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Letter to editor in response to: prior uterine myoma and risk of ovarian cancer: a population-based case-control study

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Conflict of Interest

No potential conflict of interest relevant to this article was reported.

Author Contributions

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We read with interest the paper by Tseng et al. [1] reporting an association with uterine myomas and ovarian cancer. If this were a valid observation it would be of great concern to many women, in addition to the currently topical issues of morcellation and leiomyosarcomas [2], however we believe there are several methodological issues which may account for these unexpected results.

The participants in this study were stratified by age, urbanization level, insurance premiums and date of cancer diagnosis, but there was no such stratification by factors which are known to affect the development of ovarian cancer, such as parity and oral contraceptive use [3], or ethnicity. These categories would have been more relevant for frequency-matching than some of the more arbitrary groups chosen in this study, and the omission of this data in the results in our view limits confidence of the findings.

We have particular concerns about the inclusion criteria for the definition of uterine myoma, which consist of a relevant International Classification of Diseases-9 code along with a requirement to have 3 outpatient or 1 inpatient hospital visits in the year preceding diagnosis. Such requirements reduce the accuracy of diagnosis rather than increase it as claimed by the authors, and may be responsible for much of the observed association with ovarian cancer. This excludes many or even most patients with myomas, particularly those which are asymptomatic, and therefore significantly under-represents the true prevalence of myomas in the population. Asymptomatic myomas account for around 50% of the total burden, and at least 50% of patients with no previous history have new myomas diagnosed on routine ultrasound screening [4]. It is unclear whether these hospital visits prior to myoma diagnosis relate to that myoma diagnosis, or to any other complaint. If these are not limited to myomas, it introduces a potentially very significant confounder; that patients who attend hospital more frequently may be more likely to develop ovarian cancer, irrespective of myoma diagnosis. It is known that ovarian cancer presents with vague and variable symptoms [5], and so patients who attend hospital multiple times may be more likely to be diagnosed with incidental myomas as part of diagnostic work-up. For these incidental cases, we would expect a shorter interval between myoma and ovarian cancer diagnoses, however no such timescales are given. This could also explain why after myomectomy women are at decreased risk as they would have fewer visits to hospital.

Unless such issues can be addressed, the authors' current approach may only serve to increase women's anxiety, and add an unnecessary red flag for women with uterine fibroids.

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