Nature Reviews Clinical Oncology **11**, 2 (2014); published online 19 November 2013;
doi:10.1038/nrclinonc.2013.221;
doi:10.1038/nrclinonc.2013.222;
doi:10.1038/nrclinonc.2013.223;
doi:10.1038/nrclinonc.2013.224

IN BRIEF

HAEMATOLOGICAL CANCER

Ponatinib active in *BCR–ABL*-positive disease

A phase II trial of the tyrosine kinase inhibitor ponatinib in >400 patients with accelerated-phase chronic myeloid leukaemia (CML), chronic-phase CML and Philadelphia-chromosome-positive acute lymphoblastic leukaemia (ALL) has shown significant results. In patients with chronic-phase CML, >50% experienced a major cytogenetic response and 46% experienced a complete cytogenetic response. In patients with ALL, 41% had a major haematological response and 47% had a major cytogenetic response. These results come as welcome news for these heavily pretreated patients with resistance or unacceptable adverse responses to dasatinib or nilotinib.

Original article Cortes, J. E. *et al.* A phase 2 trial of ponatinib in Philadelphia chromosome-positive leukemias. *N. Engl. J. Med.* doi:10.1056/NEJMoa1306494

GENETICS

New mutations identified in intrahepatic cholangiocarcinoma

Exome sequencing of 32 intrahepatic cholangiocarcinomas has revealed recurrent inactivating mutations in several genes involved in chromatin remodelling—such as in *BAP1*, *ARID1* and *PBRM1*—that were previously unknown in this cancer. Dysfunctional metabolism has also been implicated in this cancer type with the identification of mutations in *IDH1* and *IDH2*, which encode isocitrate dehydrogenase. Finally, nine of the tumours in this study harboured *TP53* mutations.

Original article Jiao, Y. *et al.* Exome sequencing indentifies frequent inactivating mutations in *BAP1*, *ARID1A* and *PBRM1* in intrahepatic cholangiocarcinomas. *Nat. Genet.* doi:10.1038/ng.2813

GYNAECOLOGICAL CANCER

Cediranib improves survival in relapsed ovarian cancer

The results of the ICON6 trial were presented in abstract form at the recent NCRI Cancer Conference in Liverpool, UK. The phase III trial randomly assigned 456 women with relapsed, platinum-sensitive ovarian cancer after platinum chemotherapy to receive placebo (group 1), the VEGFR inhibitor cediranib during chemotherapy then placebo (group 2) or cediranib followed by maintenance with cediranib (group 3). The progression-free survival was 9.4 months in group 1, 11.4 months in group 2 and 12.6 months in group 3 (all significant). Common adverse effects in cediranib-treated women included hypertension and diarrhoea.

Original article Ledermann, J. A. *et al.* Randomised double-blind phase III trial of cediranib (AZD 2171) in relapsed platinum sensitive ovarian cancer: results of the ICON6 trial [abstract]. 2013 NCRO Cancer Conference, Liverpool, UK

GENETICS

Aetiology might dictate mutation in biliary duct cancer

A study of >200 cholangiocarcinomas has revealed marked differences in the mutational patterns between cancers caused by *Opisthorchis viverrini* infection and those without infectious aetiologies. Namely, *BAP1*, *IDH1* and *IDH2* mutations were more common in noninfectious cancers, whereas *TP53* mutations were common within the *O. viverrini*-related cancers. These results show how certain environmental exposures can dramatically change the somatic mutational landscape of this common hepatic cancer.

Original article Chan-on, W. *et al.* Exome sequencing identifies distinct mutational patterns in liver fluke-related and non-infection-related bile duct cancers. *Nat. Genet.* doi:10.1038/ng.2806