



Background and Objectives

Postpartum breast cancer (PPBC) has an increasing incidence. It is associated with a worse prognosis compared to other breast cancers diagnosed outside of this stage.

- **Objectives:** To study **clinical and histopathological differences** between **PPBC** (diagnosed within 10 years after delivery) and non-postpartum breast cancer (**NPBC**, diagnosed more than 10 years after delivery or in nulliparous). Analyze whether reproductive factors such as parity or lactation influence these histopathological characteristics.

Methods and Materials

An observational, analytical and retrospective case-control study is carried out. For the first part, we consider those women with PPBC as **case**; healthy mothers as **control**. For the second part, we consider women with PPBC as case; non-postpartum breast cancer women as control. The data have been analyzed with SPSS v.22.

Results

- **2698** women were recruited, all of them under 45 years.
- 264 (9.8%) have breast cancer and 2434 (90.2%) are healthy women.
- The percentage of **ex-smokers** is higher in PPBC compared to healthy mothers (30.6% vs. 19.7%) ($X^2=9.632$; $p=0.022$; SS).
- The proportion of women with **previous gynecological pathology** is higher in PPBC group than in the group of healthy mothers (48.9% vs. 25.7%) ($X^2=33.767$; $p<0.001$; SS). The same occurs with previous breast pathology (51.9% vs. 21.7%) ($X^2=62.75$; $p<0.001$; SS).
- Women with early PPBC (diagnosed within 5 years after delivery) have higher percentage of **previous mastitis** compared to the rest of groups that develop tumor beyond 5 years postpartum (20.3% vs. 3.6%) ($X^2=17.76$; $p=0.023$; SS).
- The percentage of **female pregnancies** is more frequent in early PPBC (58.6%) compared to non-postpartum or late PPBC (42.4%) ($X^2=4.039$; $p=0.044$; SS).
- The percentage of women who **abruptly discontinued breastfeeding** is higher in those with PPBC with 27.5% compared to healthy mothers (12.6%) ($X^2=18.448$; $p<0.001$; SS) (*Table 1*).

			PPBC	Healthy mothers	Total
Abrupt and definitive interruption of breastfeeding	Yes	Frequency	28	236	276
		%	27.5%	12.6%	13.6%
	No	Frequency	74	1638	1748
		%	72.5%	87.4%	86.4%

Table 1. Abrupt and definitive interruption of breastfeeding and group of women

- **PPBC** has higher percentage of **stages II** (63.9%), the other group of non-postpartum cancer is mostly diagnosed in stage I (64.9%) ($X^2=9.808$; $p=0.002$; SS) (*Table 2*).

			PPBC	NPBC	Total
Tumor stage at diagnosis	I	Frequency	22	37	59
		%	36.1%	64.9%	50%
	II	Frequency	39	20	59
		%	63.9%	35.1%	50%

Table 2. Tumor stage at diagnosis and type of breast cancer

- We found **higher elevated expression of Ki67** in early PPBC (90.1%), compared to non-postpartum cancer or late PPBC (77%) ($X^2=6.252$; $p=0.012$; SS) (*Table 3*).

			Early PPBC	Late PPBC/NPBC	Total
Ki67 group	<20%	Frequency	8	42	50
		%	9.9%	23%	19%
	≥20%	Frequency	73	141	214
		%	90.1%	77%	81%

Table 3. Ki67 group and type of breast cancer

- We observe higher proportion of **negative estrogen receptors** in early PPBC (36.6%) compared to late PPBC or non-postpartum cancer (13.6%) ($X^2=9.880$; $p=0.002$; SS) (*Table 4*).

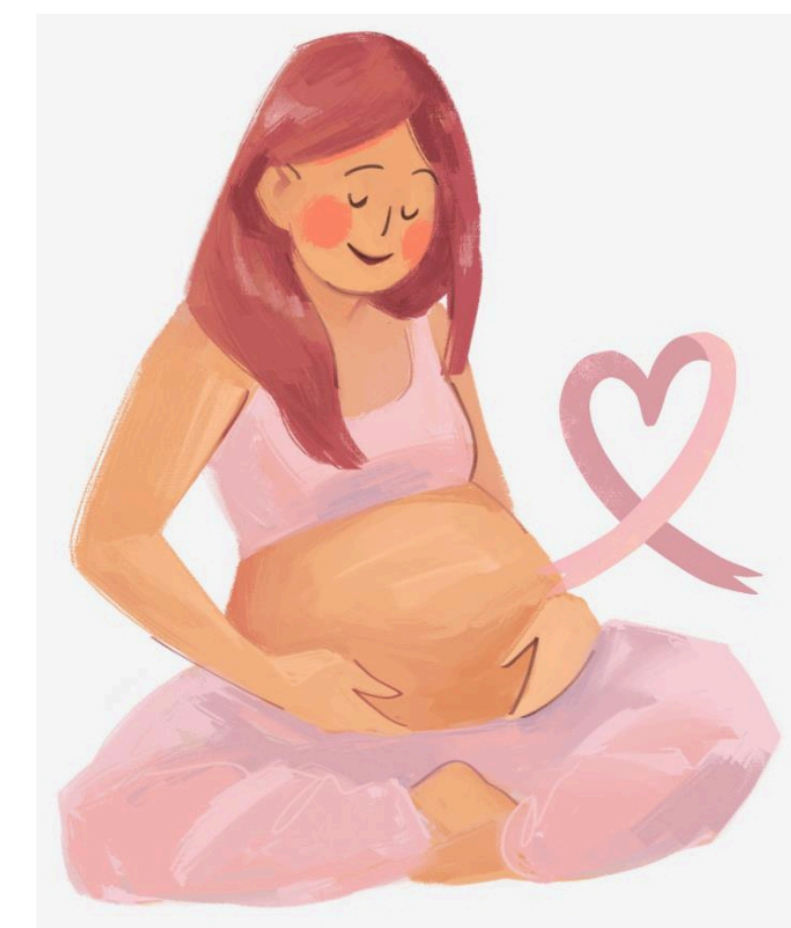
			Early PPBC	Late PPBC/NPBC	Total
Estrogen receptor expression	Positive	Frequency	26	95	121
		%	63.4%	86.4%	80.1%
	Negative	Frequency	15	15	30
		%	36.6%	13.6%	19.9%

Table 4. Estrogen receptor expression and type of breast cancer



Conclusions

- Postpartum breast cancer presents **different clinical and histopathological characteristics**, highlighting differences in *early* postpartum period.
- PPBC has **worse prognosis**, it constitutes a different entity.
- **Breastfeeding abrupt interruption** is associated with development of PPBC.



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