Nature Reviews Clinical Oncology **11**, 441 (2014); published online 1 July 2014;
doi:10.1038/nrclinonc.2014.113;
doi:10.1038/nrclinonc.2014.114;
doi:10.1038/nrclinonc.2014.115

IN BRIEF

GASTROINTESTINAL CANCER

Benefits of *H. pylori* treatment on incidence and mortality

It has been known for some time that *Helicobacter pylori* (*H. pylori*) infection can cause gastric cancer, and that treatment with antibiotics can prevent the development of this tumour. However, the long-term effects of eradicating *H. pylori* and its effects on incidence and mortality from gastric cancer are not known. Now, a study among 2,258 individuals seropositive for *H. pylori* who received a single treatment of amoxicillin and omeprazole has revealed that this treatment was associated with a statistically significant decrease in the incidence of gastric cancer as well as mortality compared with placebo. The benefits of one-time treatment in older patients (>55 years) were also noted even in individuals who had post-treatment infection, indicating this treatment can benefit the entire population.

Original article Li, W.-Q. *et al*. Effects of Helicobacter pylori treatment on gastric cancer incidence and mortality in subgroups. *J. Natl Cancer Inst*. doi:10.1093/jnci/dju116

BRAIN CANCER

Intratumoural heterogeneity in primary glioblastoma

For years we have known that tumours are very heterogeneous, but quantifying the varied molecular composition of tumours has been difficult. Using a single-cell RNA sequencing technique to profile 430 cells from five primary glioblastoma samples, researchers have now quantified the high level of variation in the expression of diverse transcriptional outputs related to signalling, cell proliferation, immune response and hypoxia. A high degree of variability of these transcriptional classifiers was noted across the different cells, highlighting the importance and underappreciated prognostic implications that intratumoural heterogeneity has in terms of glioblastoma biology, prognosis and the treatment of this disease.

Original article Patel, A. P. *et al*. Single-cell RNA-seq highlights intratumoural heterogeneity in primary glioblastoma. *Science* doi:10.1126/science.1254257

BREAST CANCER

Crucial role of myosin X in aggressiveness and metastasis

Myosin X (MYO10) promotes tumour invasion by transporting integrins to filopodial tips in breast cancer cells. The role of MYO10, however, is not well defined. By examining the expression of MYO10 in breast cancer cells and clinical samples, with the aid of a fluorescein-based assay and a xenograft mouse model, the mechanism underlying the effects of MYO10 have started to become clear. Researchers have shown that elevated levels of MYO10 correlated with hormonal receptor expression status (oestrogen and progesterone) as well as poor cellular differentiation and lymph-node metastasis. When MYO10 was silenced, cell migration and invasion was reduced. In a mouse model, silencing of MYO10 decreased levels of invasive growth and lung metastases. The ability of MYO10 to promote invasion was shown to be associated with invadopodia. Thus, high levels of MYO10 increase breast cancer aggressiveness by forming invadopodia.

Original article Cao, R. *et al*. Elevated expression of myosin X in tumours contributes to breast cancer aggressiveness and metastasis. *Br. J. Cancer* doi:10.1038/bjc.2014.298