

ZAMZAM WATER ONCOPREVENTIVE ACTION

**Ali Farid Mohammed Ali; Ermilando Cosemi; Sayed Kamel; Sana Mohammed;
Maged Elhefnawy; Laila Farid; and Samer Shaker**

Heliopolis Research Centre, Cairo, Egypt; Second Institute, University of La Speinza, Rome, Italy; Head of Pharmacology Department, Ain Shams University, Cairo, Egypt; Research Fellow, Tokyo, Japan; Professor of Neurosurgery, Zagazig University, Egypt; Ain Shams University, Cairo, Egypt; Cairo University, Cairo, Egypt

ABSTRACT

Zamzam water is a miracle, the aim of this work is to explore the oncopreventive action of zamzam water we test three well known oncopreventive factors in 50 fertile women drinking zamzam water 500-750 for one month and 50 fertile women non zamzam intake: Bikunin and Bowman Birkinhibitor (BBI) were measured by ELISA, lunasin was measured by cell adhesion assay and immunostaining. There were statistically significant increase in all the three oncopreventive factor in zamzam water than non zamzam water $P < 0.05$ so in conclusion one of the miracle aspect of zamzam water is its oncoprevention.

Keywords: Zamzam water, Oncoprevention Bikunin, Lunasin, Bowman Birkinhibitor

INTRODUCTION

Zamzam water is unique in it's natural characteristics^(1,2,3), zamzam water has special optical parameters that one different from those of bottled drinking and distilled water, zamzam water is a miracle. The aim of this work is to explore one aspect of this miracle that is oncoprevention meaning its role in prevention of malignant transformation in the body.

MATERIAL AND METHODS

100 healthy female divided into 2 group, group I (50) drinking zamzam water 500-750 c.c for one month and group II drinking ordinary tape water.

To test the oncoprevention action of zamzam water we used three well known factors evident for their oncoprevention Bikunin which is (kunitz trypsin) inhibitor^(4,5,6,7), lunasin^(10,11,12,13,14,15,16), Bowman Birkinhibitor (BBI)^(8,9,17). Serum level for Bikunin^(4,5) (Kunitz trypsin inhibitor) was measured by ELISA, serum level for Bowman Birkinhibitor was measured also by ELISA⁽⁹⁾.

Lunasin was measured by cell adhesion assay and immunostaining, A cell adhesion is based on the intensity of the blue color from Giemsa staining of adherent cells as measured by adsorbance at 630 nm^(10,11,12,14).

Data analysis:

Difference between Bikunin, lunasin, Bowman Birkinhibitor between zamzam water group and non zamzam water group were analyzed by two tailed t test, chi square test was used for comparison a difference of < 0.05 was considered significant.

RESULTS

100 healthy fertile female divided into 2 group, group (I): 50 women drinking zamzam water 500-750 c.c for one month and group (II): 50 women drinking ordinary tape water were studied for 3 markers well known for their oncoprevention after consenting, Bikunin, Lunasin, Bowman Brikinhibitor. The results were summarized in the following tables.

Table (1) showed highly statistically significant increase of Bowman Brikinhibitor (BBI) in zamzam water drinking than control.

Table (2) showed statistically significant increase in lunasin in group I (zamzam water drinking than control).

Table (3) showed statistically significant increase in Bikunin in zamzam water drinking group (I) than in non zamzam water drinking $P < 0.001$.

Table (1): Serum level of Bowoman Brikinhibitor (BBI) in group I and group II

| | Zamzam water group I (ng/nl) | Non zamzam water group II (ng/nl) | P value |
|-------------------------|---------------------------------|--------------------------------------|---------|
| Bowmen Brikinhibitor | 113±1.3 | 1.1±0.5 | <0.0001 |

Table (2): Lunasin level measured by cell adhesion assay acid immunostaining

| | Zamzam water group I (n=50) | Non zamzam water group II (n=50) | P value |
|-----------------------|--------------------------------|-------------------------------------|---------|
| Staining intesting | 3.2±0.5 | 1.1±0.3 | <0.05 |

Table (3): Bikunin measured by enzyme linked immunosorbent assay (ELISA)

| | Zamzam water group I (n=50) | Non zamzam water group II (n=50) | P value |
|---------|--------------------------------|-------------------------------------|---------|
| Bikunin | 122.2±1.2 | 12.2±2.1 | <0.001 |

DISCUSSION

Zamzam water is a miracle^(1,2,3), to deal with oncoprevention in relation to zamzam water is a new no report in the world literature dealt with this aspect till now. To explore this aspect we studied Bikunin^(4,5,6,7), Lunasin^(10,11,12,13,14), Bowman Birkinhibitor^(18,19,20) in 50 healthy fertile women after consenting zamzam water was taken in a dose of 500-750 c.c for one month; 50 healthy fertile were enrolled with no zamzam water drinking as a control group (II).

