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29/05 a 01/06/2024



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INSTITUTO DO
CÂNCER
DO ESTADO DE
SÃO PAULO
OCTAVIO FRIAS DE OLIVEIRA

OCCULT OVARIAN METASTASES OF BREAST CANCER: 14 YEARS OF FOLLOW-UP IN A CANCER CENTER

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Conflicts of Interest Statement



The authors have no conflicts of interest to declare.

Exigência da RDC Nº 96/08 da ANVISA

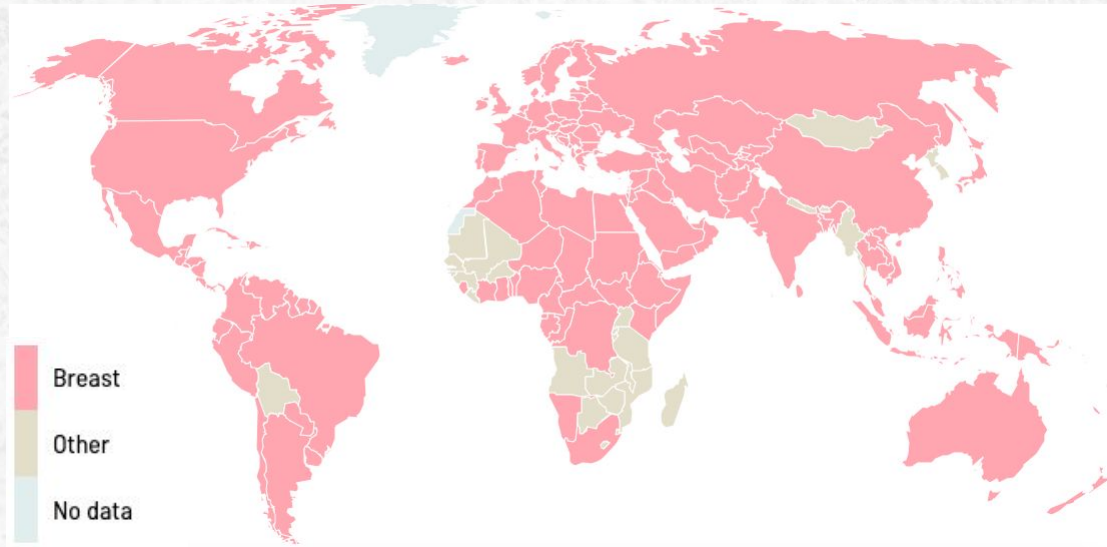
Introduction



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- Breast cancer is the **most common cancer among women worldwide.**



(Ferlay J, Ervik M, Lam F, et al. Global Cancer Observatory: Cancer Today. Lyon, France: IARC.)

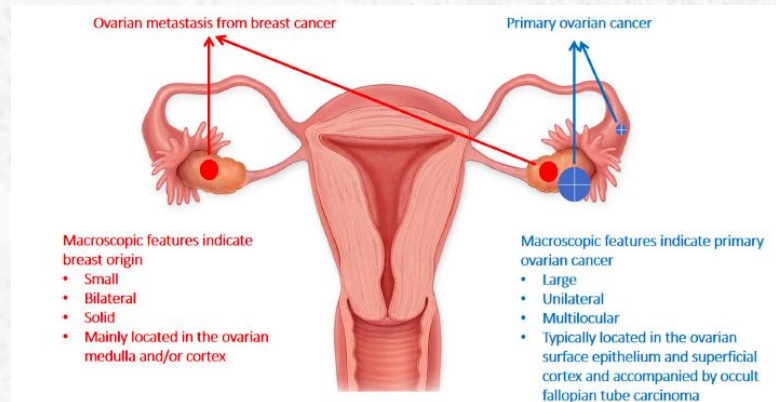
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- Breast cancer is the **most common cancer among women** worldwide.
- Ovarian metastasis from breast cancer are associated **with poor prognosis**, and is a **challenging diagnosis** preoperative due to the lack of early clinical and radiological manifestations.



(Tian, W., Zhou, Y., Wu, M. et al. 2019).

Objectives



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- We aimed to evaluate **clinicopathological and radiological characteristics of metastatic breast tumors** in salpingo-oophorectomies performed for hormonal suppression treatment.

Methodology



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- A retrospective analysis of **295 patients** with breast cancer who underwent salpingo-oophorectomy (therapeutic) at a Brazilian cancer center between 2009 and 2023 was performed.



Clinicopathologic information:

- Breast cancer characteristics
- Preoperative ovary imaging results
- Presence of ovarian metastases

Survival status:

- Outcomes were compared using Kaplan-Meier survival analysis.

