

## عنوان مقاله:

Sub-molecular regulation of cell transformation by deuterium depleted water significantly increases survival in breast cancer: a retrospective

## محل انتشار:

یازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

تعداد صفحات اصل مقاله: 2

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## خلاصه مقاله:

A wide range of evidence is available regarding the differences in physicochemical properties of deuterium ( $2H$ ) and protium ( $1H$ ), the two stable isotopes of hydrogen. The possible role of naturally occurring deuterium ( $D$ ) and the impact of a deficit in deuterium content were investigated herein. Results show deuterium could have an important biological role. Deuterium depleted water (DDW) delays tumor progression in mice, dogs, cats and humans. Accordingly, the impact of  $D$ -depletion on breast cancer outcome was studied retrospectively. The normal daily water intake (150 ppm  $D$ ) of 232 breast cancer patients was replaced with DDW (65-105 ppm  $D$ ) for at least 91 days, without altering conventional treatment regimens. According to staging at initial diagnosis, patients with early stage breast cancer ( $n=158$ ) achieved a median survival time (MST) of 217 months (18.1 years). Over two fold increase of MST was found in patients diagnosed with stage IV ( $n=74$ ) after comparing this cohort to historical control (52 months vs. 20-25 months). The MST is pending in the subgroup of patients who were in remission at the start of DDW treatment; only one out of 48 patients died during the cumulative follow-up period of 221.1 years. The data suggest that  $D$  depletion may also be a highly effective therapy for preventing the recurrence of breast cancer. Although single DDW treatment was effective, an outstandingly long MST of 24.4 years was attained in the subgroup of 53 patients who were treated with DDW at least twice. Furthermore, the method is safe and can be easily integrated into standard treatment regimens for breast cancer, as well as fatty acid oxidation. In the former, the DDW is thought to diminish the deuteration of sugar-phosphates in the DNA backbone, helping to preserve stability of hydrogen bond networks, possibly protecting against aneuploidy and resistance to strand breaks, occurring upon exposure to radiation and certain anticancer chemotherapeutics. DDW is proposed here to link cancer prevention and treatment using natural ketogenic diets, low deuterium drinking water, as well as DDW production as the mitochondrial downstream mechanism of targeted anticancer drugs such as Avastin and Glivec. The role of  $2H$  in biology is a potential missing link to the elusive cancer puzzle seemingly correlated with cancer epidemiology in western populations as a result of excessive  $2H$  loading from processed carbohydrate intake in place of natural fat consumption (DOI: 10.1016/j.mehy.2015.11.016).

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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