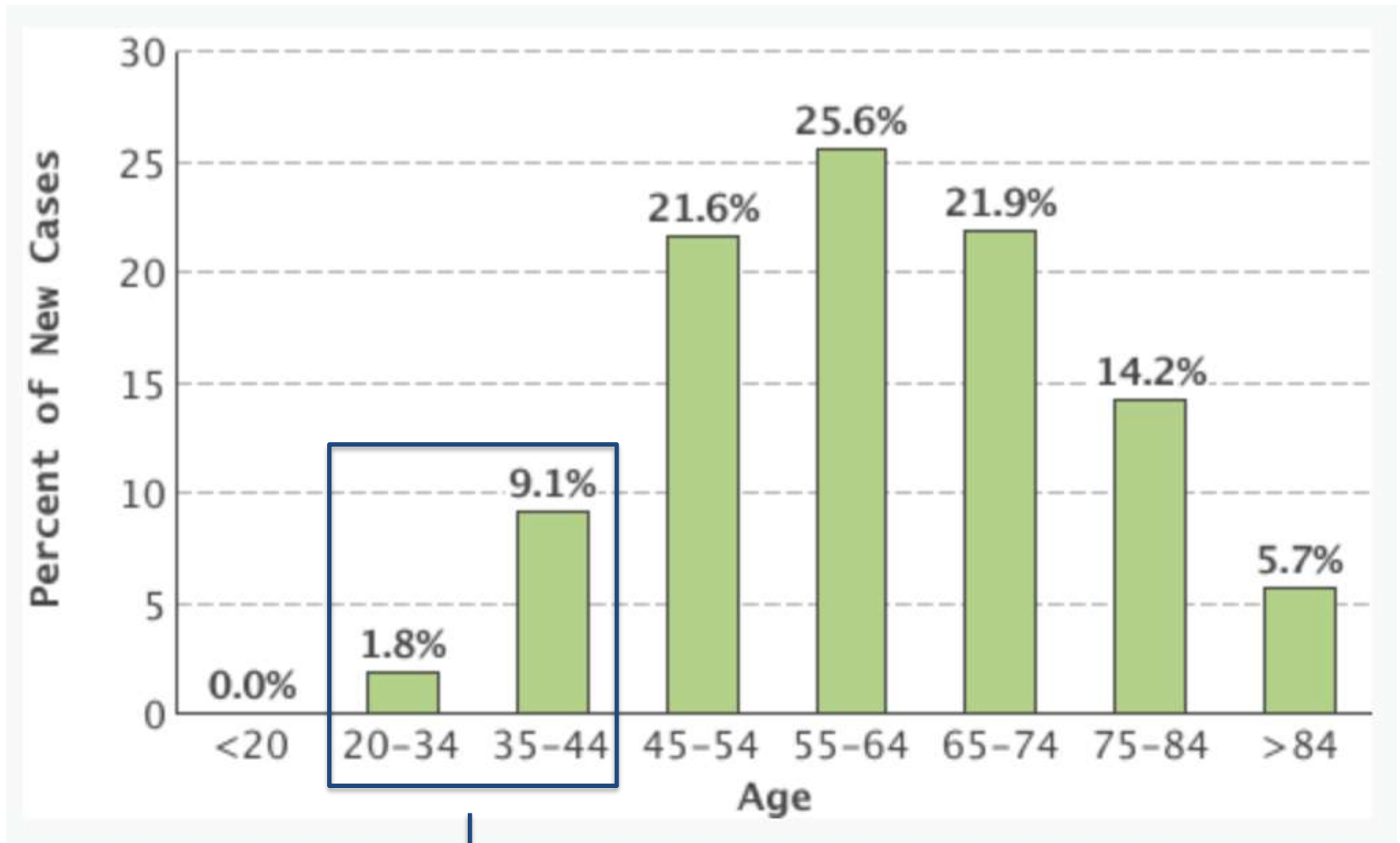
Agenda

- **Introduction**
- **Strategies for fertility preservation**
 1. **Embryo/oocyte cryopreservation**
 2. **Cryopreservation of ovarian tissue**
 3. **Temporary ovarian suppression with LHRH analogs during chemotherapy**
- **Conclusions**

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Epidemiology



11% new cases

6% before age 40 years.

