Risk of Gastrointestinal Bleeding for Aspirin Users: A Comprehensive Review and Meta-analysis of RCTs

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Background

- Aspirin (ASA) may be beneficial due to its antiplatelet effects, but no longer recommended for primary prevention.
- ASA is associated with an increased risk of gastrointestinal bleeding (GIB), particularly in older adults.
- Published systematic reviews are outdated as new evidence becomes available.

Objective

To conduct a systematic review and meta-analysis of risk for GIB after exposure to low-dose ASA.

Methods

- A literature search was conducted for studies evaluating the risk of GIB after aspirin exposure published through September 2023.
- To identify articles of interest, previous meta-analyses were examined eligible studies. PubMed, Scopus, Web of Science, and Embase were searched to identify additional studies from 2018 to 2023, as the most recent meta-analyses contained articles through September 2018.
- Inclusion criteria: randomized controlled trials with an aspirin dose of less than 325 mg compared to placebo, incidence of GIB reported.
- GIB was defined as any upper or lower gastrointestinal tract bleeding. A random effects model was employed to pool studies and calculate an effect size. Heterogeneity was assessed using I^2.

Results

- We identified eleven meta-analyses previously conducted on the topic.
- Additional literature searches identified 870 publications that were assessed for inclusion.
- A total of 51 studies examining 225,650 individuals were included in the analysis. See Figure 1.
- Risk of GIB with low-dose ASA was OR = 1.65 (95% Confidence interval = [1.42 to 1.93]. See Figure 2.
- Heterogeneity in the pooled estimate was modest, with an $I^2 = 56\%$.

Figure 1. PRISMA follow diagram

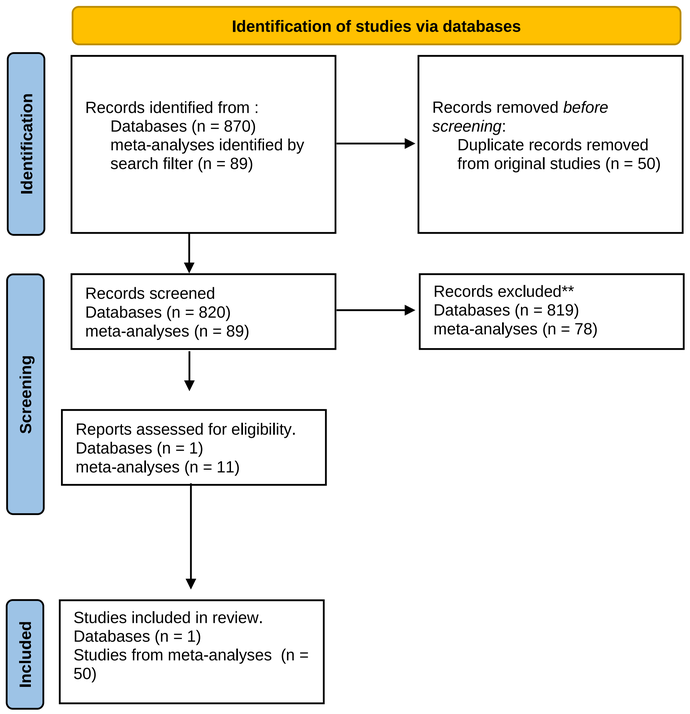
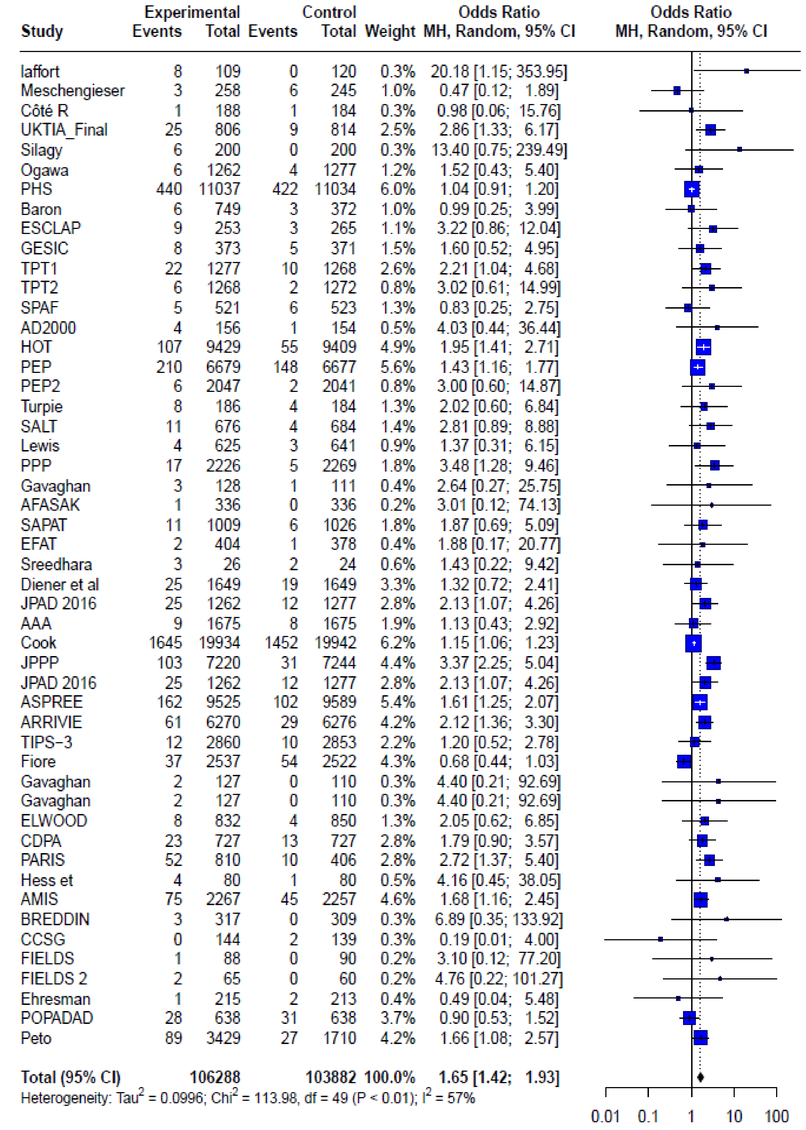


Figure 2. Forest plot



CI: confidence interval. MH: Mantel-Haenszel

Conclusion

- There is a significant risk of GIB associated with aspirin
- These findings emphasize the need to assess the risk-benefit ratio of aspirin therapy.

References

For more information or a reprint of this poster, please contact Abdelrahman G. Tawfik Younis. email at **Abdelrahman.Younis@utah.edu**