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Resumo	BACKGROUND Inflammation is a well-established enabling factor for cancer development and provides a framework for the high prevalence of colon cancer in inflammatory bowel disease. In accordance, chronic inflammation has recently been implicated in the development of cancer stem cells (CSCs). However, the mechanism whereby anti-inflammatory drugs act in the prevention of colitis-associated cancer (CAC) is only partially understood. AIM To evaluate the role of diacerein (DAR), an anti-inflammatory drug that mainly acts through the inhibition of interleukin (IL)-1β expression in the development of CSCs and CAC. METHODS The effects of DAR on colon inflammation in mice with CAC were evaluated by inflammatory index, reverse real-time transcription polymerase chain reaction and western blot. Cytokine levels were measured by enzyme-linked immunosorbent assay. Cells assays evaluated the effects of DAR on CSCs. Immunohistochemistry and apoptosis assays were also used to evaluate the effects of DAR on tumorigenesis associated with inflammation. RESULTS DAR treatment reduced colon inflammation as well as the number and size of tumors in azoxymethane plus dextran sulphate sodium-treated animals. Accordingly, DAR treatment was associated with reduced intracellular signals of inflammation (inhibitor of nuclear factor kappa B kinase and c-Jun N-terminal kinase phosphorylation) in the colon. In addition, DAR treatment was associated with a decrease in colon CSC formation, suggesting that besides reducing colonic inflammation, DAR has a direct effect on the inhibition of colon carcinogenesis. CONCLUSION Together, these data indicate that DAR-mediated IL-1β suppression attenuates inflammation-induced colon cancer and CSC formation, highlighting DAR as a potential candidate for the chemoprevention of CAC.
Fomento	