Fertility Concerns in Young Women with Breast Cancer

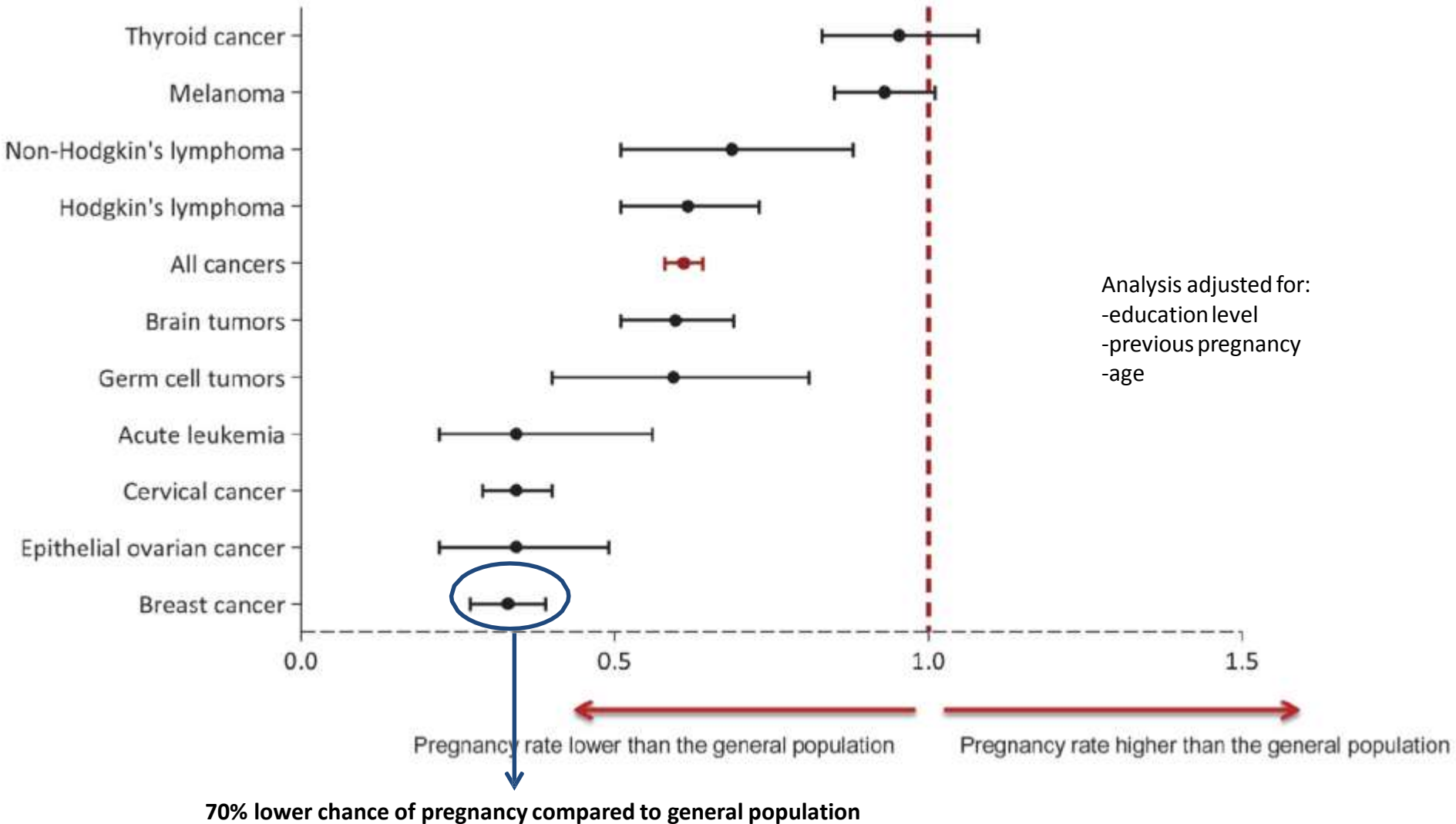
| | | |
|--|-----|----|
| At time of decision making about treatment, concerned about fertility | | |
| Not at all | 301 | 49 |
| A little | 83 | 13 |
| Somewhat | 88 | 14 |
| Very | 148 | 24 |
| Concerns about fertility affected treatment decisions: | | |
| Not at all | 456 | 74 |
| A little | 55 | 9 |
| Somewhat | 53 | 9 |
| A lot | 52 | 8 |
| Fertility concerns led patient to choose not to receive chemotherapy | | |
| | 4 | 1 |
| Fertility concerns led patient to choose one chemotherapy over another | | |
| | 12 | 2 |
| Fertility concerns led patient to consider not receiving endocrine therapy | | |
| | 6 | 1 |
| Fertility concerns led patient to not receive endocrine therapy | | |
| | 19 | 3 |
| Fertility concerns led patient to consider receiving endocrine therapy for < 5 years | | |
| | 71 | 11 |
| Fertility concerns led patient to undergo mastectomy | | |
| | 5 | 1 |

→ ≈ 50%

Pregnancy after BC

- Despite the reported high percentage of desire for future pregnancies, only approximately 3-7% of women < 45 years go on to have a pregnancy after the diagnosis of breast cancer

