

CANYON RANCH®

Cutting Cancer's Life Support

By Robert Oakes

When Judah Folkman, a highly respected surgeon, professor and medical researcher, started growing tumors on blood-soaked animal organs in his lab, it may have made his colleagues scratch their heads in bemused wonder. But when, in 1971, Folkman released the findings of this research in an article in the *New England Journal of Medicine*, the entire medical community sat up and took notice ... and for good reason. Folkman's landmark report revealed, for the first time, how a tumor feeds and multiplies itself by triggering the growth of new blood vessels, a process known as angiogenesis. This seminal study laid the foundation for anti-angiogenesis therapy, a revolutionary approach to cancer treatment that seeks to destroy tumors by severing their lifeline, killing off the tumors before they can kill their hosts.

In the years since Folkman's report was issued, researchers have learned that by introducing certain chemical compounds, they may be able to prevent the tumor from releasing blood vessel growth signals, effectively shutting down the growth of new blood vessels. Without these vessels to supply it with nutrients, waste removal and transport, the tumor is neither able to survive nor spread to another part of the body.

Dr. Folkman believes, and research supports the idea that individual cells in our body are often mutating and becoming cancerous. But in order for these individual cells to become tumors, they must both evade detection and execution by our immune system, AND they must develop their own blood supply to support their rapid growth. If either case is not accomplished, then a single cell won't grow into a dangerous tumor. So the idea of blocking the growth of blood vessels into tumors is a therapy that is now gaining acceptance and also clinical results.

There are already a few FDA-approved anti-angiogenic drugs on the market, and several more in the pipeline. These drugs show great promise in the treatment of a variety of different types of cancer.

In the meantime, there are a number of widely available nutraceutical products and whole foods that have been shown to also possess anti-angiogenic effects. A few of these include the following, and more are being discovered and studied every week:

- * Resveratrol, the purple pigment in grapes and red wine
- * Berries, especially black raspberries
- * Genistein, an isoflavone found in soy
- * Chondroitin
- * Vitamin B6
- * Green Tea
- * Polyphenols
- * Shark Cartilage

The study of anti-angiogenesis has given rise to the possibility of screening for cancer with a simple blood test. Though not yet available, doctors may soon be able to detect the presence of cancer in the body before any tumor can be seen or diagnosed by any scan. We could then, theoretically, prevent these cellular cancers from growing into tumors in part by preventing the growth of blood vessels with anti-angiogenic therapies.

As research into anti-angiogenesis therapy continues, beating cancer may soon become a simple matter of shutting off its life support system.