Nature Reviews Clinical Oncology | Published online 31 Aug 2017

IN BRIEF

BREAST CANCER

Evolution of metastatic disease revealed

The findings of a whole-genome sequencing study in patients with metastatic breast cancer provide further insight into the mechanisms of metastatic dissemination. Following analysis of 299 samples from 170 patients, researchers found that most metastases disseminate late in the evolution of the tumour, and, despite increasing diversity, contain many of the same driver mutations as the original tumour. However, investigators also noted the emergence of JAK–STAT pathway-inactivating mutations in metastases, but not in primary tumours, suggesting that this pathway is involved in disease progression.

ORIGINAL ARTICLE Yates, L. R. *et al.* Genomic evolution of breast cancer metastasis and relapse. *Cancer Cell* **32**, 169–184 (2017)

BRAIN CANCER

Temozolomide improves outcomes

Data from a phase III trial involving patients with 1p/19q non-co-deleted anaplastic glioma indicate that adjuvant temozolomide, administered either concurrent with, or immediately following radiotherapy, provides a significant improvement in overall survival duration, compared with radiotherapy alone (HR 0.65; $P = 0{\cdot}0014$). Grade 3–4 adverse events, which were mostly haematological, were observed in 8–12% of patients. Whether or not temolozomide administered concurrently with radiotherapy is superior to temozolamide following radiotherapy has yet to be revealed.

ORIGINAL ARTICLE van den Bent, M. J. *et al.* Interim results from the CATNON trial (EORTC study 26053-22054) of treatment with concurrent and adjuvant temozolomide for 1p/19q non-co-deleted anaplastic glioma: a phase 3, randomised, open-label intergroup study. *Lancet* http://dx.doi.org/10.1016/S0140-6736(17)31442-3 (2017)

PANCREATIC CANCER

TCGA data reveal a highly heterogeneous disease

An analysis from The Cancer Genome Atlas (TCGA) network has revealed the genomic landscape of pancreatic ductal adenocarcinoma (PDAC). An integrated genomic, transcriptomic and proteomic analysis revealed recurrent somatic mutations in a wide range of genes, including *TP53*, *CDKN2A* and *PBRM1*. Mutations in *KRAS* were observed in 93% of samples. Furthermore, considerable heterogeneity in oncogenic *KRAS* mutations was observed, including the presence of biallelic *KRAS* mutations and the identification of multiple *KRAS* mutations in the same individual cell. These findings confirm the biological complexity of PDAC.

ORIGINAL ARTICLE The Cancer Genome Atlas Research Network. Integrated genomic characterization of pancreatic ductal adenocarcinoma. *Cancer Cell* http://dx.doi.org/10.1016/j.ccell.2017.07.007 (2017)

BREAST CANCER

AKT inhibition effective against TNBC

The findings of a phase II trial indicate that the AKT inhibitor ipatasertib is superior to placebo in patients with metastatic triple-negative breast cancer. Patients receiving ipatasertib had a median progression-free survival of 6.2 months, versus 4.9 months in patients who received placebo ($P = 0.037$). Grade 3 diarrhoea was the commonest serious adverse event, affecting 23% of patients in the ipatasertib group. These findings indicate the need for further investigations of the efficacy of ipatasertib.

ORIGINAL ARTICLE Kim, S. B. *et al.* Ipatasertib plus paclitaxel versus placebo plus paclitaxel as first-line therapy for metastatic triple-negative breast cancer (LOTUS): a multicentre, randomised, double-blind, placebo-controlled, phase 2 trial. *Lancet Oncol.* http://dx.doi.org/10.1016/S1470-2045(17)30450-3 (2017)