Pregnancy after cancer



Pregnancy after BC

BRIEF COMMUNICATION

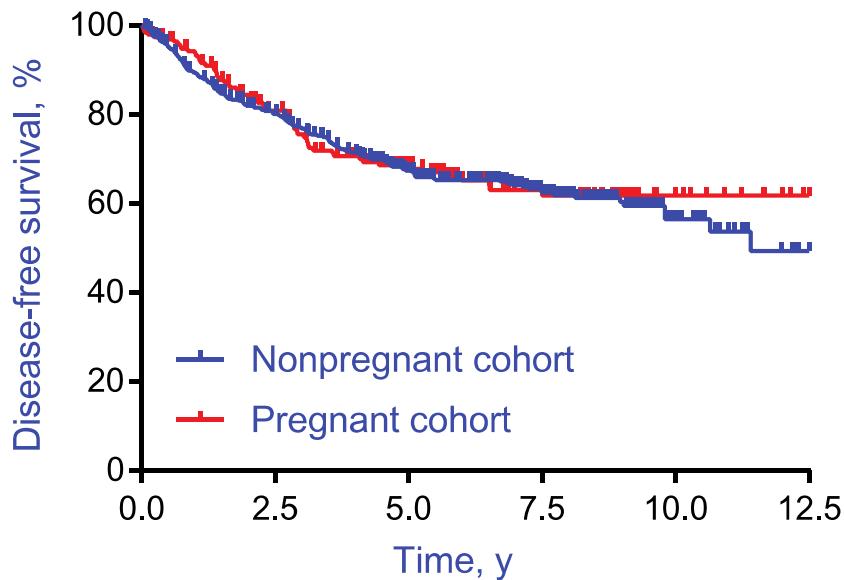
Long-term Safety of Pregnancy Following Breast Cancer According to Estrogen Receptor Status

Matteo Lambertini, Niels Kroman, Lieveke Ameye, Octavi Cordoba, Alvaro Pinto, Giovanni Benedetti, Maj-Britt Jensen, Shari Gelber, Maria Del Grande, Michail Ignatiadis, Evandro de Azambuja, Marianne Paesmans, Fedro A. Peccatori, Hatem A. Azim Jr.

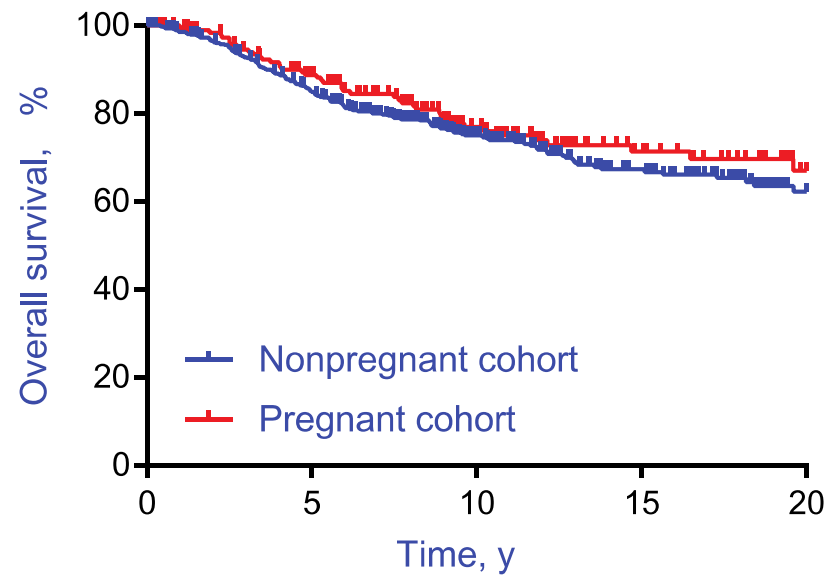
- ✓ Retrospective, multicenter cohort study
- ✓ 333 BC patients with pregnancy after treatments
- ✓ 874 non pregnant controls
- ✓ Primary endpoint: DFS in ER+ patients
- ✓ At 7.2 years of median follow-up, no differences in DFS and OS in both arms

Pregnancy after Breast Cancer – Is It Safe?

