Nature Reviews Clinical Oncology **8**, 446 (2011); published online 28 June 2011; doi:10.1038/nrclinonc.2011.101

IN BRIEF

DIAGNOSIS

18F-fluorodeoxy-glucose positron emission tomography (18FDG-PET) marks MYC-overexpressing human basal-like breast cancers

Palaskas, N. J. *et al. Cancer Res*. doi:10.1158/0008-5472.CAN-10-4633

^{18}F-fluorodeoxy-glucose (FDG) PET is used to improve the diagnosis and to assess the response to therapy of patients with cancer. Recent work has used human breast cancer cell lines to develop an 'FDG signature' that predicted FDG uptake in basal-like breast cancer and MYC-induced cancer in mice. This finding linking glucose uptake with specific clinical subtypes could have implications for treatment assignment and patient follow up in the future.

GENETICS

Nicotinic acetylcholine receptor polymorphism, smoking behavior, and tobacco-related cancer and lung and cardiovascular diseases: a cohort study

Kaur-Knudsen, D. *et al. J. Clin. Oncol*. doi:10.1200/JCO.2010.32.9870

A population study of 10,330 participants has revealed that a polymorphism in the gene coding for nicotinic acetylcholine receptor is associated with an increased risk of lung and bladder cancers, after adjustment was made for smoking habits. The participants were all genotyped and followed up for 18 years, with 100% follow up achieved.

EPIDEMIOLOGY

Long-term risks of subsequent primary neoplasms among survivors of childhood cancer

Reulen, R. C. *et al. JAMA* **305**, 2311–2319 (2011)

Patients with childhood cancer often undergo toxic therapies to treat their primary disease. It is important to examine how this might affect survivors later in life. To this end, 17,981 5-year survivors of childhood cancer were followed up in the UK for a median of 24.3 years. These patients had an excess risk over the general population of developing digestive and genitourinary cancers when aged over 40 years.

GENETICS

Cancer risks associated with germline mutations in *MLH1*, *MSH2*, and *MSH6* genes in Lynch syndrome

Bonadona, V. *et al. JAMA* **305**, 2304–2310 (2011)

French cancer centers have enrolled 537 families with Lynch syndrome to a genetic study testing the risks of developing cancer that are associated with specific mutations of *MLH1*, *MSH2* and *MSH6*. Of these mutations, the presence of mutations in *MSH6* was linked with a lower cancer risk than mutations in *MLH1* or *MSH2*. Mutated *MSH2* and *MLH1* were associated with high lifetime ovarian and endometrial cancer risk, but the risk did not increase until after 40 years of age.