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IN BRIEF

BREAST CANCER

Changing tumours, changing markers

It is known that the genetic profile of tumours changes with cancer progression, sometimes owing to drug exposure. Lindström and colleagues have assessed how the status in markers of breast cancer—such as HER2, ER and PR—change as the disease progresses. The study analysed samples from both primary tumours and recurrence from nearly 1,000 patients who were positive for ER ($n=459$), PR ($n=430$) and HER2 ($n=104$). Changes in the status of these markers were seen in 32% (ER), 41% (PR) and 14% (HER2) of patients, which has tremendous implications in patient management.

Original article Lindström, L. S. *et al.* Clinically used breast cancer markers such as estrogen receptor, progesterone receptor, and human epidermal growth factor receptor 2 are unstable throughout tumor progression. *J. Clin. Oncol.* doi:10.1200/JCO.2011.37.2482

SCREENING

Confirming the benefits of screening in colorectal cancer

Robert Schoen and colleagues have conducted a study in which, after a median follow-up of 12 years, they have shown that flexible sigmoidoscopy screening decreases the incidence of colorectal cancer (CRC) by 21% and mortality by nearly 26%. The study included 77,445 participants who were randomly assigned to screening with sigmoidoscopy (intervention group) or usual care. The incidence of both distal and proximal CRC was significantly reduced in the intervention group. However, although mortality from distal CRC was significantly reduced, mortality from proximal CRC did not change.

Original article Schoen, R. E. *et al.* Colorectal-cancer incidence and mortality with screening flexible sigmoidoscopy. *N. Engl. J. Med.* doi: 10.1056/NEJMoa1114635

GYNAECOLOGICAL CANCER

Infertility and ovarian cancer

A case-control study has revealed that the use of fertility drugs does not contribute to ovarian cancer among the majority of women; however, there is a significantly increased risk of ovarian cancer for those women who use fertility drugs and still remained nulligravid.

Original article Kurta, M. L. *et al.* Use of fertility drugs and risk of ovarian cancer: results from a US-based case-control study. *Cancer Epidemiol. Biomarkers Prev.* doi:10.1158/1055-9965.EPI-12-0426

COMBINATION THERAPY

Radiotherapy and immunotherapy, perfect match

Using triple-negative breast tumours established in mice, Verbrugge *et al.* have examined whether the effects of radiotherapy can be enhanced when used in combination with monoclonal antibodies that boost the immune system (α -CD137 and α -CD40) or that inhibit immunosuppression (α -PD1). Mammary tumours in mice treated with the combination of α -CD137 and α -PD1 with single-dose or low-dose fractionated radiotherapy were eliminated, and this effect was mediated by CD8⁺ T cells.

Original article Verbrugge, I. *et al.* Radiotherapy increases the permissiveness of established mammary tumors to rejection by immunomodulatory antibodies. *Cancer Res.* doi: 10.1158/0008-5472.CAN-12-0210