Results



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295 patients with breast cancer who underwent salpingo-oophorectomy between 2009 and 2023.

| | |
|--|-------|
| Mean age at breast cancer diagnosis | 37 yo |
| Mean age at ovary metastasis diagnosis | 40 yo |

20.3% patients had ovarian metastases from breast cancer (n=60).

Results

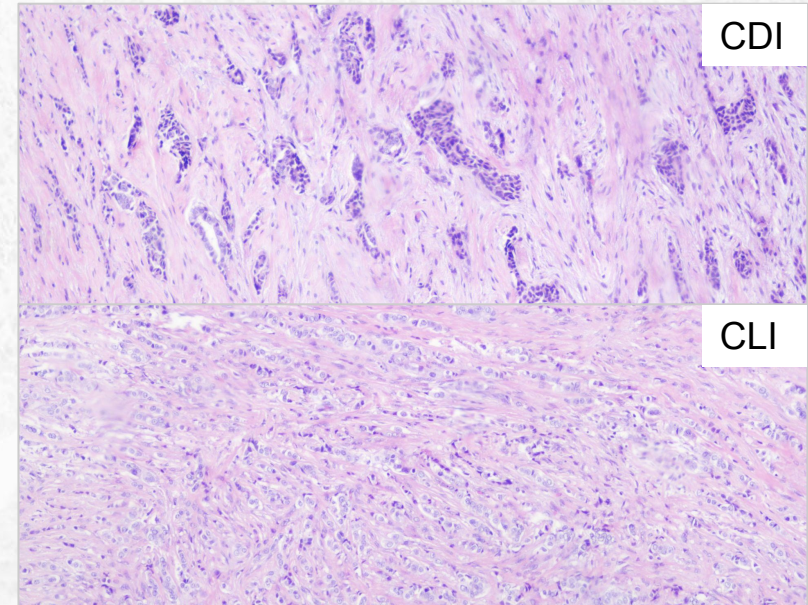


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- The most common histologic type was **carcinoma of no special type**.

| Histopathologic characteristics at breast cancer diagnostic | | |
|---|----------|-----------|
| Histological type | | |
| Invasive ductal carcinoma | | 45 (75%) |
| Invasive lobular carcinoma | | 12 (20%) |
| Mixed | | 3 (5%) |
| Molecular subtypes | | |
| Estrogen receptor | | |
| | Positive | 60 (100%) |
| | Negative | 0 |
| Progesterone receptor | | |
| | Positive | 54 (90%) |
| | Negative | 5 (8,3%) |
| | No data | 1 (1,7%) |
| HER-2 receptor | | |
| | Positive | 3 (5%) |
| | Negative | 57 (95%) |



Results

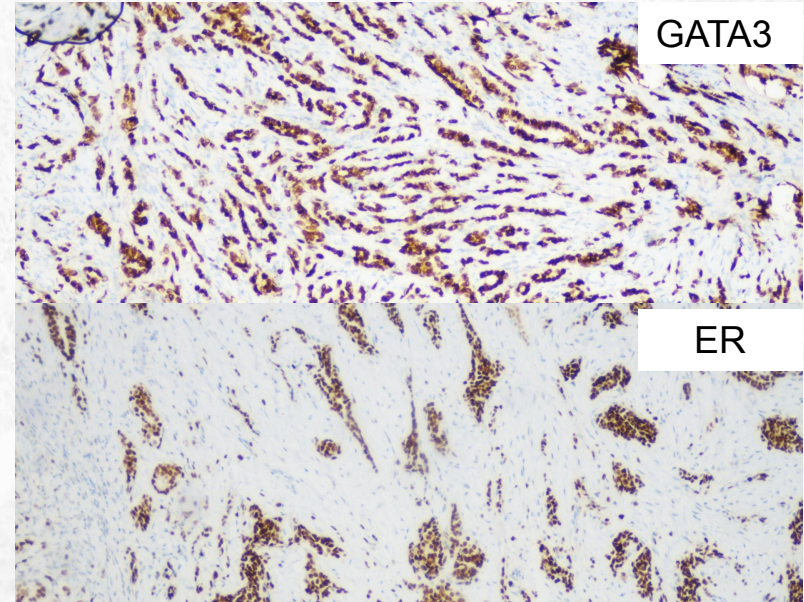


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- The most common histologic type was **carcinoma of no special type**.

| Molecular subtypes | |
|--------------------|------------|
| Luminal A | 11 (18,3%) |
| Luminal B | 39 (65%) |
| HER-2 | 3 (5%) |
| Triple negative | 0 |
| Unclassifiable | 7 (11,7%) |



Results



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- Most patients with ovarian metastases had advanced tumor stage at breast diagnosis.

