

# Qualitative and quantitative dermatoglyphic traits in patients with breast cancer: a prospective clinical study

**Aastha Munjal**

7th Semester Student

VMMC

Email: aastha.mindblowing@gmail.com

Study Abstract: Background

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Breast cancer is one of the most extensively studied cancers and its genetic basis is well established. Dermatoglyphic traits are formed under genetic control and represent the genetic makeup of an individual and therefore his/her predisposition to certain diseases like Down's syndrome and Klinefelter syndrome. The prints can thus represent a non-invasive anatomical marker of breast cancer risk and thus facilitate early detection and treatment.

## Methods

The study was conducted on 200 histopathologically confirmed breast cancer patients and their digital dermatoglyphic patterns were studied to assess their association with the type and onset of breast cancer. Simultaneously 60 age-matched controls were also selected that had no self or familial history of a diagnosed breast cancer and the observations were recorded. The differences of qualitative (dermatoglyphic patterns) data were tested for their significance using the chi-square test, and for quantitative (ridge counts and pattern intensity index) data using the t- test.

## Results

It was observed that six or more whorls in the finger print pattern were statistically significant among the cancer patients as

compared to controls. It was also seen that whorls in the right ring finger and right little finger were found increased among the cases as compared to controls. The differences between mean pattern intensity index of cases and controls were found to be statistically significant.

## Conclusions

Such dermatoglyphic studies might help us to identify the possibility of breast cancer in Selective non-symptomatic women (positive family history) and to detect the earliest changes associated with tumorigenesis

So that appropriate preventive measures concerning the environmental factors and particularly the hormonal factors could be taken. Women at a high risk of breast cancer would have many options available to them including prophylactic mastectomy, watchful waiting, and chemoprevention if the risk could be assessed accurately.

The study is ongoing and the pattern seems to be appearing wherein a definite approach in the form of "dermatoglyphics" might play a significant role in the near future not only for the purpose of screening but also for studying the behavior of breast cancer.