

**Current Breast Cancer Prediction Models
are not accurate**

CancerPredict developing
A reliable breast cancer prediction model to
improve treatment outcomes and patient survival

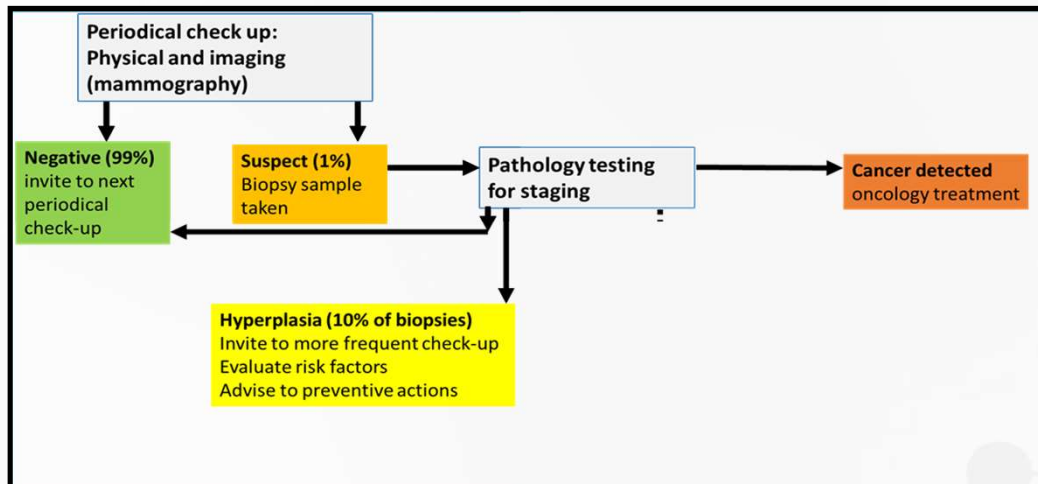
Breast cancer Diagnosis and Prediction

- Breast cancer accounts for about 1 in 3 of all new female cancers each year
- Early detection significantly improves current treatments outcomes
- **Breast cancer diagnosis** is based on routine screening program, that includes mammography, and in case of suspect, imaging (CT/MRI) and sampling of biopsy for pathology testing
- **Breast cancer prediction** is based on clinical data of the patient, analyzed by various models: Tyrer-Cuzick/IBIS, GAIL Model/BCRAT, AH-BC, BCSC, CanRisk/BOADICEA
- **All prediction models are far from being accurate or reliable**



Breast cancer Diagnosis and Prediction

Breast cancer diagnosis



Layout of routine breast cancer screening program

Breast cancer Prediction

- Historical and current Clinical, personal and familial data analyzed by various models: Tyrer-Cuzick/IBIS, GAIL Model/BCRAT, AH-BC, BCSC, CanRisk/BOADICEA
- The results are: “High-Risk”, “Moderate Risk” or “Low Risk” evaluation
- Recommendation for preventive treatments, frequency of screening tests and their scope are based on the risk evaluation

Example: The Tyrer-Cuzick model

- The Tyrer-Cuzick model analyses several factors to determine the risk of a woman developing breast cancer.
- The analysis is added to the patient's screening report.
- The percentage risk to develop breast cancer within 10 years.
- The risk determines the screening, follow-up, and preventative strategies a patient should consider.

Parameters

Personal History:

Age ; Weight; Height
Age of menstrual period
Birth of children
Menopause/ age of menopause
Use of Hormone Therapy
BRCA gene mutation
Ovarian cancer
Biopsy diagnosed at atypical hyperplasia

Family history

Breast or ovarian cancer
Ashkenazi Jewish origin

Scores and recommendations

Average Risk - below 15%

Keep routine screening program (self test and mammography)

Intermediate Risk- 15-19%

Routine screening with supplemental testing (Ultrasound or MRI)