| Stage at breast cancer diagnostic | |
|-----------------------------------|--------------------|
| Anatomic Stage | |
| I | 0 |
| IIA | 4 (6,7%) |
| IIB | 8 (13,3%) |
| IIIA | 9 (15%) |
| IIIB | 4 (6,7%) |
| IIIC | 3 (5%) |
| IV | 32 (53,3 %) |

| T | | |
|---|---------|----|
| | T1 | 6 |
| | T2 | 17 |
| | T3 | 17 |
| | T4 | 17 |
| | No data | 3 |
| N | | |
| | N0 | 3 |
| | N1 | 26 |
| | N2 | 19 |
| | N3 | 7 |
| | No data | 5 |
| M | | |
| | M0 | 2 |
| | M1 | 32 |
| | No data | 26 |

Results



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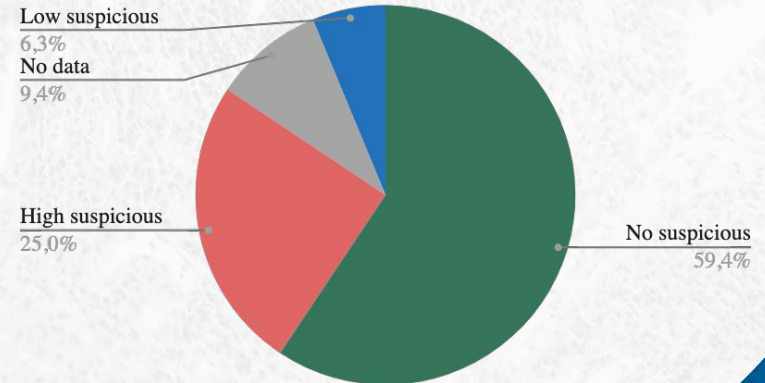
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- Pre salpingo-oophorectomy imaging was done in the majority of patients (95%, n = 57).

59.6% had no suspicious radiological findings on preoperative transvaginal/pelvic examination.

| Radiological pre salpingo-oophorectomy findings | |
|---|------------|
| No suspicious radiological findings | 34 (59,6%) |
| Low suspicious radiological findings | 8 (14,1%) |
| High suspicious radiological findings | 15 (26,3%) |
| No data | 3 |