Disease-free survival in ER+ patients



Overall survival in ER+ patients



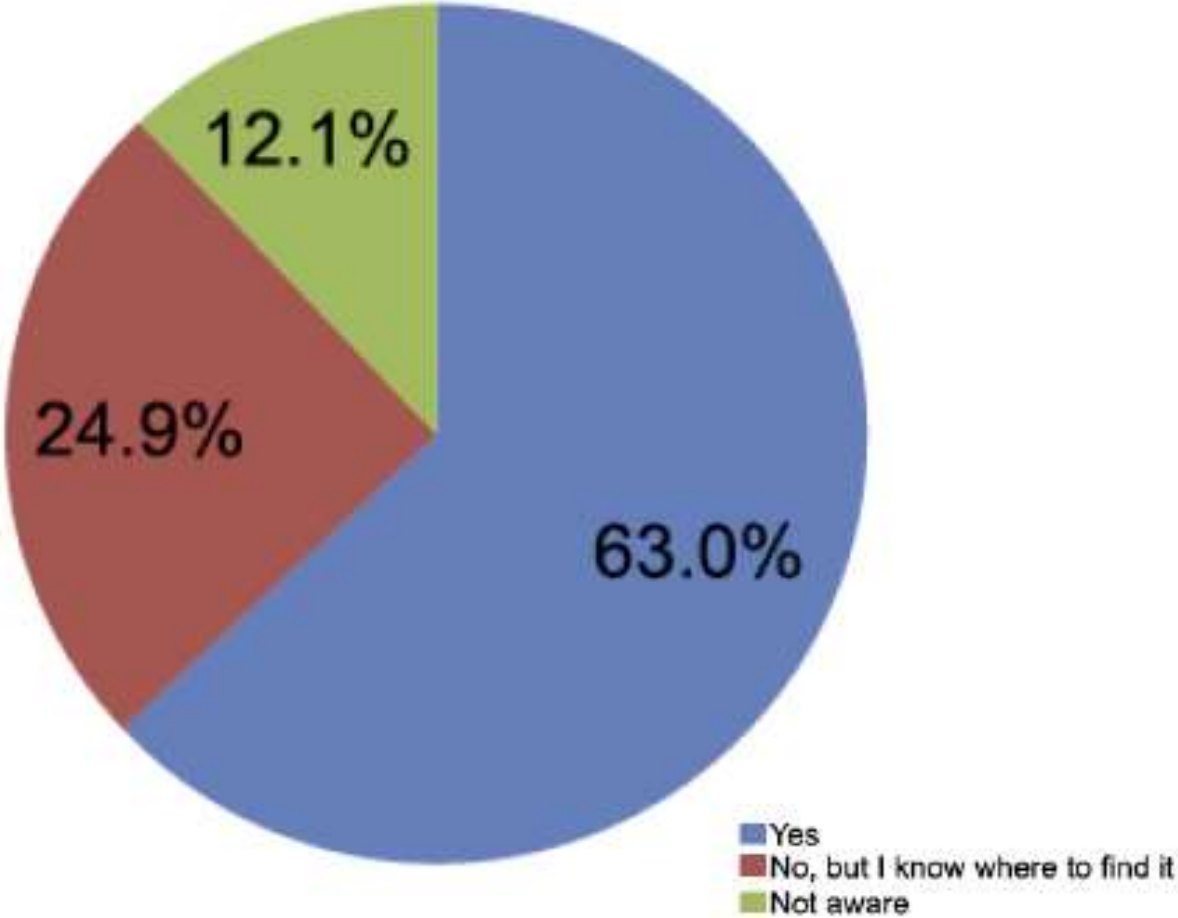
| No. at risk | | 0.0 | 2.5 | 5.0 | 7.5 | 10.0 | 12.5 |
|-------------|-----|-----|-----|-----|-----|------|------|
| Nonpregnant | 492 | 346 | 233 | 134 | 32 | 5 | |
| Pregnant | 194 | 138 | 88 | 50 | 17 | 4 | |

| No. at risk | | 0 | 5 | 10 | 15 | 20 |
|-------------|-----|-----|-----|-----|----|----|
| Nonpregnant | 492 | 381 | 213 | 114 | 48 | |
| Pregnant | 194 | 148 | 86 | 48 | 24 | |

Key Factors for Treatment-Related Premature-Ovarian Failure (POF)

- **Patient's age**
- **Use and type of chemotherapy regimen**
- **Women are not still informed of the available options (egg/embryo freezing, ovarian tissue freezing, LHRH analogs)**

Physicians' knowledge of fertility preservation guidelines



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Available Strategies for Fertility Preservation in Breast Cancer Patients

EGG/EMBRYO CRYOPRESERVATION

| Guidelines | Year | Recommendations |
|------------|------|---|
| ESMO | 2013 | Embryo or oocyte cryopreservation is the <u>main method to preserve female fertility</u> . Ovarian stimulation should be carried out before commencing chemotherapy. |
| ASCO | 2018 | Embryo cryopreservation is an <u>established fertility preservation method</u> , and it has routinely been used for storing surplus embryos after in vitro fertilization. Cryopreservation of unfertilized oocytes is an <u>option</u> , and may be <u>especially well suited</u> to women who do not have a male partner, do not wish to use donor sperm, or have religious or ethical objections to embryo freezing. |

Available Strategies for Fertility Preservation in Breast Cancer Patients

OVARIAN TISSUE PRESERVATION

| Guidelines | Year | Recommendations |
|------------|------|--|
| ESMO | 2013 | Ovarian tissue cryopreservation is still considered experimental , but remains a unique option for young girls with cancer |
| ASCO | 2018 | Ovarian tissue cryopreservation remains experimental . However, emerging data may prompt reconsideration of this designation in the future (this technique is already considered <u>non-experimental in some countries</u> , and its experimental status is undergoing evaluation in the United States) |

