

Nature Reviews Clinical Oncology **10**, 547 (2013); published online 13 August 2013;
 doi:10.1038/nrclinonc.2013.149;
 doi:10.1038/nrclinonc.2013.150;
 doi:10.1038/nrclinonc.2013.151

IN BRIEF

HAEMATOLOGICAL CANCER

Induction with bortezomib improves response in myeloma

A meta-analysis of phase III data in patients with multiple myeloma who were eligible for autologous stem-cell transplantation has shown that bortezomib induction is the superior induction treatment option available. Patient-level data from three major studies (IFM 2005-01, HOVON-65/GMMG-HD4 and PETHEMA) and >1,500 patients were included in the analysis, which compared bortezomib–dexamethasone, vincristine–doxorubicin–dexamethasone, bortezomib–doxorubicin–dexamethasone, bortezomib–thalidomide–dexamethasone and thalidomide–dexamethasone regimens. Bortezomib-based induction extended progression-free survival and overall survival compared with non-bortezomib-based regimens, and was well tolerated. Importantly, these regimens improved responses of patients who received the stem-cell transplantations compared with the alternatives.

Original article Sonneveld, P. *et al.* Bortezomib-based versus nonbortezomib-based induction treatment before autologous stem-cell transplantation in patients with previously untreated multiple myeloma: a meta-analysis of phase III randomized, controlled trials. *J. Clin. Oncol.* doi:10.1200/JCO.2012.48.4626

LUNG CANCER

High-volume centres associated with best outcomes

Although the association of high-volume centres with superior outcomes has been established in numerous countries for numerous cancer types, a new study has confirmed this relationship in England in hospitals treating patients with non-small-cell lung cancer (NSCLC). Data from 12,862 patients who underwent surgical resection for their tumours between 2004 and 2008 were analysed, from a total pool of >134,000 patients with NSCLC. Hospitals performing >150 resections per year had higher rates of survival than those performing <70 (hazard ratio [HR] 0.78, 95% CI 0.67–0.90). Furthermore, high-volume centres achieved these superior results despite having patients who were older, had lower socioeconomic status and more comorbidities than low-volume centres.

Original article Lüchtenborg, M. *et al.* High procedure volume is strongly associated with improved survival after lung cancer surgery. *J. Clin. Oncol.* doi:10.1200/JCO.2013.49.0219

BASIC RESEARCH

Plausible mechanism for chemoradioprotection identified

New research has shown that two proteins—Slit2 (purported to be involved in cellular migration) and R-spondin 1 (a Wnt agonist)—impart a protective effect on intestinal stem cells (ISCs) in mice treated with high doses of chemoradiation. Indeed, depleting the Slit2 receptor Robo1 resulted in a reduction in ISC number and caused villus hypertrophy. By contrast, administration of R-spondin 1 and Slit2 mitigated ISC loss after chemoradiation in mice. Importantly, manipulating the levels of these proteins did not adversely affect the sensitivity of tumours in *Apc^{Min/+}* mice with spontaneous intestinal adenomas, which bodes well for R-spondin 1 and Slit2 as potential adjuvant therapies to reduce gut toxicity in patients with cancer.

Original article Zhou, W.-J. *et al.* Induction of intestinal stem cells by R-spondin 1 and Slit2 augments chemoradioprotection. *Nature* doi:10.1038/nature12416