Curcumin Exhibits Strong Anti-Cancer Effects

Several chemical compounds based on curcumin have demonstrated very promising anti-cancer activity in the laboratory, according to reports from scientists at Emory University in Atlanta.* Curcumin is a bioactive compound present in turmeric, best known as the canary-yellow spice that forms the basis of Indian curry dishes.

Known to exhibit powerful anti-cancer, anti-inflammatory and antioxidant properties, curcumin may reduce the risk of cancer, heart disease, and Alzheimer's disease, among other disorders. In laboratory tests performed at the National Cancer Institute (NCI), at least nine of more than a dozen laboratory-created curcumin analogs showed "a moderate degree of anti-cancer activity," according to the Emory researchers. Three of the new curcumin derivatives "exhibited a high degree of cytotoxicity" in testing performed at NCI. These same analogs inhibited tumor cell growth better than cisplatin, a commonly used chemotherapy drug.

In laboratory tests performed at Emory, eight of the new compounds exhibited "a high degree" of anti-cancer activity, including effectiveness at preventing or interfering with angiogenesis, the process by which tumors supply themselves with nutrients that fuel their growth. Anti-angiogenic activity is of special interest to oncologists, because eliminating the vessels that supply blood to a tumor effectively strangles the tumor while preventing damage to surrounding tissues.

Of the numerous potentially effective synthetic compounds tested, the researchers deemed one especially promising. Tested on live mice bred to serve as human breast cancer models, the chemical was well tolerated by the rodents and effectively reduced the size of the animals' tumors. Researchers believe that this curcumin analog may be a candidate for development as a new anti-cancer drug.

—Dale Kiefer

Reference

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