

The correlation between Estrogen levels and microbial interactions in relation to breast cancer

Maram Mokhtar, Youssef Mosafa, Rawan Ashraf

INTRODUCTION & AIM

We are studying the risk of imbalance in Estrogen levels and microbial dysbiosis in relation to breast cancer. Exploring the influence of Lactobacillus in the interaction between Estrogen level and microbial factors. Breast cancer incidence and mortality have increased globally over recent decades. Estrogen plays a crucial role in breast cancer development, and growing evidence suggests that gut microbiota, particularly Lactobacillus species, may influence estrogen metabolism. However, the relationship between circulating estrogen levels, gut microbiota, and breast cancer remains unclear.

We aim to study and gain more understanding on whether lacking or having more Lactobacillus in our guts becoming a risk factor for elevating estrogen levels and hence increase the possibility of developing breast cancer and whether it affects its progression or not and therefore, altering the gut microbiome may lead to the development of a novel therapeutic approach for the disease.

RESULTS & DISCUSSION

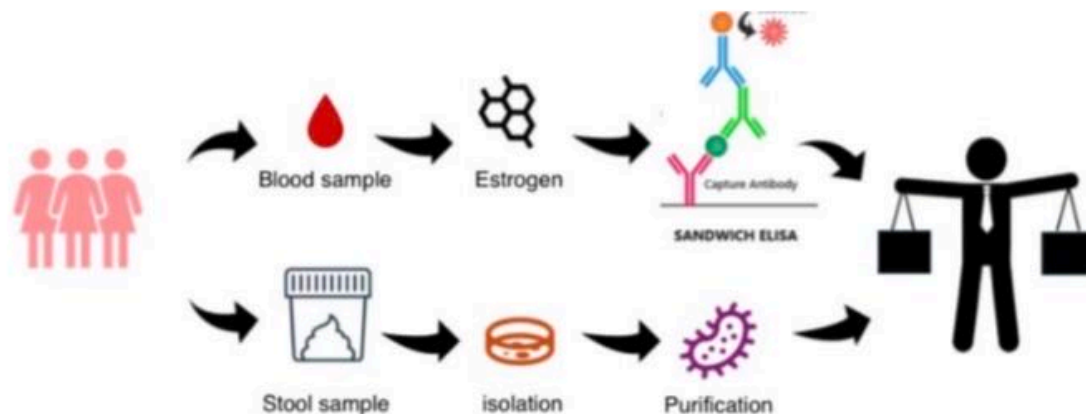
1. Serum estrogen levels were significantly lower in breast cancer patients compared to healthy controls
2. ROC analysis demonstrated high discriminatory performance of estrogen levels in distinguishing patients from controls
3. No significant association was identified between specific lactobacillus species and circulating estrogen levels

METHOD

The methodology includes taking a blood sample to assess estrogen levels and provide insights into the participants' hormonal profiles through using sandwich ELISA techniques.

On the same wavelength stool samples will undergo in-depth analysis to profile the participants' gut microbiome composition, mainly for Lactobacillus isolation.

Then a statistical comparison between these results will take place.



CONCLUSIONS

Circulating estrogen levels are altered in non-metastatic breast cancer and may serve as a complementary biomarker. The lack of association with individual lactobacillus species underscores the complexity of the gut microbiota-estrogen-breast cancer axis, warranting further mechanistic and large -scale studies.

FUTURE WORK/ REFERENCES/ ACKNOWLEDGMENT