

NSAID Use and Colorectal Cancer—Letter

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In a recent publication, Kuo and colleagues (1) focused on the association between nonsteroidal anti-inflammatory drugs (NSAIDs) and colorectal cancer (1). Aspirin and NSAIDs have been reported to reduce colorectal cancer recurrence, but the efficacy of primary prevention in Asian populations is still undefined (1). Thus, the authors conducted a nested case-control study using the National Health Insurance Research Database (NHIRD) in Taiwan for evaluating the primary preventive efficacy of aspirin and NSAIDs on colorectal cancer incidence in Taiwan (1). They observed that aspirin and NSAIDs were linked to a reduced risk of colorectal cancer development (1). Patients with aspirin use appeared to have a lower risk of colorectal cancer in comparison with nonusers (1). NSAIDs use demonstrated a comparable effect (1). The authors conclude that aspirin and NSAIDs may represent a possible chemoprevention for colorectal cancer in an Asian population (1). Colorectal cancer threatens human health due to its high mortality related to metastatic progression (2). High-level C-X-C chemokine receptor type 4 expression (CXCR4) has been

connected with tumor progression and poor prognosis in colorectal cancer (2). The expression of CXCR4 is absent or low in most healthy tissues but high in many types of tumors (2). CXCR4 expression has been associated with lymph node metastasis, histologic differentiation, distant metastasis, and DNA mismatch repair index (2). CXCR4 has been demonstrated to be highly mutated and have a pro-oncogenic role in cancer (3). Stratified analysis by ethnicity have detected that among Asians, polymorphism in *CXCR4* gene is related to increased susceptibility to cancer risk in comparison with other races (3). Aspirin and NSAIDs have been proved to markedly inhibit CXCR4 expression (4). Concordantly, the CXCR4 pathway has been possibly involved in the pathogenesis of aspirin resistance (5). With respect to the above, I hypothesize that the benefit of aspirin and NSAIDs to prevent colorectal cancer in Taiwan may be related to downregulation of CXCR4 taking into account that *CXCR4* gene polymorphism might drive cancer onset and progression in Asian subgroups. Research studies are needed to define the chemopreventive efficacy of aspirin and NSAIDs against colorectal cancer outlining the optimal chemopreventive dose for both aspirin and NSAIDs and the risk of adverse events such as gastrointestinal bleeding.

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