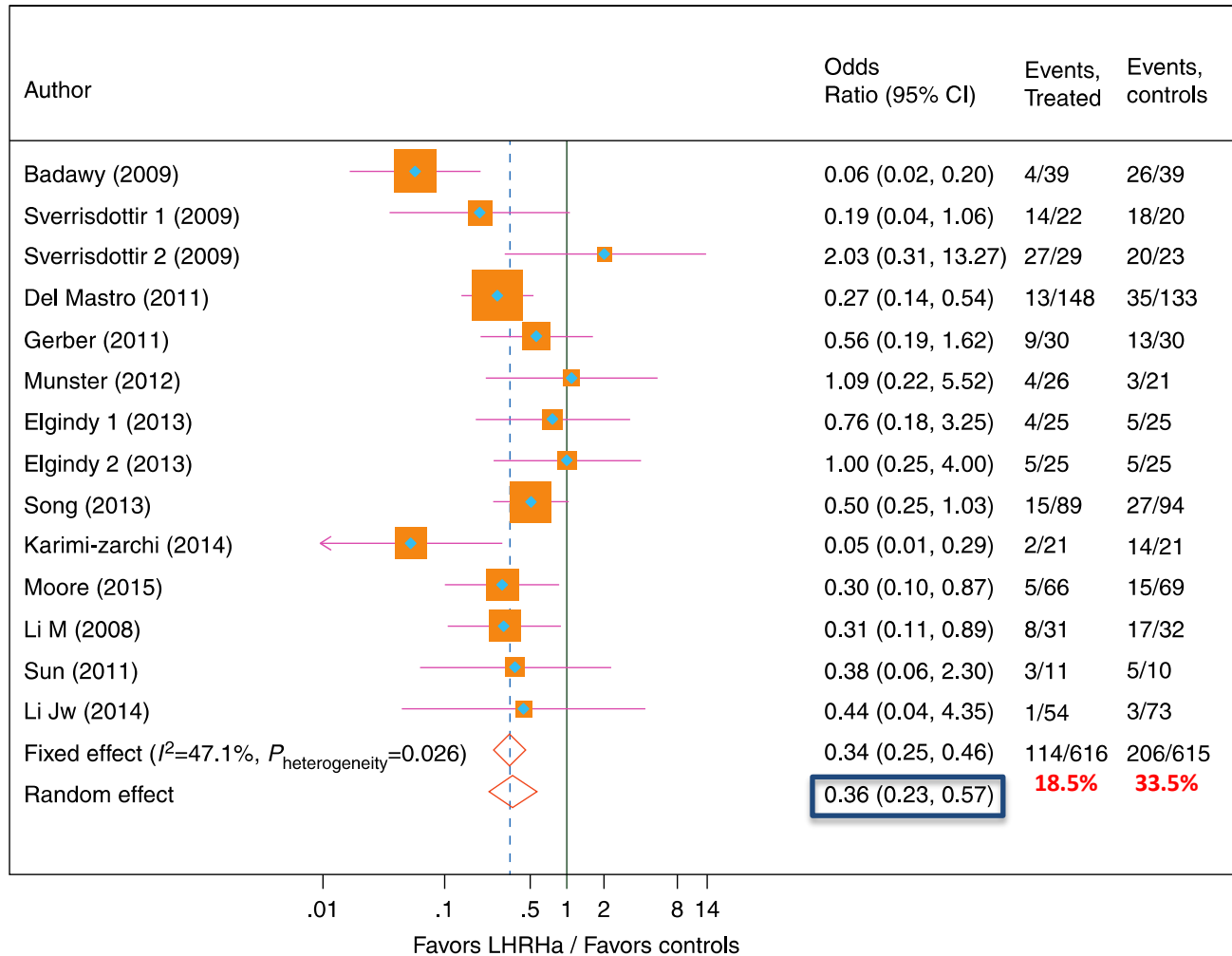
Available Strategies for Fertility Preservation in Breast Cancer Patients

TEMPORARY OVARIAN SUPPRESSION

| Guidelines | Year | Recommendations |
|---------------|------|---|
| ESO-ESMO BCY3 | 2017 | GnRHa should be discussed as an option with all patients interested in <u>potentially preserving fertility and/or ovarian function</u> who are candidates for chemotherapy, irrespective of tumor subtype |
| AIOM | 2017 | GnRHa during chemotherapy should be recommended to all pre-menopausal breast cancer patients undergoing chemotherapy who are interested in <u>ovarian function and/or fertility preservation</u> |
| ASCO | 2018 | When proven fertility preservation methods are not feasible, and in the setting of young women with breast cancer, GnRHa may be offered to patients in the hope of <u>reducing the likelihood of chemotherapy-induced ovarian insufficiency</u> . GnRHa should not be used in place of proven <u>fertility preservation methods</u> . |

