PS3-09-17:- DE-ESCALATION OF SYSTEMIC THERAPY FOR BREAST CANCER IN THE INDIAN SETTING: A PROTEOMICS AND ARTIFICIAL INTELLIGENCE BASED APPROACH TO RISK STRATIFICATION BEYOND KI67, TUMOUR GRADE, AND NPI FOR HR+/HER2-NEGATIVE BREAST CANCER

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OBJECTIVE

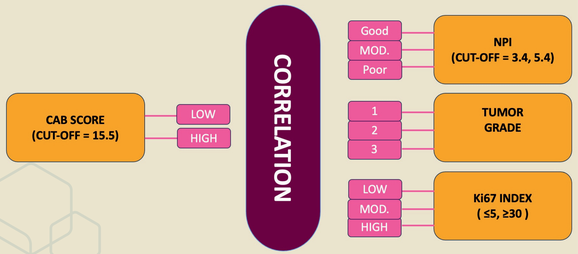
Selecting patients who truly need adjuvant chemotherapy in early-stage HR+/HER2-negative breast cancer is challenging, especially in stage I/II disease where traditional markers often give mixed signals. This study evaluates the **CanAssist Breast (CAB)** test a proteomics-based risk classifier against standard prognostic tools (tumour grade, Ki-67, NPI) in Indian patients. CAB is also economically favourable, **priced at < USD 1000**

METHOD

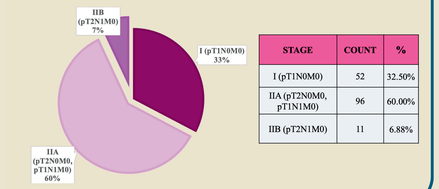
Design: Retrospective observational study
Population: 160 patients with stage I/II HR+/HER2-negative invasive breast cancer
Centre: HCG Cancer Centre, Ahmedabad
CAB Cut-off: 15.5 (Low vs High Risk)
Comparators:

- Tumour grade (1/2/3)
- Ki-67 index (low/moderate/high)
- Nottingham Prognostic Index (low/intermediate/high)

Statistics: Chi-square test used to study association between CAB score and conventional markers
Follow-up: Ongoing for recurrence and outcome validation; ranges from (6 months to 6.5 years) with a median follow up of 3.5 years

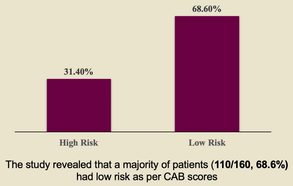


RESULTS



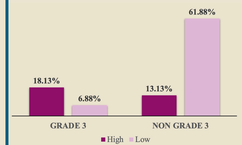
STAGE	COUNT	%
I (pT1N0M0)	52	32.50%
IIA (pT2N0M0, pT1N1M0)	96	60.00%
IIB (pT2N1M0)	11	6.88%

CanAssist Breast (CAB) Risk Category



The study revealed that a majority of patients (**110/160, 68.6%**) had low risk as per CAB scores

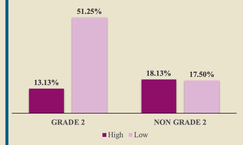
Grade 3 tumor association with CAB score



	CANASSIST SCORE		
	High	Low	Total
GRADE 3	29	11	40
NON GRADE 3	21	99	120
Total	50	110	160

Grade 3 tumors were **significantly associated** with high CAB scores (**29 out of 50; Chi-squared test: 41.98 *p*<0.0001**)

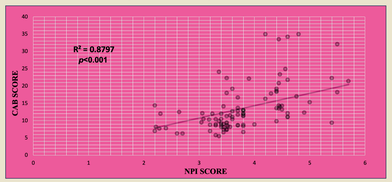
Grade 2 tumor association with CAB score



	CANASSIST SCORE		
	High	Low	Total
GRADE 2	21	82	103
NON GRADE 2	29	28	57
Total	50	110	160

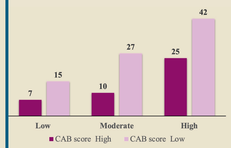
Grade 2 tumours were associated with low CAB scores (**82 out of 110; Chi-squared test: 15.78; *p*<0.0001**)

Grade 2 Tumor association with CAB score



Majority of the Moderate NPI scores was associated with Low CAB score.

Ki67 Indices association with CAB score

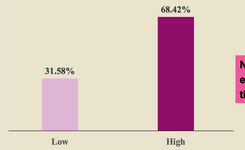


	CANASSIST SCORE		
	High	Low	Total
Ki67 LOW	7	15	21
Ki67 MODERATE	10	27	37
Ki67 HIGH	25	42	67
TOTAL	42	84	125

Ki67 data were not available for 3 patients

Most cases with moderate (**27 out of 37**) and high (**42 out of 67**) Ki67 indices were associated with low CAB scores

Node-positive (N1) patients association with CAB score



None of the CAB low score patient escaping chemotherapy has recurred till last follow-up.

It identified **low risk patients within node-positive (N1)** group also (6 out of 19).

Results Summaries

- Majority of patients **(110 out of 160)** had low CAB Scores.
- 1 patient with CAB low score who was put on endocrine therapy alone recurred in the form **of bone metastases**.
- Grade 3 tumors were associated with High CAB scores **(29 out of 50; p<<0.0001)**
- Grade 2 tumors were associated with Low CAB scores **(82 out of 110; p<0.001)**
- Association was noted between NPI and CAB scores **(r2=0.8797; p<0.001)**
- Majority of Intermediate NPI **(73 out of 92)** demonstrated Low CAB scores.
- Majority of Moderate **(27 out of 37)** and high **(42 out of 67)** Ki67 indices were associated with Low CAB scores.

CONCLUSION

- The **CanAssist Breast (CAB)** test provides a **more precise method** of **risk stratification** in early-stage HR+/HER2-negative breast cancer, particularly in patients with equivocal clinicopathological features such as **grade 2 tumours**, **intermediate NPI scores and moderate Ki-67 levels**. CAB helps reliably identify patients who may safely omit adjuvant chemotherapy, thereby minimising overtreatment and avoiding unnecessary toxicity.
- Its affordability **(< USD 1000)** and robust performance in Indian patients highlight CAB as a **cost-effective, clinically valuable tool** that supports personalised treatment planning within the Indian oncology practice.

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