From our work we found statistically significant increase in Bowman Birkinhibitor (BBI) (table 1), Lunasin table 2, Bikunin (table 3) in zamzam water group I than group 2 (non zamzam water) P <0.05.

Regarding Bikunin (table 3), it is a Kunitz-type protease inhibitor, found in human serum, amniotic fluid and urine and it is a serine protease inhibitor with antimetastatic activity^(4,5,6). It was subsequently demonstrated that bikunin inhibits tumour invasion and metastasis, at least in part, by a direct inhibition of plasmin activity as well as by inhibiting urokinase type plasminogen activator and it's specific receptor expression at the gene and protein levels⁽⁷⁾. Bikunin has shown promise at stabilizing disease progression in patients with advanced ovarian cancer⁽⁵⁾.

Bikunin and BBI are also an effective inhibitor of nephrotoxicity induced by the anticancer drug cisplatin and the antibiotic gentamicin respectively⁽⁵⁾. In our work we found statistically significant increase in Bikunin in zamzam water than non zamzam water P<0.05.

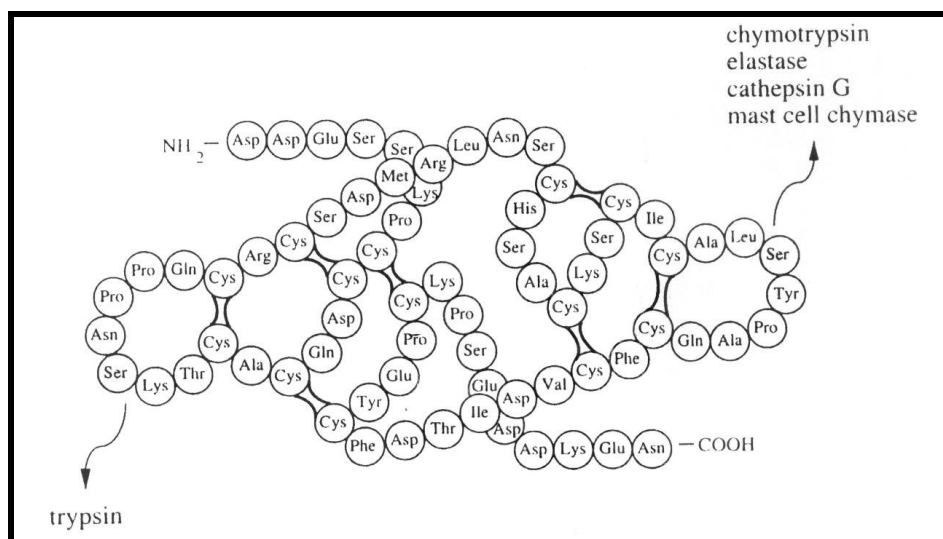
Regarding Lunasin^(10,11,12,13,14) it is a unique 43-amino acid peptide that contains at its carboxyl end: (a) nine Asp (D) residues; (b) an Arg-Gly-Asp (RGD) cell adhesion motif; and (c) a predicted helix with structural homology to a conserved region of chromatin-binding proteins⁽¹⁰⁾. These results point to the role of lunasin as a new chemopreventive agent that functions possibly via a chromatin modification mechanism^(14,15,16).

In our work we found statistically significant increase in Lunasin in zamzam water than in non zamzam water P<0.05.

Bowman-Birkinhibitor had been known as chemo-prevention of oral, head and neck cancer (BBI). BBI was identified by Bowman⁽⁹⁾ in the 1940 and purified by Birkin 1961⁽⁸⁾, the anticancer activity of BBI⁽¹⁷⁾ has been localized to the chymotrypsin

inhibitory region of the protein molecule but the actual mechanisms producing the observed anticarcinogenic effects remain unknown. BBI is taken up by epithelial cells of the digestive tract, absorbed into blood stream and distributed to all organs examined except the brain⁽¹⁸⁾.

Other investigators found that Bowman-Birkinhibitor (BBI) have chemoprevention of oral, head and neck cancer⁽²⁰⁾. It is a 71 amino acid protein⁽¹⁵⁾, and its structure was delineated in 1973⁽¹⁹⁾. The presence of five cysteine bridges and both chymotrypsin and trypsin inhibitory sites is a unique feature of this molecule⁽²⁰⁾. A great deal of biochemical and biological work has been done with this protein and it was recognized early that removal of the trypsin-inhibitable activity⁽¹⁴⁾ was important as toxicity was largely related to this property of extracted proteins⁽²¹⁾.



Bowman Birkinhibitor (BBI)⁽²¹⁾

BBIC is very stable, maintaining its chymotrypsin inhibitable activity and its ability to inhibit transformation *in vitro* for over two years⁽²⁰⁾.

In our work we found statistically significant increase BBI in zamzam than non zamzam water drinking group $P < 0.001$ (table 1).

CONCLUSION

Oncoprevention action of zamzam due to stimulation of Bikunin, Lunasin, bowman Birkinhibitor.

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