Background

Treatment strategies in case of early breast cancer patients have been tremendously advancing and new developments regarding the selection of the adjuvant treatment in ER+ve and Her2-ve early breast cancer patients. Lastly, the use of chemotherapy in adjuvant setting is dependent on finding out the potential absolute benefit each patient will have from the chemotheromapy. The selection of the patients who actually benefit from additional adjuvant chemotherapy depends on the tumor aggressiveness which causes recurrence hence in order to optimize the treatment plan gene expression profiling has become the important tool for carrying out such analysis.

Methodology

In a retrospective study, gene expression was assessed using the EPI-clin score in 632 early breast cancer patients. EPI-clin score was calculated using the gene expression profile of EBC patients. The EPI-clin score was then correlated with the absolute chemotherapy benefit seen in EBC patients. This study also provides likelihood of recurrence risk for 5-15 years for patients who are only treated with endocrine therapy.

Objective

To study the landscape of absolute chemotherapeutic benefit in Indian patients undergoing endocrine testing.

- **Absolute chemotherapy benefit at 10 years (%):**
  
  ![Graph showing absolute chemotherapy benefit at 10 years](image)
  
  Average = 6.06%
  
  S.D. = 6.5%
  
  Median = 4%
  
  Min-Max = 0.31%

- **Correlation between EPI-clin Score and Absolute chemotherapy benefit at 10 years in node negative EBC patients (%):**
  
  Regression equation:
  
  \[ Y = 6.82x + 17.9 \]
  
  Y: Absolute chemotherapy benefit
  
  X: EPI-clin score
  
  Correlation coefficient: \( r = 0.92 \), \( p < 0.0001 \)

- **For every 1 unit increase in EPI-clin Score, Absolute chemotherapy benefit at 10 years (%age) increases by 6.82%.**

- **Likelihood of recurrence 5-15 years for extended endocrine therapy (%age):**
  
  ![Graph showing likelihood of recurrence](image)
  
  Average = 11.7%
  
  S.D. = 8.9%
  
  Median = 8%
  
  Min-Max = 1.54%

- **Correlation between EPI-clin Score and Likelihood of recurrence 5-15 years for extended endocrine therapy in node negative EBC patients (%age):**
  
  Regression equation:
  
  \[ Y = 0.34x + 24.67 \]
  
  Y: Likelihood of recurrence 5-15 years (%age)
  
  X: EPI-clin score
  
  Correlation coefficient: \( r = 0.92 \), \( p < 0.0001 \)

- **For every 1 unit increase in EPI-clin Score, Likelihood of recurrence 5-15 years for extended endocrine therapy in node negative EBC patients (%age) increases by 0.34 %**

**Conclusion**

EPI-clin score is a reliable predictor of 10 year recurrence, the landscape of chemotherapeutic benefit is validated in Indian breast cancer patients. Further, follow up data will establish the prognostic power of this tool in Indian population.

For any queries, please contact somus@yahoo.com or c.bahil@positivebioscience.com