

The use of antibiotics to treat genital infections in pregnant women

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The CEG has been made aware that there is concern amongst GU medicine physicians about the implications of a paper by Muanda et al¹ which found an association between the use of a number of antibiotics in pregnancy and spontaneous abortion. Statistically significant associations were found for (amongst others) azithromycin and metronidazole but not for cephalosporins, erythromycin and amoxicillin.

The paper is a retrospective, case-control study and an association does not prove causation. Sexually transmitted genital infections themselves can cause pregnancy loss so failure to treat them effectively may also result in spontaneous abortion^{2,3,4,5}. The paper does not answer the clinically important question which is: 'Is the woman more likely to lose the pregnancy if I do, or if I do not, treat with a particular antibiotic?' The associations found in the Muanda paper might result from women being prescribed the antibiotics for genital infections with the increased risk of pregnancy loss being due to the infections rather than the antibiotics i.e. confounding by indication. (This point is discussed in letters written in response to the paper⁶.)

In the case of chlamydial infection in pregnant women it might be considered that amoxicillin or erythromycin might be preferable to azithromycin, given that Muanda et al did not find an association with those two antibiotics. However, azithromycin is better tolerated and more effective than erythromycin in treating chlamydial infection in pregnancy. Amoxicillin is as effective as erythromycin but better tolerated⁷. Therefore avoiding azithromycin means using a less effective treatment which might result in a greater chance of pregnancy loss due to inadequately treated infection.

The CEG sees no reason at the present time to change the recommendations in its current guidelines for treating genital infections in pregnancy based on the recent publication. Good clinical practice remains to discuss the uncertainties, and the potential risks and benefits of the treatment options, with the patient and to document the discussion in the notes. This is especially important given that the use of these antibiotics in pregnancy is 'off label.'

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1. Muanda FT, Sheehy O, Berard A. Use of antibiotics during pregnancy and risk of spontaneous abortion. *CMAJ*. 2017; **1**(189):625-633.
2. Oakeshott P, Hay P, Hay S, Steinke F, Rink E, Kerry S. Association between bacterial vaginosis or chlamydial infection and miscarriage before 16 weeks' gestation: prospective community based cohort study. *BMJ* 2002; **325**(7376):1334.
3. Ralph SG, Rutherford AJ, Wilson JD. Influence of bacterial vaginosis on conception and miscarriage in the first trimester: cohort study. *BMJ* 1999; **319**(7204):220-3.
4. Baud D, Goy G, Jatton K et al. Role of *Chlamydia trachomatis* in miscarriage. *Emerg Infect Dis* 2011; **17**(9): 1630–1635.

5. Rours GIJG, Duijts L, Moll HA et al. Chlamydia trachomatis infection during pregnancy associated with preterm delivery: a population-based prospective cohort study. *Eur J Epidemiol* 2011; **26**(6): 493–502.
6. CMAJ Online May 1, May 10, May 31, June 20, June 21.
7. Brocklehurst P, Rooney G. Interventions for treating genital chlamydia trachomatis infection in pregnancy. *Cochrane Database of Systematic Reviews* 1998; **4**: Art. No.: CD000054.