Amidst ovarian cancer screening challenges, there is hope

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I am writing in response to the review article by McMullen (AMSJ Volume 1, Issue 1). [1]
The major cause of gynaecologic-related cancer mortality in women in developed settings is ovarian cancer. [2] Recent research findings in this field provide hope in relation to both screening and early treatment – even though randomised controlled trial evidence in most screening techniques is still not available.

Serum CA125, which is the most commonly used tumour marker for ovarian cancer, is not suitable for population-based screening as it has been found to be elevated in only five to six out of ten women with stage I epithelial ovarian cancer. [3] Screening and diagnosis may therefore have to incorporate a variety of other tools. Primary prevention also needs to be considered.

Primary prevention is aimed at risk factors for ovarian cancer. A study of Australian women found an increased ovarian cancer risk related to high dietary intake of red and processed meat and fat. [4]

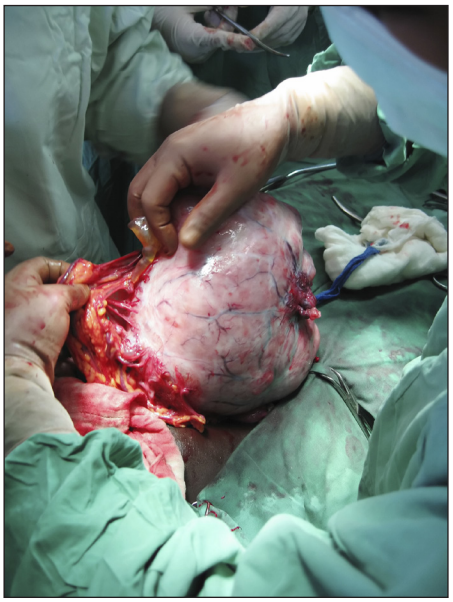
A meta-analysis found that smoking may increase the risk of developing mucinous ovarian cancer twofold. [5] Other studies have shown reduced serous ovarian cancer risk with hormonal contraceptive use, breastfeeding duration and increasing parity. [6] Health care workers could contribute to primary prevention by encouraging patients to quit smoking, change dietary habits and breastfeed their babies.

Screening is a type of secondary prevention. Screening will have a higher yield if it is targeted at people at increased risk. Multiple primary cancer links were found in an assessment of South Australian Cancer Registry data which suggested screening for ovarian cancers in patients with colon cancer or cancer of the uterus. [7]

Genetic counselling and testing is a good screening tool in persons at high risk of ovarian cancer and persons with familial ovarian cancer history. [8] Carriers of BRCA1 and BRCA2 mutations account for up to 15% of ovarian tumours. [9] Genetic advances have also identified GTF2A1 and GTF2A1 plus HAAO as principal markers in ovarian cancer diagnosis. [10]

As for the actual screening test to be used, urine angiostatin levels are elevated in patients with epithelial ovarian cancer and have been shown to be a superior marker in detection of epithelial ovarian cancer as compared to CA125. [11] Differentiation of cancer from healthy controls had a sensitivity of 88% and specificity of 92%; while differentiation of benign from neoplastic lesions had a sensitivity of 84% and specificity of 84%. When used in combination with CA125, 91% of ovarian cancers were identified.

Transvaginal ultrasonography has also been shown to be of use in diagnosis, especially



in augmentation of CA125 screening. [12] Multimodal screening, on the other hand, involving CA125 and ultrasonography in a pilot randomised trial has a positive predictive value of 21% with prolonged survival rates. [13]

In conclusion, serum CA125 is an inadequate solitary predictor in the diagnosis of ovarian cancer. Upcoming diagnostic methods provide an unprecedented opportunity to combine methods and thus improve diagnosis in Australia.

References

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