

Sex difference in the effect of aspirin on the prevention of coronary heart disease: A gender-based meta-analysis of randomized, placebo-controlled, double-blind trials.

Yukari Kamijima, M.S¹⁾, Mayumi Mochizuki, Ph.D²⁾, Shin-ichi Yamagata, M.S¹⁾,
Nobunori Satoh, Ph.D¹⁾, Takafumi Ohta, Ph.D³⁾, Tsutomu Uruno, Ph.D³⁾,
Shiro Ueda, M.D, Ph.D¹⁾

- 1) Graduate School of Pharmaceutical Sciences, Chiba University, 1-33, Yayoi-cho, Inage-ku, Chiba 263-8522, Japan
2) Division for Evaluation and Analysis of Drug Information, Center for Clinical Pharmacy and Clinical Sciences, School of Pharmaceutical Sciences, Kitasato University
3) Faculty of Pharmaceutical Sciences, Tokyo University of Science.

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Abstract :

Objective

Although aspirin has been widely used to prevent coronary heart disease (CHD), there is little documented evidence regarding the effects of aspirin on the risk of CHD in women. The purpose of this study was to estimate the gender-specific relationship between treatment with aspirin and prevention for CHD, particularly in women.

Design

We performed a gender-based meta-analysis of the effects of aspirin for the prevention of death from CHD and fatal or nonfatal myocardial infarction (MI).

Methods

We searched the MEDLINE database to identify studies that met the following inclusion criteria: 1) randomized, placebo-controlled, double-blind trial; 2) information on sample size, dosage of aspirin, and the results had to be separated by gender; 3) duration of follow-up ≥ 1 year; 4) the main outcome was death from CHD and fatal or nonfatal MI. We estimated the odds ratio (OR) and the absolute risk reduction (ARR). Finally, we compared the effects of aspirin in women with those in men by meta-analysis.

Results

Thirteen studies were included in our meta-analysis. A total of 60,547 participants (48,328 men and 12,219 women) were included in these studies. The effects of the reduction of risk for death from CHD and fatal or nonfatal MI by aspirin in men was statistically significant (overall OR = 0.75; 95% confidence interval [CI] 0.71 to 0.86, overall ARR = 10.2; 95% CI 6.8 to 13.6), but not significant in women (overall OR = 0.97; 95% CI 0.76 to 1.24, overall ARR = 1.3; 95% CI -4.2 to 6.7).

Conclusion

Our results indicated that men would gain more benefit from the treatment with aspirin than women. We concluded that antiplatelet therapy should differ between men and women.

Keywords : Sex difference, aspirin, coronary heart disease, myocardial infarction, meta-analysis