

# EVALUATION OF THE EFFICACY OF NEOADJUVANCE TREATMENT WITH IMMUNOTHERAPY IN EARLY STAGE BREAST CANCER: A SYSTEMATIC REVIEW

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## BACKGROUND AND IMPORTANCE

Immunotherapy is used in advanced cancers, but studying its efficacy in early stages is new  
NAT with ICIs could be advantageous, boosting immune response pre-surgery.

## AIM AND OBJECTIVE

To evaluate the efficacy of ICIs-based NAT in the early stages of BC.

## MATERIALS AND METHODS

A systematic review was carried out through Medline, for articles published between January 2018-August 2023



➤ The methods were based on PRISMA guidelines.



### Search Criteria:

- Patients with **resectable early-stage BC**, who were treated with **ICIs** in monotherapy or combined with chemotherapy prior to surgery.
- Efficacy data: pCR, DFS, alongside phase-2 and phase-3 trials

- ❖ Article selection and data extraction was carried out by peer review.
- ❖ Evaluation of discrepancies was done by a third party

## RESULTS

7 studies met the inclusion criteria:

- 3 studies used PD-1 inhibitors
- 4 used PD-L1 inhibitors

➤ 3 studies continued adjuvant treatment with ICIs.

- ❖ 4 included patients TN histology
- ❖ 1 TN and HR +/HER2 -
- ❖ 1 HER2 -
- ❖ 1 LumB-like molecular histology.

TRIAL	
<b>GeparNuevo</b>	Durvalumab improved survival despite a modest increase in pCR.
<b>Keynote-522</b>	Chemotherapy+pembrolizumab resulted in increased pCR and event-free survival in patients with TNBC.
<b>I-SPY2</b>	Explored multiple treatments in high-risk BC, showing benefits of pembrolizumab in patients with different molecular subtypes (HER-2-, HR+/HER2- and TNBC)
<b>IMpassion031</b>	Chemotherapy+atezolizumab increased the pCR rate in TNBC patients
<b>NeoTRIP</b>	Results were consistent with IMpassion031.
<b>NeoPATH</b>	For HER2-: immunotherapy-chemotherapy combination could be beneficial, especially in HR negative and PD-L1 positive patients.
<b>GIADA</b>	Evaluating nivolumab in LumB-like BC, the hypothesis for pCR rate was not met.

## CONCLUSION AND RELEVANCE

- ✓ Although immunotherapy shows promising advances in NAT, especially in TNBC, since its the most immunogenic subtype, more research is needed to better understand its mechanisms and find predictive biomarkers of response. Currently, pembrolizumab is used in TNBC according to Keynote-522.