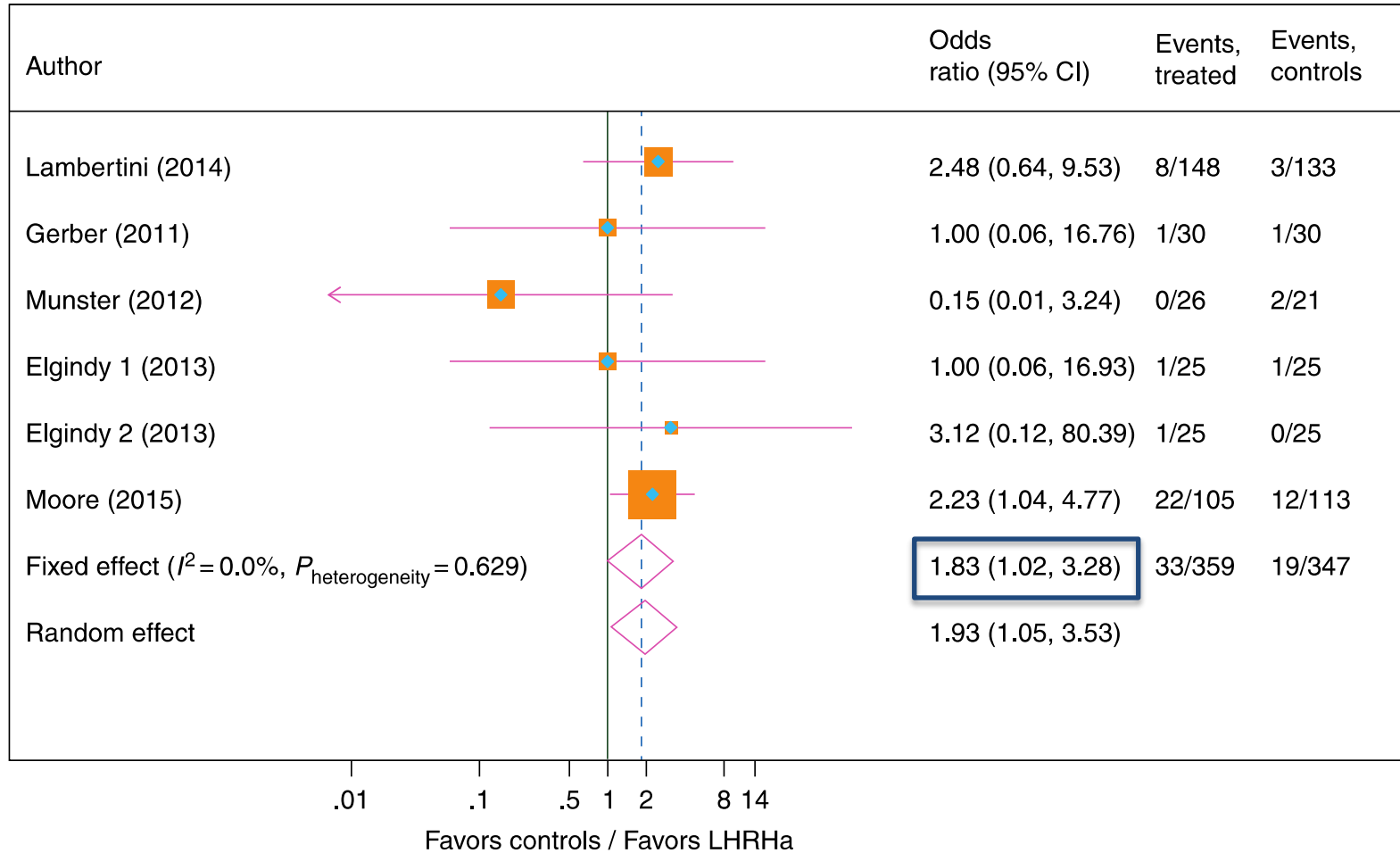
Meta-Analysis of Randomized Trials

Premature Ovarian Insufficiency (POI)



Meta-Analysis of Randomized Trials

Patients with Pregnancy

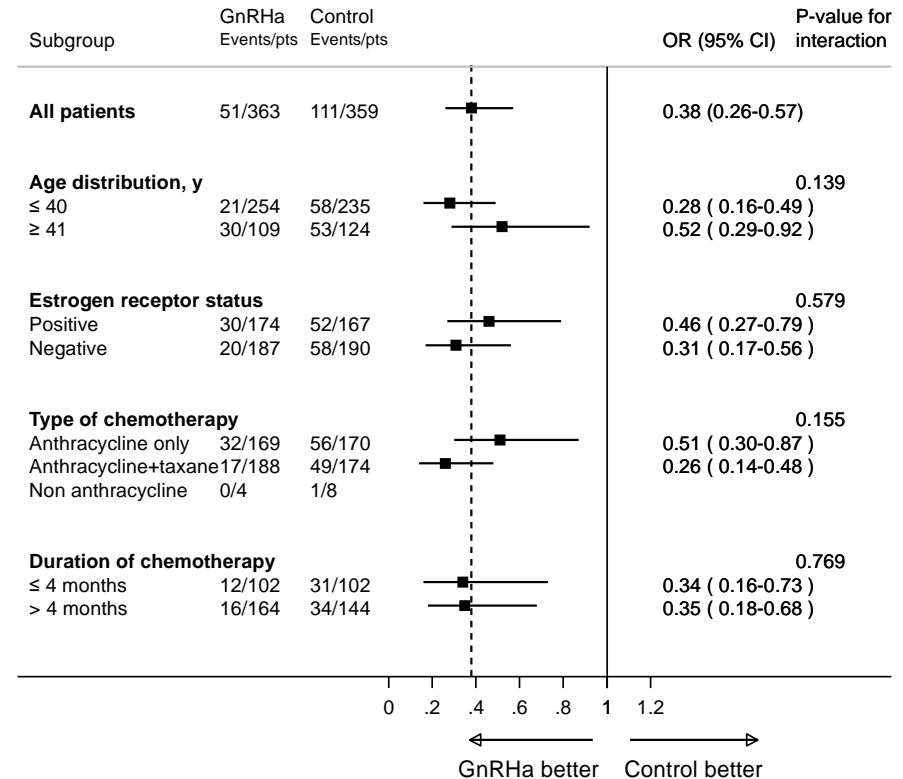
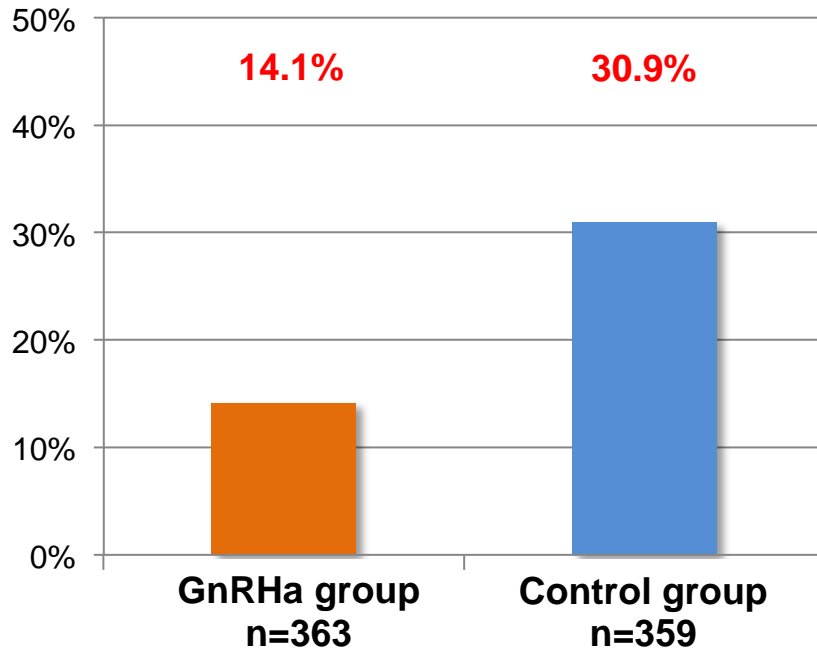


