

## LETTERS

### The authors respond to: “Optimal levels of DHEA for pregnancy may be reduced by antibiotics”

We thank Dr. Howard<sup>1</sup> for his letter about our article on the risk of spontaneous abortion associated with the use of antibiotics during pregnancy.<sup>2</sup> Dr. Howard hypothesized that antibiotics reduced arylsulfatase (dehydroepiandrosterone sulfate [DHEAS]), which in turn reduces availability of the active molecule, DHEA, that may play a role in the reduction of the risk of spontaneous abortion. Indeed, some evidence suggested that DHEA supplementation improves ovarian function, increases pregnancy chances and lowers miscarriage rates in women with diminished ovarian reserve by reducing aneuploidy.<sup>3,4</sup> However, it is unclear whether this reasoning can be applied in normal fertile populations.

Furthermore, Howard states that the need for antibiotic use in women having a spontaneous abortion in our study may indicate that they are already low in

DHEA. Yet, there is no evidence to support that statement. Although the biological plausibility proposed by Howard to support our findings is very appealing, we believe that to confirm this hypothesis, animal studies are needed to evaluate whether antibiotics linked to an increased risk of spontaneous abortion in our study (i.e., azithromycin, clarithromycin, quinolones, sulfonamides, tetracyclines and quinolones) are associated with DHEA reduction, and to investigate the impact of DHEA reduction on the occurrence of spontaneous abortion in normal fertile populations as well as in women with diminished ovarian reserve.

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## References

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**Competing interests:** Anick Bérard is a consultant for plaintiffs in litigations involving antidepressants and birth defects. No other competing interests were declared.