

Do Birth control pills increase the chance of getting breast cancer ?

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Introduction

Breast cancer is cancer that develops from breast tissue. Signs of breast cancer may include a lump in the breast, a change in breast shape, dimpling of the skin, fluid coming from the nipple, a newly-inverted nipple, or a red or scaly patch of skin. Birth control pill is the most commonly prescribed form of contraception in the US. Currently, there are three types of oral contraceptive pills: combined estrogen-progesterone, progesterone only and the continuous or extended use pill. The most commonly prescribed pill is the combined hormonal pill with estrogen and progesterone. [1,2]

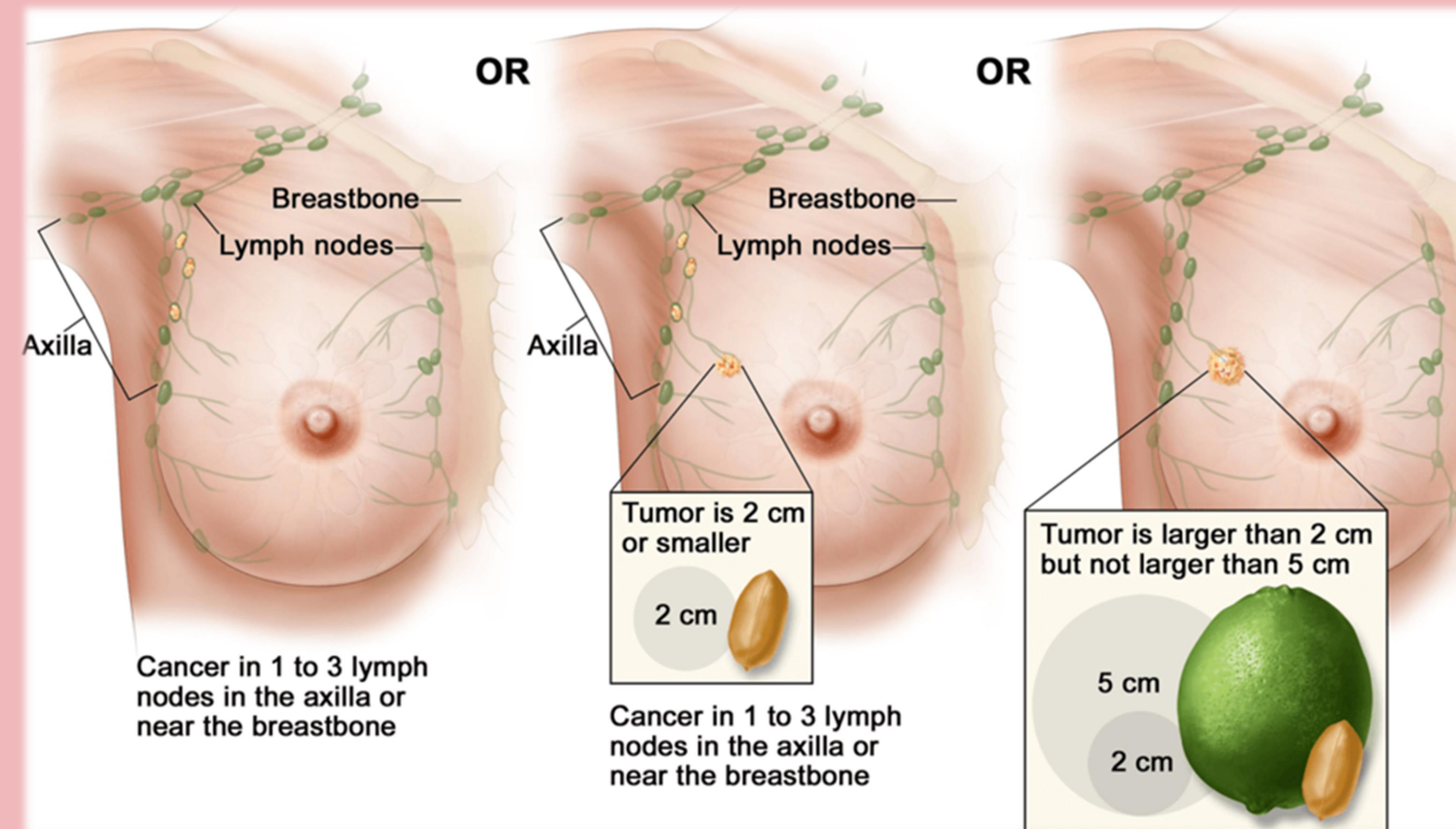


Figure: showing different stages of breast cancer

A study that demonstrates the relationship between birth control pills and breast cancer:

According to a Danish study, a total of 1,797,932 women were included in the study. The women were followed for an average of about 11 years. During follow-ups, 11,517 cases of breast cancer were diagnosed among these women. The risk was different for women of different ages. For women younger than 35, there was only one additional breast cancer case for every 50,000 women who used hormonal contraceptives for a year.[5]

Pathogenesis

Estrogen and progesterone occurring naturally stimulate the development and growth of some cancers (e.g. cancers that express receptors for these hormones, such as breast cancer). Because birth control pills contain synthetic versions of these female hormones, they could potentially also increase cancer risk.[4]

Mechanism of Action

The progesterone is primarily responsible for preventing pregnancy. The main mechanism of action is the prevention of ovulation; they inhibit follicular development and prevent ovulation. Progestogen negative feedback works at the hypothalamus to decrease the pulse frequency of gonadotropin releasing hormone. Estrogen has some effect with inhibiting follicular development because of its negative feedback on the anterior pituitary which slows FSH secretion. Another primary mechanism of action is progesterone's ability to inhibit sperm from penetrating through the cervix and upper genital tract by making the cervical mucous unfriendly.[3]

References

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