Individual Patient-Level Data Meta-Analysis

San Antonio Breast Cancer Symposium, December 5-9, 2017

Premature-Ovarian Insufficiency Rate

OR* 0.38 (95% CI 0.26-0.57)
p<0.001



*Odds ratio (OR) adjusted for age, estrogen receptor status, type and duration of chemotherapy administered

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Individual Patient-Level Data Meta-Analysis

San Antonio Breast Cancer Symposium, December 5-9, 2017

Post-Treatment Pregnancy Rate

GnRHa Group: 37/359 (10.3%)

vs.

Control Group: 20/367 (5.5%)

IRR* 1.83 (95% CI 1.06-3.15)

p=0.030

| | GnRHa group (n = 37) No. (%) | Control group (n = 20) No. (%) |
|---------------------------------|---|---|
| Age distribution, years | | |
| ≤ 40 | 37 (100) | 20 (100) |
| ≥ 41 | 0 (0.0) | 0 (0.0) |
| Estrogen receptor status | | |
| Positive | 6 (16.2) | 2 (10.0) |
| Negative | 31 (83.8) | 18 (90.0) |

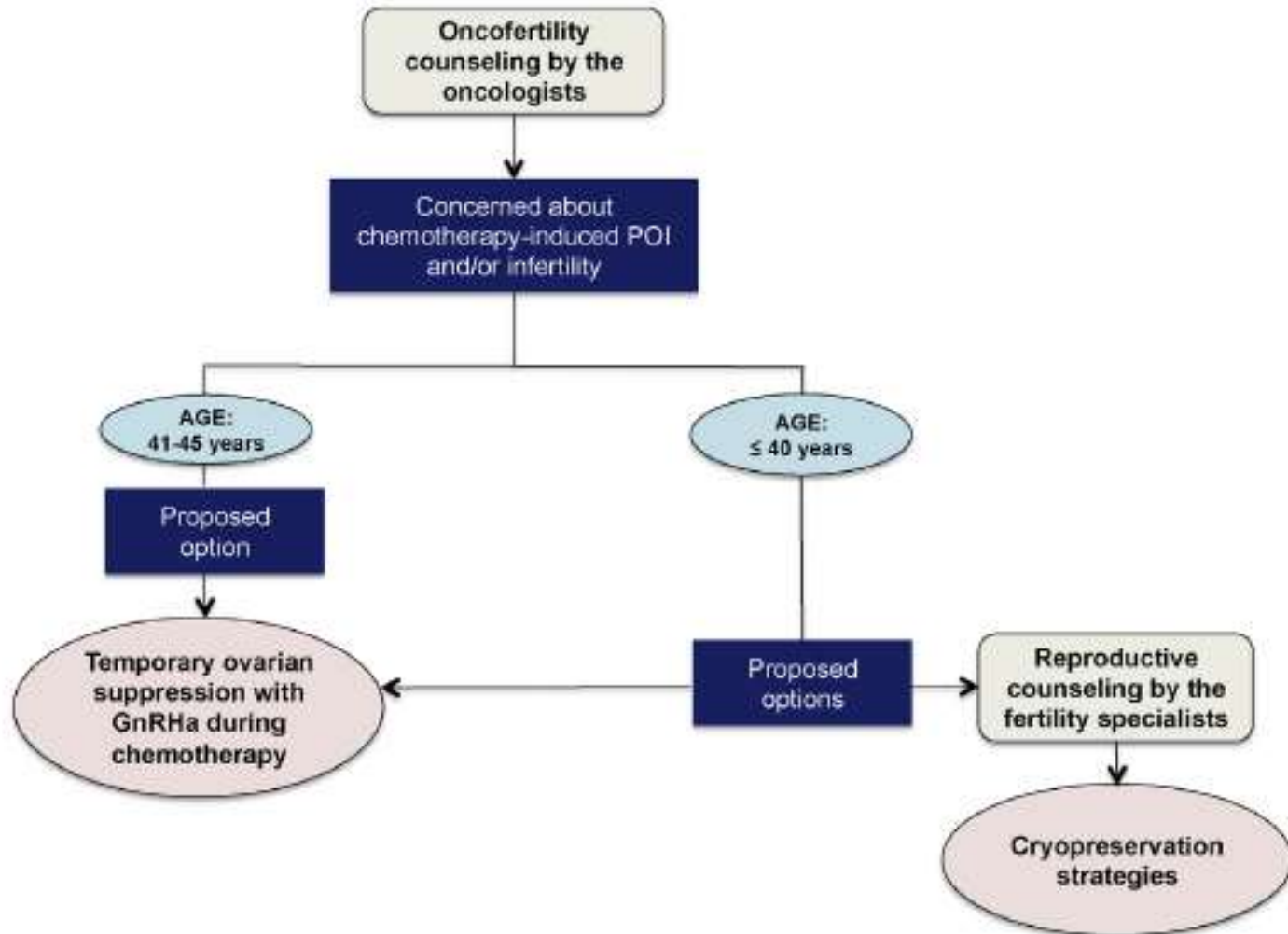
*Incidence rate ratio (IRR)²

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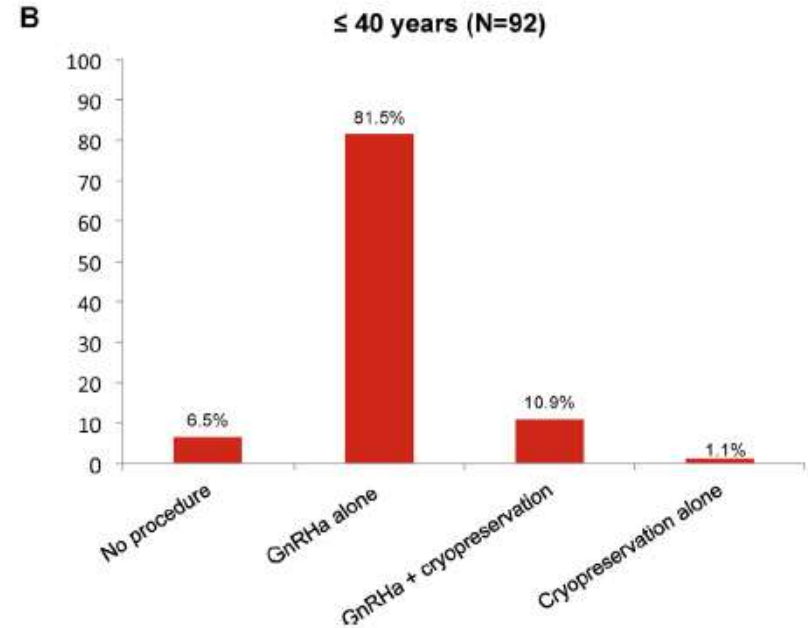
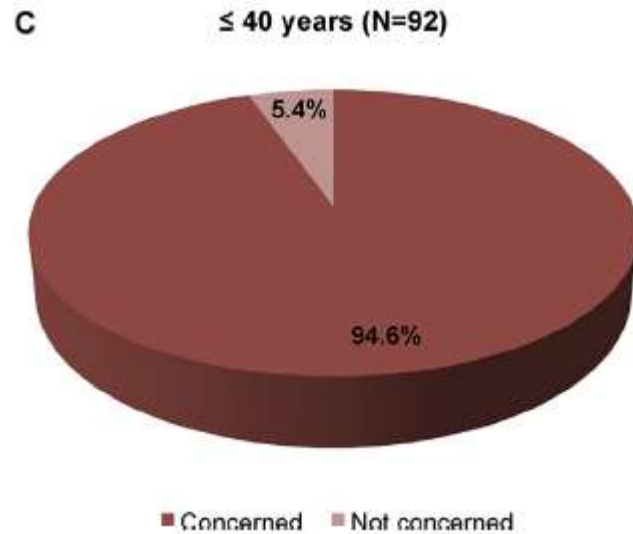
GnRH Analogs during Chemotherapy - Who Are the Best Candidates?

- Patients interested in ovarian function preservation (premenopausal women)
- Patients interested in fertility preservation (age < 38 – 40 years):
 1. Following embryo/oocyte cryopreservation
 2. With no access to embryo/oocyte cryopreservation

What Women Want? The PREFER Study



What Women Want? The PREFER Study



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Conclusions

- Impact of anticancer treatments on gonadal function may be linked to: patient's age, use and type of chemotherapy regimen, use of endocrine therapy.
- Oncofertility counseling is mandatory at the time of diagnosis with all young patients: pregnancy after breast cancer, irrespective of ER status, should not be in principle discouraged

Conclusions

- Temporary ovarian suppression with GnRHa during chemotherapy should be considered as an effective and safe option to reduce the risk of chemotherapy-induced POI and potentially improve future fertility in young breast cancer patients
- Temporary ovarian suppression with GnRHa during chemotherapy is not an alternative to embryo/oocyte cryopreservation in patients interested in fertility preservation