Câncer de próstata. Efeito benéfico do inositol hexafosfato

Prostate cancer and inositol hexaphosphate: efficacy and mechanisms.

Department of Pharmaceutical Sciences, School of Pharmacy, University of Colorado Health Sciences Center, Denver, CO 80262, USA.

There are now extensive scientific data suggesting the potential role of dietary and non-dietary phytochemicals in the prevention and control of prostate cancer (PCA) growth and progression. PCA is a disease of elderly male populations with a relatively slower rate of growth and progression as compared to most other cancers and, therefore, is a candidate disease for preventive intervention. Overall, PCA growth and progression involve aberrant mitogenic and survival signaling and deregulated cell cycle progression, accompanied by gradual accumulation of genetic and epigenetic changes over a period of years. Several mechanisms, including overexpression of growth, survival and angiogenic factors and their receptors, together with a loss/decrease of tumor suppressor p53, retinoblastoma and cyclin-dependent kinase inhibitor, have been implicated in PCA growth and progression. Therefore, phytochemicals targeting these molecular events could have a promising role in PCA prevention and/or therapy. **Inositol hexaphosphate (IP6)** is a major constituent of most cereals, legumes, nuts, oil seeds and soybean. Taken orally as an over-the-counter dietary/nutrient supplement, and is recognised as offering several health benefits without any known toxicity. **In vitro anticancer efficacy of IP6 has been observed in many human, mouse and rat prostate cancer cells.** Completed studies also show that oral feeding of IP6 inhibits human PCA xenograft growth in nude mice without toxicity. In a recently completed pilot study, we observed similar preventive effects of IP6 on prostate tumorigenesis in the TRAMP model. Mechanistic studies indicate that IP6 targets mitogenic and survival signaling, as well as cell cycle progression, in PCA cells. IP6 is also shown to target molecular events associated with angiogenesis. Moreover, IP6 has pleiotropic molecular targets for its overall efficacy against PCA and, therefore, could be a suitable candidate agent for preventive intervention of this malignancy in humans.

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