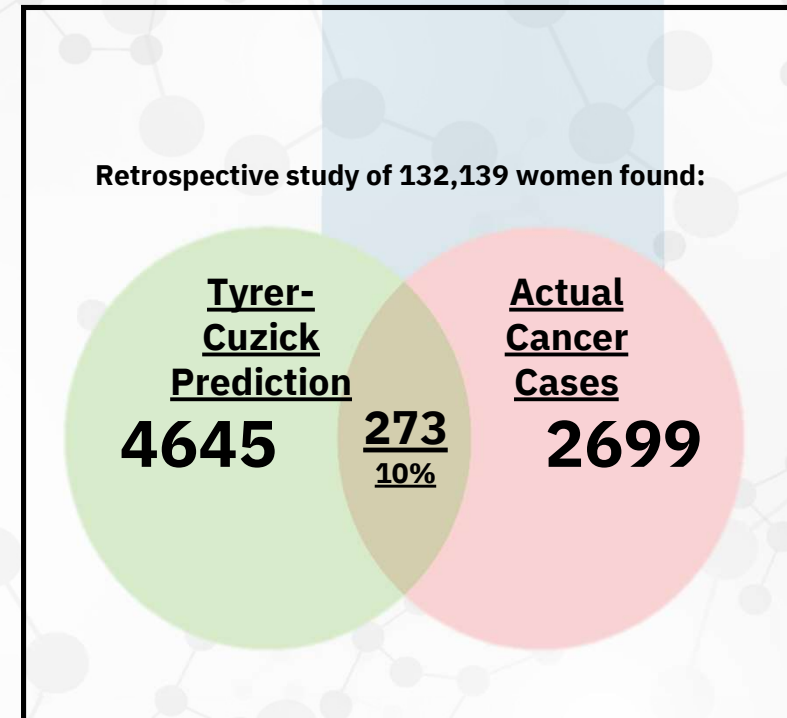
High Risk - greater than 19%

More frequent screening with supplemental testing (Ultrasound or MRI).

Consider preventive treatments

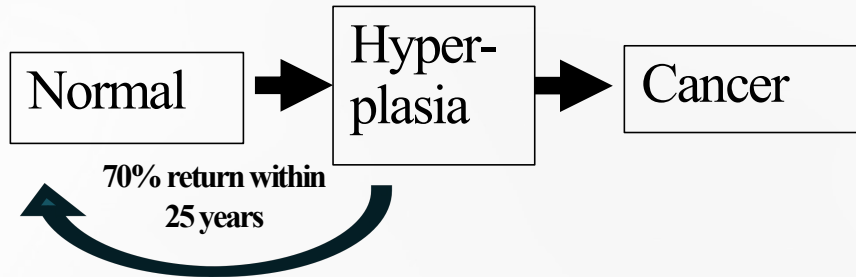
Example: The Tyrer-Cuzick model

- Large population, retrospective study reveals limitations of The Tyrer-Cuzick model (132,139 women in screening test, spanning over 19 years):
 - 4645 predicted as “**high risk**” according risk factors evaluation
 - At the end of the study:
 - Total 2,699 were diagnosed with invasive breast cancer
 - **Only 273** of the “**High Risk**” developed cancer -> **10% accuracy**
 - False positive rate: **94%**
 - The model **missed 2426** women (classified as low risk, eventually developed cancer)



