



## SIGNIFICANCE OF MICRONUTRIENTS IN OVARIAN CANCER



Ovarian Cancer is the fifth leading cause of cancer deaths in the USA, and is the deadliest of gynecological cancers in women. According to the 2016 estimates of the American Cancer Society, 22,280 women will be diagnosed with ovarian cancer in the United States and 14,240 women will die from this disease. The main reason for such high death rate is that ovarian cancer is often diagnosed when the disease has already progressed. Unfortunately, there are no specific symptoms pointing to ovarian cancer. A woman can have an array of vague symptoms such as dull abdominal pain, feeling of fullness or bloating, changed bowel habits, indigestion, loss of appetite and weight loss. Sometimes, an abdominal mass may also be present. This non-specificity of symptoms helps explain why the majority of women are diagnosed when the cancer has already spread to the pelvis, abdominal organs, the liver and the lungs.

Although any woman can be at risk of developing ovarian cancer, those who are older than 60, who are obese, and those who have taken hormone treatments for fertility or are past menopause have a significantly higher risk of developing ovarian cancer. Those with a family history of ovarian or breast cancer should be especially concerned because of a common genetic mutation (BRCA gene). Despite new advances in ovarian cancer diagnosis and treatment, there is no satisfactory cure.

Diet and lifestyle changes are known to modify the risk of developing cancer and many other chronic diseases. Therefore, researchers at the Dr. Rath Research Institute investigated the effects of supplementation of a specific mixture of micronutrients on ovarian cancer cells and in female mice induced with ovarian cancer.\* A group of mice received a diet supplemented with micronutrients, while the control group received a normal diet. After four weeks, all the mice in the control group developed ovarian cancer, and their lungs showed extensive spread of

cancer. In the group of mice receiving a micronutrient-supplemented diet, five out of six mice did not develop any tumors, and only one mouse developed a small tumor. None of the supplemented group of mice showed any evidence of spread of cancer to their lungs.

The ability of cancer to spread or metastasize depends upon the cancer cells ability to destroy the surrounding connective tissue barrier. Matrix metalloproteinase (MMP) are collagen-digesting enzymes that play a crucial role in the growth and metastasis of all cancers, by destroying the surrounding connective tissue.

We studied the ability to block the MMP enzymes by a combination of specific micronutrients (including vitamin C, lysine, proline, green tea extract, and quercetin among others) which are important for strengthening connective tissue. Our results showed that the micronutrients completely blocked the MMP enzymes and inhibited the cancer cell migration through a membrane. This, combined with the connective tissue strengthening properties of micronutrients, was effective in stopping the spread of cancer cells by 100%.

More than 70% of ovarian cancers have already spread before they are diagnosed, and there is no effective method to treat them. Our work documents that micronutrients act at various stages of cancer progression- reduce growth of ovarian cancer cells, decrease their potential to form a tumor, block the MMP enzymes, and prevent metastasis of the cancer. These results offer a possibility to significantly alter ovarian cancer prognosis and provide hope for thousands of women.

\* *MW Roomi et al., Nutrients 2017, 9, 303*

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The ground-breaking nature of this research poses a threat to the multi-billion dollar pharmaceutical "business with disease". It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health. Says he: "Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it."

This information is based on scientific research results. It is not intended to substitute for medical advice to treat, cure, or prevent any disease.  
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