

## Editorial comment

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*Gynecologic Surgery* received a letter pointing to potential errors in the paper from Wisner et al., previously published in the journal [1]. They reported on a retrospective cohort study using the data from the Health Cost and Utilization Project Nationwide Inpatient Sample including data on 465,798 women who were admitted for hysterectomy for benign diseases between the years 2002 and 2008. Of the women admitted, 389,189 (83.6 %) underwent abdominal hysterectomy (AH) and the remainder underwent laparoscopic hysterectomy (LH; 76,609, 16.4 %). *In-hospital* morbidities and mortalities were identified using the diagnostic and procedural codes classified according to the International Classification of Disease, Ninth Revision, and Clinical Modification. Multivariable logistic regression analysis was used to estimate the relationship between the type of hysterectomy and the development of major morbidity and mortality. The data showed that women who underwent LH were less likely to develop thromboembolic events (0.69 vs. 0.84 %, adjusted odds ratio (aOR) 0.85 (0.77–0.93)), to require blood transfusions (2.4 vs. 4.7 %, aOR 0.58 (0.55–0.61)), or have bowel perforation (0.07 vs. 0.13 %, aOR 0.56 (0.42–0.74)). Also, the mortality rate was lower in the LH group (0.01 %) compared with the AH group (0.03 %, aOR 0.48 (0.24–0.95)). The authors concluded that “when possible”, hysterectomy for benign diseases should be performed with minimally invasive technique due to the lower complication rates.

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We thank the correspondents for their concerns and questions on the paper. Given this correspondence came late after the initial publication, no formal letter to the editor and author’s reply format was used. Obviously, the authors were consulted and acknowledged several typographic and transcription errors and were asked by *Gynecologic Surgery* to submit an erratum. A reanalysis led to the corrections displayed below yet confirmed the validity of the results and conclusions regarding the predefined selected outcomes of in hospital mortality and morbidity. We now proceed with publication of the erratum displayed below.

The editorial board meanwhile insists to comment on the findings and limitations to conclusions drawn from this, and similar type of studies. Large observational studies have the merit and power of high numbers, but they are not without risk of bias. The results and the conclusions may be valid for the selected outcomes, *in casu* in hospital morbidity or mortality. The patient leaving the hospital in good health is without any doubt a relevant primary outcome of relevance to the patient, physician, as well as hospital. Whether it is the most crucial or sensitive outcome measure for long-term health, remains to be demonstrated. For any patient experiencing a longer-term complication which can be tied to the index procedure, the reported in-hospital outcome is not relevant. For those patients, researchers studying morbidity or mortality following surgery should consider adverse outcomes on the longer term. Obvious examples such as lethal thromboembolic events, which do happen after discharge from the hospital, come immediately to mind. Recently, another long-term risk, i.e. tissue morcellation and extraction in cases of unsuspected sarcoma has been raised. Also, this journal publishes an opinion paper by Tanos et al. [2] and calls its readership for critical and rational reflection and development of clinical practice guidelines to deal with the present uncertainty.

As to the study of Wiser et al. [1], the effect of morcellation in the framework of unsuspected sarcoma was and could not be studied by this study, given it dealt with a cohort of women with benign disease. Since it was based on an administrative database, women with a later diagnosis of underlying sarcoma following the index admission could not be identified. It has become clear that minimally invasive surgery has many proven advantages for women's health: these have been summarized and critically appraised in a Cochrane review on the surgical approach to hysterectomy for benign gynaecological disease, based on 34 studies including 4495 women [3]. Future studies with an appropriate design for determination of delayed risks from morcellation will have to define exactly the safety, lim-

itations, and indications covered by the description "when possible" used by Wiser et al [1].

## References

1. Wiser A, Holcroft CA, Tulandi T, Abenheim HA (2013) Abdominal versus laparoscopic hysterectomies for benign diseases: evaluation of morbidity and mortality among 465,798 cases. *Gynecol Surg* 10:117–122
2. Tanos V, Brölmann H, DeWilde RL, O'Donovan P, Campo R (2014) Myoma morcellation and sarcoma panic. *Gynecologic Surgery* (references to be added)
3. Nieboer TE, Johnson N, Lethaby A, Tavender E, Curr E, Garry R, van Voorst S, Mol BWJ, Kluivers KB (2009) Surgical approach to hysterectomy for benign gynaecological disease. *Cochrane Database of Systematic Reviews*, Issue 3. Art. No.: CD003677.