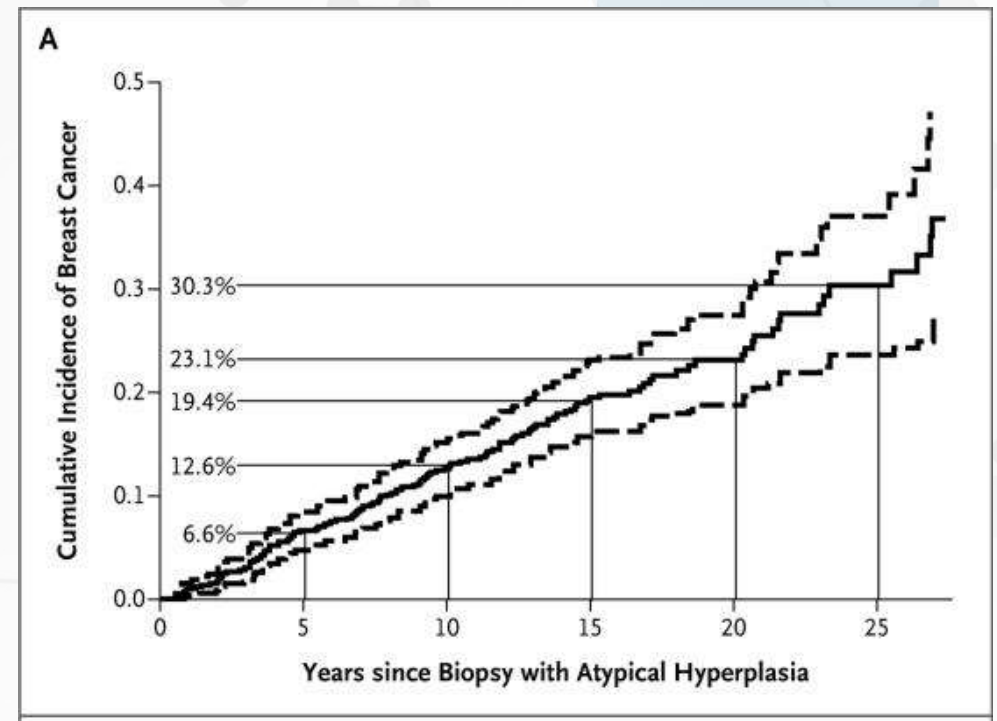
The Tyrer-Cuzick model fails to accurately predict cancer

Hyperplasia stage linked to future cancer development



- Hyperplasia and atypical hyperplasia represent **the final benign stage** before breast cancer.
- **Large population retrospective study** indicated that 30% of atypical hyperplasia stage women developed breast cancer within 25 years regardless of other risk factors

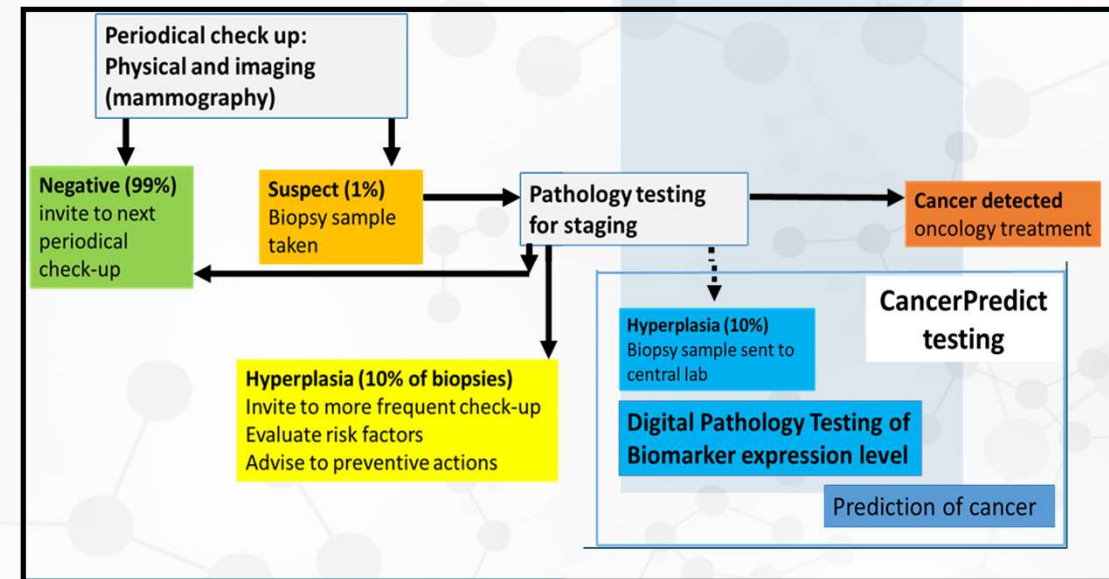
(6.6% within 5 years; 12.6% within 10 years)



Shown is the cumulative incidence of breast cancer (invasive and ductal carcinoma in situ) after a diagnosis of atypical hyperplasia. The dashed lines in Panel A denote 95% confidence intervals.

