

Supplement to the Ovarian Cancer Screening: Expert Panel Summary of Existing and New Evidence, October 4, 2011

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This document provides an update on the most recent results published from randomized controlled trials on ovarian cancer screening. When the anticipatory science document on this topic was completed by the Canadian Partnership Against Cancer (the Partnership) in October 2011, only 1 of the 3 main randomized controlled trials on ovarian screening had published on mortality outcomes. The U.S. National Cancer Institute's Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial had reported (in 2011) that there was no impact on ovarian cancer mortality rates from ovarian cancer screening with CA 125 and transvaginal ultrasound.

In December 2015, after follow-up of up to 14 years from the time of randomization, the mortality results from the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) were published online by the Lancet journal.

The following table shows the findings of the main analysis on impact of screening on ovarian cancer mortality, compared with no screening.

Results

Table 1: Results of the Primary Analysis with the Cox model ⁽¹⁾

Group	Total Number of Women	Number with Ovarian Cancer	Number Died from Ovarian Cancer	Mortality Reduction (95% C.I.)
MMS: Multimodal screening (with CA 125 and transvaginal ultrasound)	50,624	338	148	15% (-3 to 30)
USS: Annual transvaginal ultrasound screening	50,623	314	154	11% (-7 to 27)
No Screening (control)	101,299	630	347	

While the results do suggest a reduction in mortality (unlike the results reported by the PLCO trial, which showed no difference in the deaths from ovarian cancer in the screening and control arms), the mortality reductions of 15% and 11% were not statistically significant.

Summary Statement

The authors do report on some other approaches to analysis that provide some support that the mortality reduction from screening is likely to be significant, even if the pre-specified analysis failed to show this. The final concluding remarks of the authors are that, "Further follow-up is needed to assess the extent of the mortality reduction before firm conclusions can be reached on the long-term efficacy and cost-effectiveness of ovarian cancer screening."⁽¹⁾

How does this new publication affect the summary statement of the Expert Panel?

There is considerable interest in screening for ovarian cancer because the disease is highly lethal and currently most often detected in its advanced stages. If screening could detect more early-stage ovarian cancers, the hope is that survival rates would improve. However, ovarian cancer is a complex disease and not all of its histologies act in the same way.

The evidence to date has not clearly demonstrated that ovarian cancer screening reduces mortality from ovarian cancer. The PLCO study evaluated transvaginal ultrasound and CA 125 tests in screening post-menopausal women aged 55 to 74 for ovarian cancer. The study involved 78,216 women of which 39,105 were screened (the study arm) and 39,111 women were followed routinely (control arm). Women were offered annual testing over 6 years and were followed for a total of 13 years. 212 women in the study arm and 176 in the control arms were found to have ovarian cancer. There were 118 deaths from ovarian cancer in the study arm compared to 100 in the control arm. The authors of the study concluded that screening with CA 125 and TVUS did not reduce ovarian cancer mortality. The surgical complication rate as a result of a false positive test is 20.6 per 100 procedures in the PLCO study. This complication rate is an important factor when evaluating outcomes for ovarian cancer screening. This rate of complication would only be acceptable if mortality from ovarian cancer was substantially reduced.

The recently published results from the UKCTOCS are encouraging, however, because the mortality reductions reported for MMS and for USS were not statistically significant, it will be necessary to see further longer term follow-up results showing a definitive benefit, before planning for population based ovarian screening programs.

Based on the current evidence available, routine ovarian cancer screening for the general population is not recommended at this time.

References

1. Jacobs, Ian J., Menon, Usha., et al. Ovarian cancer screening and mortality in the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS): a randomised controlled trial. *Lancet*. 2015. Published online 17 December, 2015. DOI: [http://dx.doi.org/10.1016/S0140-6736\(15\)01224-6](http://dx.doi.org/10.1016/S0140-6736(15)01224-6) (Accessed Feb 17, 2016)