

Chemoprevention of Colorectal Cancer – Experimental Approach and Clinical Applications

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Abstract

Introduction: The holy grail of cancer treatment is prevention. Chemoprevention is the use of specific agents to prevent, inhibit or reverse the process of cancer formation before malignancy. This review aims to explore the clinical approaches to investigation for chemoprevention and to discuss the more promising agents that have proceeded on to clinical trials. Methods: A Medline search was done using the words colorectal cancer, chemoprevention, models, surrogate markers and prevention clinical trials. Results: Research into chemopreventive agents is highly dependent on an effective model in which studies may be performed and from which results may be extrapolated into the human or clinical setting. As carcinogenesis is a prolonged biological event, intermediate surrogate markers that will reliably predict future cancer risk are usually studied. Various models are used with varying impact. Among some of the more recent agents being explored, the COX-2 inhibitors are emerging as strong potential agents. However, there are significant side-effects that need to be overcome first before routine use may be considered. Conclusions: Although there is presently no agent available for the safe, widespread use for the chemoprevention of colorectal cancer, research into this area is rapidly progressing and may in the future change the paradigm of cancer treatment.

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Key words: Animal intubation, Clinical trials, Cyclo-oxygenase 2 inhibitors, Research models, Surrogate markers

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