A response to the forgotten fallopian tube

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We thank Johannes Dietl and Jörg Wischhusen for their correspondence on the recent Opinion article (The genesis and evolution of high-grade serous ovarian cancer. *Nature Rev. Cancer* **10**, 803–808 (2010))¹ and agree with the authors (The forgotten fallopian tube. *Nature Rev. Cancer* 10 Feb 2011 (doi:10.1038/nrc2946-c1))² that the complete removal of the fallopian tube during hysterectomy and/or oophorectomy is essential to reduce the risk of high-grade serous cancers. We are more cautious than Dietl and Wischhusen, however, about recommending salpingectomy-only for women at increased risk of ovarian cancer.

Unintentional retention of tubal epithelium following hysterectomy has been described³ and indeed is the norm in premenopausal women. Among women recruited through the Australian Ovarian Cancer Study there were some who developed serous ovarian cancer years after hysterectomy, but whether this outcome was influenced by any retention of the fallopian tube is unclear.

Currently, we feel that a reliance on salpingectomy-only, instead of bilateral salpingo-oophorectomy in women with germline *BRCA1* or *BRCA2* mutations, or a strong family history of breast and/or ovarian cancer for the purpose of cancer risk reduction is premature. As outlined in the Opinion article¹, endosalpingiosis or entrapment of endometrial tissue in the ovary,

including distal fallopian tube cells, may give rise to ovarian tumours even if the originating cells were from elsewhere. How often this occurs is unclear. Pathologically, serous ovarian tumours are often seen where there is no obvious fallopian tube involvement.

Any change in medical practice should be evidence-based. There are good data that risk-reducing salpingo-oophorectomy (RRSO) can diminish the risk of development of high-grade serous cancers in *BRCA1* or *BRCA2* mutation carriers^{4–6} and reduce mortality from the disease. To the best of our knowledge, such complete data does not exist for salpingectomy-only and it is likely that it would be difficult to generate in a randomized control trial.

We agree that oophorectomy is associated with important side effects in premenopausal women, however, it should be noted that there is a benefit of a substantial reduction in breast cancer risk in mutation carriers⁵ experiencing a surgical menopause. For carriers who have completed child-bearing, who are premenopausal, and who are not willing to experience early menopause at that time, salpingectomy-only may be considered⁷, although its primary intent should be for the purpose of contraception and not for the uncertain effect on cancer risk reduction. Subsequent oophorectomy could then occur at a time acceptable to the woman. At a minimum this would be on entering menopause, at which time any potential side

effects are likely to be much diminished. It would be important to advise patients that this two-step approach is not proved, unlike up-front RRSO, involves the additional morbidity of a second laparoscopic procedure and the benefits of reduced breast cancer risk would not be experienced.

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Competing interests statement

The authors declare no competing financial interests.