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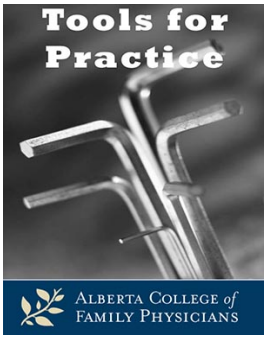
Reviewed: April 16, 2015
Evidence Updated: Meta-analyses added and context updated
Bottom Line: unchanged
First Published: May 9, 2011



Acetylsalicylic acid (ASA) to prevent colorectal cancer?

Clinical Question: Does taking Acetylsalicylic acid (ASA) decrease incidence and mortality from colorectal cancer?

Bottom-line: Although ASA may decrease the incidence and mortality of colorectal cancer, the benefit is offset by a much greater increase in gastrointestinal and intra-cranial bleeding. Cohort data suggests that those with colorectal cancer may have a survival advantage if they take ASA, but confirmation with randomized control trials (RCTs) is needed.

Evidence:

- Meta-analysis of five randomized or quasi-randomized controlled cardiovascular prevention trials from the UK or Sweden.
  - Eligible trials included = 1,000 patients who used ASA for at least 2.5 years.
  - 14,033 patients (mostly men) were followed about 20 years, analyzed for incidence and mortality from colorectal cancer:[1]
    - ASA statistically significantly decreased:
      - Colorectal cancer incidence, hazard ratio = 0.75 (0.56-0.97).
      - Colorectal cancer mortality from 2.1% to 1.4%.
        - Absolute risk reduction (ARR) = 0.7%.
        - Number Needed to Treat (NNT) = 148 x 20 years to prevent one colorectal cancer death.
    - Benefit was greater if ASA treatment was ≥5 years.
    - ASA dosage did not appear to significantly influence outcomes.
- Other meta-analyses found similar.[2,3]

Context:

- Other studies, albeit with shorter follow up periods, failed to show an association between ASA use and colorectal cancer incidence[4,5] or mortality.[4]

- Previous meta-analyses demonstrated that ASA decreases colorectal adenomas[6,7] but not colorectal cancer.[6]
- Cohort studies suggest ASA use after colorectal cancer diagnosis may decrease mortality, particularly if cancer expresses certain mutations.[8-10] RCTs are needed to confirm these findings.
- ASA increases the risk of hemorrhagic strokes[11] and gastrointestinal bleeds.[11-13] Extrapolating from meta-analyses, examining harms of ASA, and assuming a linear relationship between time and adverse events, if 10,000 patients were given ASA for 20 years, there would be an estimated:
  - 70 fewer colorectal cancer deaths.[1]
  - 900 extra gastrointestinal bleeds (hematemesis or melena).[12]
  - 100-240 extra major gastrointestinal bleeds (admission, transfusion, or death).[13,14]
- The United States Preventative Services Task force does not recommend the routine use of aspirin for chemoprevention of colorectal cancer.[15]

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