

doi: 10.1093/jnci/djab155 First published online August 23, 2021 Response

# Response to Nahshon and Lavie

Cornelis D. de Kroon , MD, PhD, 1,\* Marthe M. de Jonge , MD, Tjalling Bosse, MD, PhD, Christi J. van Asperen , MD, PhD<sup>3</sup>

<sup>1</sup>Department of Gynecology, Leiden University Medical Center, Leiden, the Netherlands; <sup>2</sup>Department of Pathology, Leiden University Medical Center, Leiden, the Netherlands; and <sup>3</sup>Department of Clinical Genetics, Leiden University Medical Center, Leiden, the Netherlands

\*Correspondence to: Cornelis D. de Kroon, MD, PhD, Department of Gynecology, Leiden University Medical Center, Albinusdreef 2, 2333 ZA Leiden, the Netherlands (e-mail: c.d.de\_kroon@lumc.nl).

We thank Nahshon and Lavie (1) for their interest in our article. But most of all, we are pleased with their support of our statement that, given the increased risks of gBRCA1/2 mutation carriers to develop p53-abnormal (11- to 12-fold) and serous-like endometrial cancer (8- to 10-fold) presented in our article, endometrial cancer (EC) and especially p53-abnormal and serous-like EC should be considered part of the hereditary breast and ovarian cancer syndrome caused by a gBRCA1/2 mutation. Broad support of that statement is of utmost importance for gBRCA1/2 mutation carriers because this will result in numerous improvements in the quality and outcome of care for gBRCA1/2 mutation carriers, their relatives, and EC patients.

The question is how to proceed from here. In our opinion, we should start today to consider EC and especially p53abnormal EC and serous-like EC part of the hereditary breast and ovarian cancer syndrome caused by qBRCA1/2 mutations. Having said that, among other issues, mutation carriers should be counseled with regard to their increased risk to develop EC. It is important to take mutation type into account; according to our results, BRCA1 mutation carriers are at higher lifetime risk compared with BRCA2 mutation carriers (2). Consequently, risk-reducing hysterectomy (RRH) should be considered. However, the following issues should be taken into careful account in this consideration: 1) the small absolute risks to develop EC (3.0% and 1.1% for EC and serous-like histology, respectively), 2) the majority of EC cases concern the endometrioid subtype with excellent survival after hysterectomy, 3) the uncertain effect of RRH on (EC specific) mortality, and 4) the complications and long-term morbidity caused by hysterectomy (2). In their correspondence, Nahshon and Lavie (1) add a specific argument to the discussion on RRH in favor of preventive surgery: future tamoxifen treatment because of breast cancer (BC) which we take the opportunity to comment on. It is well known that patients with EC after at least 5 years tamoxifen use are at increased EC mortality risk compared with never users (hazard ratio = 1.59, 95% confidence interval = 1.13 to 2.25) (3). However, again the absolute risk of developing EC after BC is, even after the use of tamoxifen, extremely low at 0.36% in 27 034 BC patients who used tamoxifen with a follow-up of more than 110 000 person-years (4).

Whether the benefits of preventive surgery outweigh the disadvantages should be weighed for patients based on their individual health situation. As argued above, we doubt whether future tamoxifen treatment as suggested by Nahshon and Lavie (1) is a relevant additional argument to be taken into account in this consideration. In the meantime, the effects of RRH with regard to (long-term) complications and cancer-specific survival should be studied. Lastly and most importantly, as suggested by Sherman (5), detailed viewpoints of gBRCA1/2 mutation carriers should be collected to provide women facing decisions about preventive surgery with well informed choices.

## **Funding**

None.

#### **Notes**

Role of the funder: Not applicable.

**Disclosures:** The authors have no conflicts of interest to disclose.

Author contributions: Writing -original draft: CDK, Writing—review and editing: MMJ, TB, CJA.

### **Data Availability**

All data in this response can be found in the original article. No new data are presented.

# References

- 1. Nahshon C, Lavie O. Re: Endometrial cancer risk in women with germline BRCA1 or BRCA2 mutations: multicenter cohort study. J Natl Cancer Inst. 2022; 114(2):320-321.
- 2. Sandberg EM, Twijnstra ARH, Driessen SRC, Jansen FW. Total laparoscopic hysterectomy versus vaginal hysterectomy: a systematic review and metaanalysis. J Minim Invasive Gynecol. 2017;24(2):206-217.e22.
- 3. Jones ME, van Leeuwen FE, Hoogendoorn WE, et al. Endometrial cancer survival after breast cancer in relation to tamoxifen treatment: pooled results from three countries. Breast Cancer Res. 2012;14(3):R91.
- 4. Choi S, Lee YJ, Jeong JH, et al. Risk of endometrial cancer and frequencies of invasive endometrial procedures in young breast cancer survivors treated with tamoxifen: a nationwide study. Front Oncol. 2021;11:636378.

  5. Sherman ME, Foulkes WD. BRCA1/2 and endometrial cancer risk: implications
- for management. J Natl Cancer Inst. 2021;113(9):1217–1218.