

## عنوان مقاله:

Homocysteine and Breast Cancer

## محل انتشار:

دهمین کنگره بین المللی سرطان پستان (سال: 1393)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

Breast cancer represents the greatest world incidence of all female malignancies and about 1.2 million women suffer from breast cancer in the world every year. Homocysteine, a thiolcontaining amino acid, is produced through the catabolism of the essential amino acid methionine. When methionine is in excess, homocysteine is degraded to cysteine through the transsulfuration pathway in vitamin B6-dependent reactions. Recently the elevated plasma total homocysteine concentration has been concerned as the secondary feature of tumoral proliferation and enhances the likelihood of thrombogenesis in cancer patients. The objective of this study was to investigation the association between homocysteine in breast cancer. Methods: We studied recently published (2008-2014) and reviewed articles regarding homocysteine and breast cancer. Results: 18 studies were found. In vitro studies have shown that homocysteine levels are positively associated with proliferation rate of cells in a variety of tumors including breast tumors as well as with oxidative damage to cells. However, recent evidence from in vivo and in vitro studies have suggested that cysteine may act as a pro-oxidant agent which causes DNA oxidative damage as a result of the overproduction of free radicals and hydrogen peroxide, leading to gene mutation and subsequent cancer development. Elevated levels of homocysteine and cysteine are also associated with several metabolic disorders including high body mass index, high plasma triglyceride levels, hypertension, and abnormal oxidation of low-density lipoproteins, which may lead to the development of several cancers including breast cancer. Observational studies assessing the association between circulating homocysteine and cysteine and overall breast cancer risk are very limited and findings have been inconsistent. One case control study reported a positive association between homocysteine levels and breast cancer risk. Conclusion: This studies showing association of hyperhomocysteinemia and hypomethioninemia in breast cancer and other studies indicating association of hyperhomocysteinemia with metastasis and development of drug resistance in breast cancer cells treated

## کلمات کلیدی:

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