the conclusion that women with a high fatty acid intake are less likely to undergo a laparoscopy since a high fatty acid intake can reduce menstrual pain. Finally, laparoscopy as a diagnostic tool will pick up also subtle endometriosis and since these lesions can be found in almost all women with pain or infertility, all these women will finally get the diagnosis of endometriosis. Since it remains debated whether subtle endometriosis is a pathology, we would be interested to know whether more severe forms such as cystic and deep endometriosis would be affected by diet.

In conclusion, notwithstanding our appreciation for the meticulous analysis and the nice data, we do not consider that these data permit the conclusion that diet might affect the risk of developing endometriosis, certainly not of severe forms.

References


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Reply: Dietary fat consumption and endometriosis risk

Sir,

We appreciate the comments of Drs Koninckx and Brosens, who are international leaders in efforts to improve our understanding of the mechanisms of endometriosis and to advance the care of patients with this disabling condition. We welcome the opportunity to address and clarify several points that they raised.

As noted in our manuscript (Missmer et al., 2010), we agree that the previous data regarding consumption of types of fat and endometriosis diagnosis are sparse, and therefore our findings require replication within additional populations, as well as further support from laboratory studies. No single study, regardless of design rigor, should be considered to establish causality.

An incidence rate ratio of 1.48—as was observed when comparing the upper to lower quintile of trans fat intake—is sizable for a single dietary component (The Commenters erroneously refer to this estimate as ‘odds ratio of 1.26’, which was the incidence rate ratio observed when comparing the third to lower quintile of trans fat intake). The magnitude of this association with endometriosis is actually greater than the estimate for the meta-analytic association of trans fatty acids with coronary heart disease—an association that has been well confirmed (Mozaffarian et al., 2009) and is the basis for the replacement of trans fatty acids in foods by manufacturers and restaurants (Mozaffarian et al., 2010). In addition, magnitude of effect is not indicative of associative ‘truth’ (Rothman et al., 2008). It should also be noted that the findings were robust to detailed adjustment for other known risk factors.

We agree that women exhibiting signs and symptoms consistent with endometriosis are by definition at greater likelihood of being surgically diagnosed with endometriosis; however, this does not alter the validity of our analyses. We would expect disease signs and symptoms to be highly correlated with surgical investigation.

We do not agree with the assertion that severe endometriosis is pathological while mild endometriosis is not. These terms arise from the R-ASRM staging system—which is driven by plaque, scarring and adhesion volume and location but does not correlate with pain symptoms. Women with ‘mild’ disease often report debilitating pain, which is not only of clinical but of public health importance. However, we do agree with Drs Koninckx and Brosens that this is a study of incidence of surgical diagnosis of disease. Therefore, if fatty acid consumption is affecting pain symptoms, then this would manifest as the appearance of a difference in the incidence of diagnosis, while the incidence of endometriosis itself may not be associated. Given the data at hand, we cannot address this concern directly. However, associations did not differ between those women diagnosed following presentation with pain symptoms solely compared with those who presented with infertility (among whom only a portion experienced pain symptoms). If the association was driven solely by an effect on pain, then we would expect to observe the relations between fatty acid consumption and endometriosis diagnosis to be stronger among those with no history of infertility.

We again thank the Drs for their interest in our investigation and hope that it stimulates continued debate and inspires further laboratory, clinical and epidemiologic research in this area. Epidemiologic studies have been instrumental in identifying lifestyle factors that are now well-substantiated recommendations from doctors to patients to prevent cardiovascular disease, type 2 diabetes and several types of cancer. We believe that large epidemiologic studies will similarly help uncover ways to prevent endometriosis, a common but enigmatic disease—and that our study provides one such step toward this goal.

Sincerely,

References


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