CancerPredict

- CancerPredict prediction system includes:
 - Testing kit and equipment (IHC test)
 - Machine Learning software
- The test is integrated into the screening program, The testing material is the biopsy sample used for the pathology staging test
- The results will evaluate the %probability to develop cancer with 5 or 10 years from biopsy sampling



Layout of routine breast cancer screening program and CancerPredict's test integrated

CancerPredict

Testing Cancer associated Biomarkers

- Cancer-associated biomarkers are proteins that their expression level in the tissue changes with correlation to disease progression. (i.e P53, Bcl2, PR, ER, HER2, Klotho and many more)
- Quantification of a defined panel of cancer-associated protein biomarkers in biopsy samples diagnosed at hyperplasia/atypical hyperplasia
- Detection of biomarkers panel by Immunohistochemistry test (IHC)
- Data is streamed to the ML software

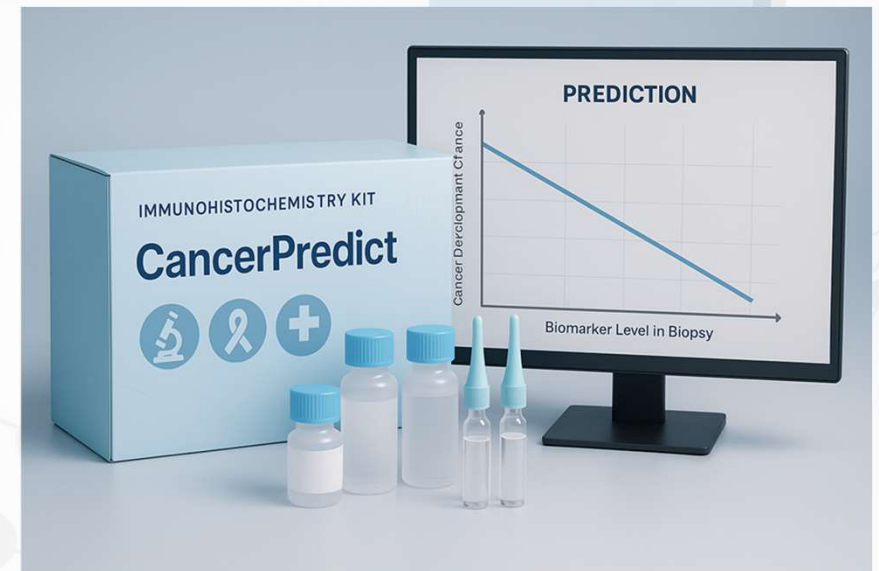


*Illustration

CancerPredict

Machine learning software

- Innovative machine-learning model that learns biological progression pathways from biomarker data
- Novel AI architecture capable of integrating multidimensional biomarker expression levels with clinical outcomes to identify non-linear, stage-specific risk signatures.
- Analysis of the data enables uncovering expression trajectories and co-modulation patterns that distinguish women who progress to breast cancer within 5-10 years from those who do not.
- Accumulation of data from multiple analyses will enable increase of software accuracy



*Illustration

Breast cancer diagnostic market

- The global breast cancer diagnostics market size is estimated to be worth USD 4.82 billion in 2024 and is projected to reach from USD 5.16 billion in 2025 to USD 9 billion by 2033, growing at a CAGR of 7.62% during the forecast period (2025-2033)
- CancerPredict's Edge:
 - More reliable than current models
 - Potential expansion to other cancer types
 - Strategic fit alongside existing screening methods

NOVA1ADVISOR

**Breast Cancer Diagnostics Market Size
2023 to 2033 (USD Billion)**



Source: www.novaoneadvisor.com

Finance

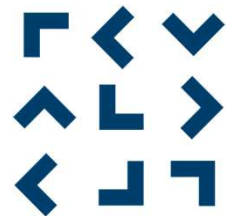
- CancerPredict's target of the current fundraising round is **3,500,000 USD**
- The funds will enable reaching a key milestone:
 - Completion of validation study (biomarker test kit and ML/AI software)
 - Pre-IDE meeting with health authorities (e.g. FDA)
 - Initiate pilot(s) with major medical centers
- At that point, a better access to large funding opportunities is anticipated

CancerPredict

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Contact

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