Tumor stage IV versus Radiological findings



Results

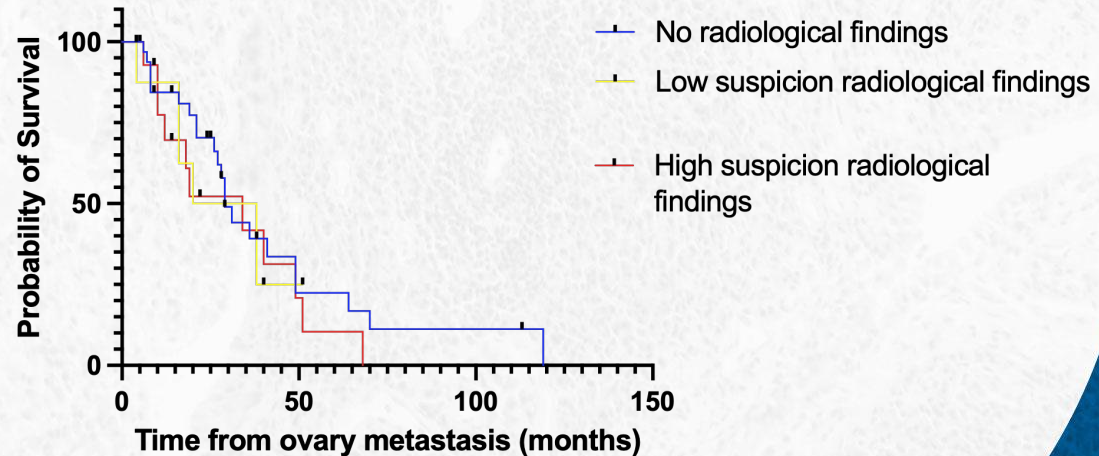


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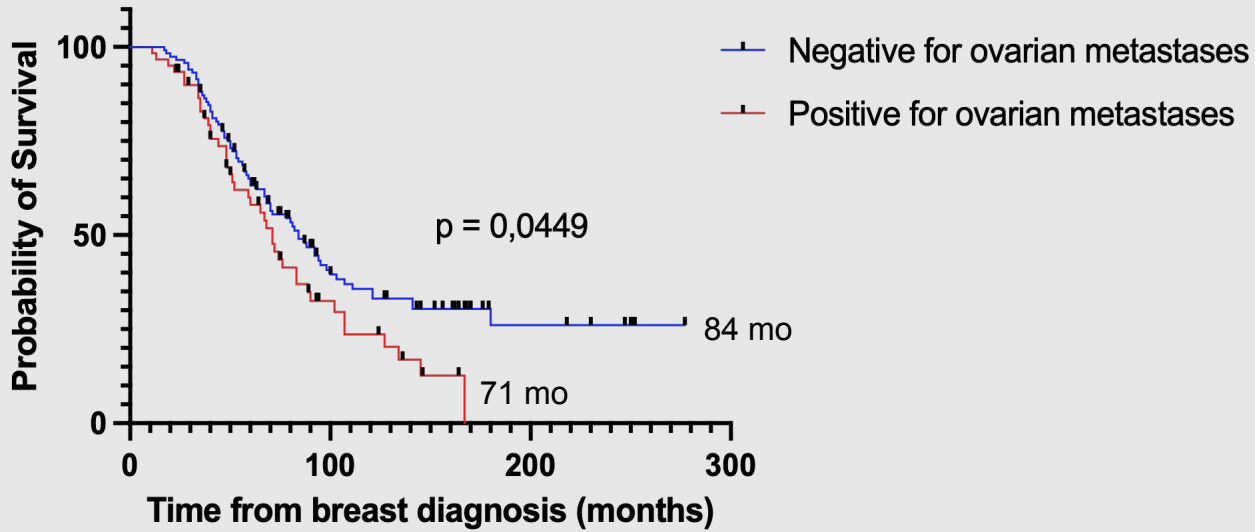
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- The mean follow-up time was 111 months.
- The mean survival rate after discovery of ovarian metastases **was 28 months**.

OS did not significantly correlate with preoperative imaging findings.



Preliminary data



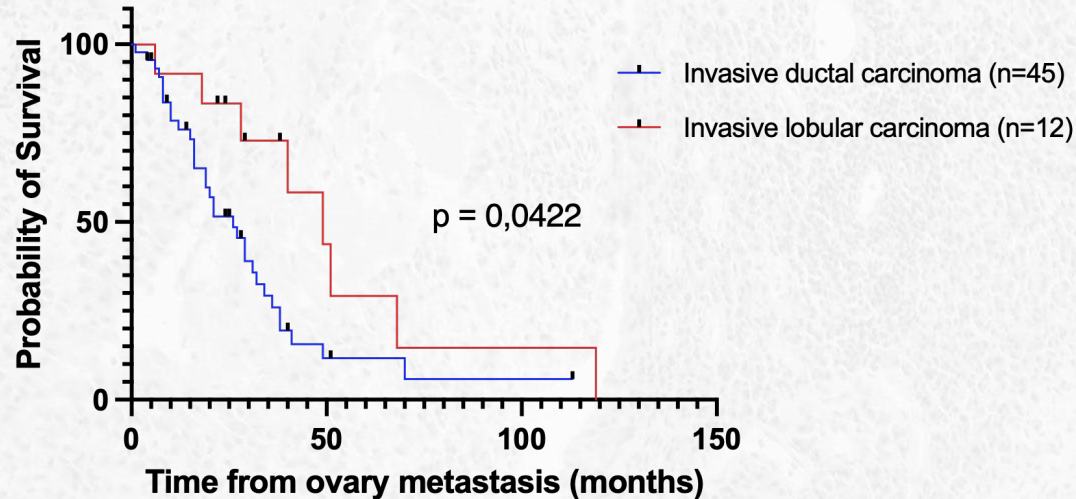
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- Patients with **ductal carcinoma** had **shorter overall survival (OS)** after ovarian metastases detection.



Conclusions



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- Ovarian metastases from breast cancer **were found in 20,3% of patients** who underwent salpingo-oophorectomy for hormonal suppression;
 - Incidence of ovarian metastases in breast cancer patients is variable in studies (13–47%);

| | |
|-------------------------------|----------|
| Eid R. et al. (2019) | n = 13 |
| Cerkauskaite D. et al. (2021) | n = 24 |
| Pimentel C. et al. (2016) | n = 28 |
| Bigorie V. et al. (2010) | n = 29 |
| Inge T. et al. (2017) | n = 63 * |

- Bias: series of therapeutic salpingo-oophorectomy for hormonal suppression select young patients, pre-menopausal and most often in advanced disease;

Conclusions



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- Patients with primary **stage IV breast cancer** are **more susceptible** to ovarian metastases;
- Ovarian metastases from breast were **more frequently ductal carcinoma, which was associated with shorter overall survival** when compared to lobular carcinoma;
 - Controversial data in the literature -> heterogeneous groups evaluated
- The majority of ovarian metastases **were occult to radiological examination**, being detected solely after pathologic examination of surgical specimens;
 - Metastases from breast cancer are generally small / microscopic;
 - Radiological examination may not exclude ovarian involvement;

Conclusions



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- Preoperative imaging findings did not significantly correlate with overall survival;
- *Preliminary comparative analysis: patients with histologically confirmed ovarian metastasis had a shorter overall survival when compared with those without ovarian involvement (84 x 71 months).*

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Thank you!

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