Pregnancy outcome in women with inflammatory bowel disease following exposure to 5-aminosalicylic acid drugs: a meta-analysis
Rahimi R, Nikfar S, Rezaie A, Abdollahi M

CRD summary
This poorly reported review assessed the risks of adverse pregnancy outcomes in women with irritable bowel disease following exposure to 5-aminosalicylic acid (5-ASA) drugs and presented point estimates for adverse outcomes. The conclusions did not seem to reflect the substantial levels of uncertainty around the results and should be treated with caution.

Authors' objectives
To evaluate the risks of adverse pregnancy outcomes in women with inflammatory bowel disease (IBD) following exposure to 5-aminosalicylic acid (5-ASA) drugs.

Searching
PubMed, EMBASE, Scopus, Web of Science and Cochrane Central Register of Controlled Trials (CENTRAL) were searched from 1966 to June 2007 (terms were reported). References from retrieved articles were reviewed for additional papers. No language restrictions were applied. Articles published in full and conference abstracts were considered.

Study selection
Study design was not pre-specified by the reviewers, but included papers were all cohort studies. The population of interest was women with inflammatory bowel disease. Included study populations had inflammatory bowel disease of unknown type, Crohn's disease or ulcerative colitis. The intervention was exposure to any 5-ASA drugs. Included studies reported use of mesalazine, olsalazine and sulfasalazine. All included papers were also reported on a comparator arm that received no 5-ASA medication. Studies were required to report on one or more of the following outcomes to be included: congenital abnormalities, stillbirth, spontaneous abortion, preterm delivery and low birth weight.

The authors stated neither how the papers were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Data from the included papers were extracted in the form of 2x2 tables. Odds ratios (ORs) were calculated. The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
A Maentel-Haenszel fixed-effect analysis was used to calculate pooled odds ratios and 95% confidence intervals (CI) for each outcome where possible. The Breslow-Day test was used to test heterogeneity. A funnel plot was produced as an indicator of bias. Heterogeneity of effect estimates was assessed with the L'Abbe plot, which calculated event rates in the experimental versus control groups.

Results of the review
Seven cohort studies were included in this review (n=2,200, exposed n=642, non-exposed n=1,558). No significant heterogeneity was noted for any of the analyses. No significant differences in any of the adverse pregnancy outcomes studies were found between exposed and non-exposed groups of women.

Congenital abnormalities (seven studies): OR 1.16 (95% CI 0.76 to 1.77, p=0.57).
Still birth (five studies): OR 2.38 (95% CI 0.65 to 8.72, p=0.32).

Spontaneous abortion (four studies): OR 1.14 (95% CI 0.65 to 2.01, p=0.73).

Preterm delivery (five studies): OR 1.35 (95% CI 0.85 to 2.13, p=0.26).

Low birth weight (three studies): OR 0.93 (95% CI 0.46 to 1.85, p=0.96).

Authors' conclusions
There was no more than a 1.16-fold increase in congenital malformations, a 2.38-fold increase in still birth, a 1.14-fold increase in spontaneous abortions, a 1.35-fold increase in preterm delivery and a 0.93-fold increase in low birth weight in pregnancy outcomes for women with inflammatory bowel disease treated with 5-ASA drugs rather than no medication.

CRD commentary
This review addressed a clear question with relevant searches of appropriate databases; unpublished and grey literature may not have been identified. The review methodology was not clearly reported and no quality assessment appeared to have been carried out. It was difficult to ascertain to what extent this review may have been affected by bias or error at the study selection/data extraction stages as the review process was not fully reported. The included primary studies were not assessed for methodological quality and, therefore, their data may not be reliable. The analyses appeared appropriate. Statistical heterogeneity was assessed. The authors' conclusions did not seem to reflect the substantial levels of uncertainty around the results and failed to highlight the lack of any statistically significant differences in these outcomes between exposed and non-exposed groups. Therefore, caution is advised when interpreting the conclusions of this review.

Implications of the review for practice and research
The authors did not state any implications for practice or further research.

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