

Association of Breast Cancer with Abortion and Lactation – A Pilot Study

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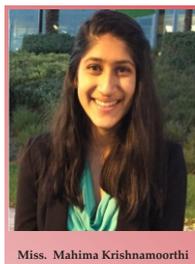
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Abstract: Some articles suggest that abortion increases the chances of breast cancer by three times. Few studies suggest that the earlier in life woman has her first full term pregnancy the lesser the chances of her developing of breast cancer.

Method : 172 subjects were studied, dividing into two groups. The control group was the group without breast cancer whereas the variable group had subjects with active breast cancer and with breast cancer in remission. The study was a questionnaire based, age matched study.

Results: There is no statistically significant relationship between abortion and breast cancer. The results also depicted a link between lactation period among the two groups. The lactation period of the control group was 25.01 weeks whereas the lactation period of the variable group was 15.28 weeks.

Conclusion: The study suggested a link between lactation period and breast cancer although there was no statistical significance between abortion and breast cancer. It was a pilot study and hence requires further investigation.

Keywords: DAbortion, Breast Cancer, Lactation Period.

Thesis Question: Is there any association of breast cancer with abortion and/or lactation period?

Thesis Answer: There is no statistical significance between breast cancer and abortion although there is a link between lactation period and breast cancer.

THESIS SUMMARY

Introduction

Breast cancer is the most common type of cancer affecting women worldwide. It is the second most common type of cancer in women in the United States [1]. A study conducted in 2015 suggests that over 2.8 million women in the US have a history of breast cancer [2]. Because of significant mortality and morbidity caused by this prevalent cancer, extensive research on this disease continues to be conducted worldwide in order to identify causes and solutions. Although researchers cannot pinpoint a specific reason behind why breast cancer develops, reproductive factors have been associated with breast cancer since the 17th century, one of the few constant links that scientists have ever been able to find within this enigmatic

disease.

Throughout life women undergo hormonal changes. The effects of these hormones, such as progesterone, prolactin and estrogen, result in normal growth and division of breast tissue and other female reproductive organs. Abortion, which is a very common procedure, is extensively carried out worldwide, today. United States legalised the procedure in 1973 in the well-known, but controversial, Roe versus Wade decision. As per the statistics, every year about 20 – 30 million legal abortions are performed worldwide [3].

The relationship between induced abortion and the subsequent development of breast cancer has been the subject of a substantial amount of epidemiological study. Early studies of the relationship

between prior induced abortion and breast cancer risk were methodologically flawed. More rigorous recent studies demonstrate no causal relationship between induced abortion and a subsequent increase in breast cancer risk [4]. However, there have been some studies in the past that showed an increased risk of breast cancer in patients who have had abortions. A few articles even suggest that abortion increases the chances of breast cancer by three times. These articles also state that women under the age of 18 who are undergoing abortion have twice the chances of developing breast cancer. Other studies suggest that the earlier in life a woman has her first full term pregnancy; there is a decreased chance of the development of breast cancer [5].

Aims & Objectives

1. To study the relationship between breast cancer and abortion
2. To find a correlation between lactation period and breast cancer.

Materials

Study Design: In this study, 172 subjects were studied. The subjects were screened based on the inclusion and exclusion criteria.

Inclusion Criteria:

- Age – 40 to 85 years
- Female subjects
- Age match study with two groups: abortion with breast cancer and abortion with no breast cancer

Exclusion Criteria:

- Any other malignant condition

Study Period: June 2015 – August 2015

Method of Study:

The study was based on a questionnaire which was prepared based on the literature review. The questionnaire had 24 questions and was first standardized before starting the study. The subjects were identified and screened based on the inclusion & exclusion criteria.

Results

In this study, no statistically significant relationship between abortion and breast cancer was found. However, the data available in this study does suggest a link between the duration of lactation period and breast cancer. The control group, or the group of patients who do not have breast cancer, has an average lactation period of 25.01 weeks whereas the study group, the group of patients with breast cancer, has an average lactation period of 15.28 weeks. There is a remarkable difference between the two groups. Also a difference was observed in the age of first pregnancy between the control group and the variable group. The control group had the first pregnancy at the average age of 19.53 years and the variable group had the first pregnancy at the average age of 20.38 years. While data was collected on the age of menarche for each group, it seems there is a negligible difference in this variable. There is, however, a significant difference in the history of breast cancer. In the control group, the percent of non-breast cancer patients who did not have a family history of breast cancer was 34.88%, whereas the variable group showed about

29.07% of family history. Even so, the variable group has 17.44% positive history of benign breast disease as compared to the control group with only 16.28% which is not a significant difference, but more data must be collected in order to confirm this conclusion.

Discussion

Researchers have a propensity to acknowledge a system to explain the epidemiologic characteristics of menstrual activity and the augmented risk of breast cancer, but no mechanisms have come forward for the other likely risk factors. The data shows no statistical significance between abortion and breast cancer so far. In 2003, the National Cancer Institute convened the Early Reproductive Events and Breast Cancer Workshop to evaluate the current strength of evidence of epidemiologic, clinical and animal studies addressing the association between reproductive events and the risk of breast cancer [6]. The workshop participants concluded that induced abortion is not associated with an increase in breast cancer risk. Studies published since 2003 continue to support this conclusion [7-11]. Even more so, this study does suggest a link between lactation period and breast cancer. Spontaneous or induced abortions resulting in end pregnancies do not increase the risk of breast cancer development [12-14].

According to the study conducted by Kaupilla (2009), the younger a woman is during her first full term pregnancy and more number of children, lesser the chances of developing breast cancer for any racial group. During lactation, hormonal changes results in a delay in menstrual cycle, which in turn results in a reduction of estrogen production, thereby, decrease chances of breast cell growth [15-20]. Also, lactation helps in shedding breast tissue which removes the cells which can cause potential DNA damage; as a result of which the chance of breast cancer reduces [23].

While interpreting the results, it could be said that a relationship between abortion and breast cancer is statistically insignificant whereas a link exists between lactation period and breast cancer. A link could not be established in terms of family history.

Conclusion

Studies show that there are a number of factors which contribute to increase or decrease in the risk of breast cancer. This is a pilot study, though, and does need further investigations and experimentation in order to confirm the conclusions reached. However, the findings in this study do allow for the foundation for this aspect of breast cancer to be further studied.

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