

## عنوان مقاله:

Digoxin and breast cancer; the dilemma of the increased risk of cancer

## محل انتشار:

یازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

تعداد صفحات اصل مقاله: 2

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## خلاصه مقاله:

Introduction: Breast cancer with nearly 1.7 million new cases diagnosed and 522,000 deaths in 2012 is still the most common cancer among women and the fifth cause of death from cancer overall. On the other hand, almost half of the deaths from cardiovascular disease (CVD) as the main cause of death globally, are females. Breast cancer patients like other women are at risk of CVD, depending on their age and the type of therapeutic regime. A recent research found that using digoxin, a cardiotonic glycoside prescribed for treatment of cardiovascular disease, enhances 30% to 50% risk of breast cancer in women. However, there are controversial reports regarding the effects of digoxin on breast cancer risk, recurrence and metastasis. The aim of this study was to elucidate the effects of digoxin on breast cancer risk and progress. Methods: All published studies up to February 2015 were searched using related keywords in medical literature databses. Results: From molecular aspect, theoretically, digoxin inhibits HIF-1 (Hypoxiainducible factor 1) activity which transactivates the platelet-derived growth factor B (PDGF-B), angiopoietin-like 4 (ANGPTL4) and L1 cell adhesion molecule (L1CAM). Therefore the tumor growth, vascularization, invasion and lymphatic metastasis of breast cancer are affected. Chemically, it also resembles estrogen properties. According to a number of studies, digoxin may promote breast carcinogenesis and increase the risk of breast cancer. Although increased breast cancer risk has not been associated with digoxin in some other papers, the evidence is not strong enough to support such findings. Regarding the effects of digoxin on breast cancer mortality and metastasis, there are some studies which indicated high levels of HIF expression in breast cancer patients tumor. This increased expression has been associated with increased risk of metastasis and mortality. Controversially, administration of the digoxin during chemotherapy had a positive impact on overall survival. Conclusion: In conclusion, to justify the effects of digoxin on breast cancer risk and outcome, it is important to consider the time of administration of digoxin as it may have different effects if used before development of cancer or during cancer chemotherapy. Further studies on various groups such as different stages of breast cancer and healthy women should be conducted to further shed light on this issue.

**کلمات کلیدی:**

digoxin, breast cancer, cardiovascular disease

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