ONLINE EXCLUSIVE

Q/ Is aspirin effective for primary prevention of colon cancer?

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EVIDENCE-BASED ANSWER

A/ **IT'S UNCLEAR, DUE TO CONFLICTING EVIDENCE.** Aspirin probably shouldn't be used for routine prevention because of its potential risks (strength of recommendation [SOR]: **B,** systematic review of inconsistent evidence). However, aspirin is likely to be effective for secondary prevention of colorectal adenomas (SOR: **A,** systematic review).

Aspirin probably shouldn't be used for routine prevention of colon cancer because of its potential risks.

Evidence summary

A systematic review conducted for the US Preventive Services Task Force (USPSTF) addressed the use of aspirin for primary prevention of colorectal carcinomas (CRC) and colorectal adenomas (CRA).

Pooled data from 2 randomized-controlled trials (RCTs) with a total of 61,947 patients showed no decrease in CRC incidence (relative risk [RR]=1.02; 95% confidence interval [CI], 0.84-1.25) with regular aspirin use (325 mg every other day for 5 years or 100 mg every other day for 10 years). Six cohort studies that followed a total of 231,252 patients did report a decrease in CRC incidence over 4 to 10 years (RR=0.78; 95% CI, 0.63-0.97).[1]

In a pooled analysis evaluating 2 primary prevention RCTs (the British Doctors Aspirin Trial and UK-TIA Aspirin Trial, total N=7588), aspirin was found to reduce the incidence of colorectal cancer (hazard ratio [HR]=0.74; 95% CI, 0.56-0.97; *P*=.02 overall; for aspirin given for 5 years or longer, HR=0.63; 95% CI, 0.47-0.85; *P*=.002). The effect was significant only at 10 to 14 years of follow-up (0 to 9 years: HR=0.92, 95% CI, 0.56-1.49, *P*=.73; 5 to 9 years: HR=1.08, 95% CI, 0.55-2.14, *P*=.83; 10 to 14 years: HR=0.51, 95% CI, 0.29-0.90, *P*=.02; 15 to 19 years: HR=0.70, 95% CI, 0.43-1.14, *P*=.15; ≥20 years: HR=0.90, 95% CI, 0.42-1.95, *P*=.79).[2]

Adverse effects, including stroke, are dose-dependent

The USPSTF review also summarized the harms associated with aspirin use. When aspirin was given for secondary prevention of stroke, the risk of hemorrhagic stroke was dose-dependent, varying from 0.3% to 1.1% (100 mg/d: 0.3%, 95% CI, 0.2%-0.4%; 100-325 mg/d: 0.3%, 95% CI, 0.2%-0.3%; 325 mg/d: 1.1%, 95% CI, 0.7%-1.5%).

Aspirin also was associated with an increased risk of gastrointestinal (GI) symptoms (odds ratio [OR]=1.7; 95% CI, 1.5-1.8), GI bleeding (RR=1.6-2.5), and hospitalization for GI bleeding (OR=1.9; 95% CI, 1.1-3.1). The risks of GI bleeding or perforation were dose-dependent.[1]

Low-dose aspirin promotes secondary prevention of adenomas

In a Cochrane review evaluating the effects of aspirin on CRA, pooled data from 3 RCTs with a total of 1839 subjects (1322 with a history of CRA and 517 with a history of CRC) showed that aspirin in a daily dose of 81 mg is effective for secondary prevention of sporadic CRA over a 1- to 3-year follow-up period (RR=0.77; 95% CI, 0.61-0.96; number needed to treat=12.5). The outcome measured in these 3 trials was an intermediate clinical finding, CRA, and not the more relevant end point of CRC.[3]

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Recommendations

The USPSTF recommends against routine use of aspirin and nonsteroidal anti-inflammatory drugs to prevent colorectal cancer in people at average risk (grade **D** recommendation: ineffective or harm outweighs benefits).[4]

The American Gastroenterological Association (AGA) doesn't recommend aspirin for primary CRC prevention, but acknowledges a possible role in secondary prevention. Aspirin should be considered for patients with a personal history of CRC, advanced CRA, or a strong family history but no history of peptic ulcer disease or hemorrhagic stroke. The AGA notes that 1 in 100 people taking aspirin for 2 years will develop significant GI bleeding.[5] **JFP**

References

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