



## THE BENEFITS OF MICRONUTRIENTS IN HEMANGIOMAS

Hemangiomas are the most common birth defect involving malformations of blood vessels leading to benign tumors in infants and children. Approximately 4-10% of infants are born with at least one hemangioma. A recent increase in the incidence of hemangiomas in the United States is found to be linked with the increase in the frequency of low birth weight infants. More frequently seen in Caucasians than African Americans or Asians, the hemangiomas are five times more common in females than males.

More than 60% of the hemangiomas occur on the scalp and face and 25% occur on the chest and trunk areas. Occasionally, internal organs such as the liver, kidneys, lungs, colon and brain may also be involved. Hemangiomas are characterized by a rapid increase in the first year of life followed by a slow growing phase and regression of the tumor over the next 5-6 years of life. Usually a 90% regression is achieved by the age of 10-12 years leaving minor birthmarks.

Although, most hemangiomas do not cause any symptoms, larger hemangiomas and those located within the eyes or nose may have a tendency to bleed causing breathing or vision problems. Conventional medicine relies on surgical removal as the preferred treatment of a hemangioma. However, sometimes drugs such as corticosteroids, interferon-alpha and chemotherapy drugs are also used in hopes to reduce the growth of blood vessels. However, all the drugs have severe side effects.

Hemangiomas are thought to be caused by the abnormal proliferation of blood vessel cells and formation of blood vessels at atypical sites (angiogenesis). In a prior study, the researchers at the Dr. Rath Research Institute proved that the



micronutrient mixture containing vitamin C, lysine, proline, and green tea extract has significant effect as seen by decreased angiogenesis and 50% reduced tumor growth in mice.

All tumor cells, whether benign or malignant, have the tendency to escape normal cell cycle which also involves cell death (apoptosis). Induction of apoptosis is one of the important mechanisms used in treatment of cancers. In a recent study\* we investigated if the reduction in hemangiomas as observed in the prior study was caused due to apoptosis induced by the micronutrients. Our results confirmed that the specific micronutrient combination induced significant apoptosis compared to the control group. Ninety-five percent of the hemangioma cells were found to be dead. We compared the effects with an apoptosis-inducing drug, Camptothecin, which is regularly used in treatment of solid tumors. The apoptotic effect of the micronutrients was more than Camptothecin as well. Additionally, the micronutrients also inhibited action of an enzyme called urokinase plasminogen activator (u-PA) which is associated with tumor growth, angiogenesis and metastasis.

Therefore, the micronutrient combination is seen to act on multiple targets in hemangiomas. By blocking specific enzymes the micronutrients are shown to reduce angiogenesis and tumor growth, and at the same time by inducing apoptosis they help in regression of hemangiomas.

\*MW Roomi et al., *Exp Oncol* 2018; 40 (2),1-5

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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."

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