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IN BRIEF

HAEMATOLOGICAL CANCER

Specific clones proliferate after induction therapy

New data from a next-generation-sequencing study of 15 patients with acute myelogenous leukaemia (AML) has revealed that a subset of patients with clearance of the founding AML clone after induction chemotherapy also develop expansion of a genetically unrelated population of clones. Non-leukaemic, haematopoietic cells harbouring the mutations observed in these newly-expanded populations were detectable at very low levels prior to induction therapy, suggesting that the presence of certain mutations in haematopoietic cells confers a selective survival advantage, and increased proliferation after induction chemotherapy.

ORIGINAL ARTICLE Wong, T. N. *et al.* Rapid expansion of pre-existing non-leukemic hematopoietic clones frequently follows induction therapy for *de novo* AML. *Blood* doi:10.1182/blood-2015-10-677021.

LUNG CANCER

Gene therapy can be safely delivered in mice

A lack of safe, effective methods of delivery of gene therapy remains a barrier to clinical implementation. Now, a nonviral cell-penetrating peptide consisting of polylysine K9, complexed with angiotensin II type 2 receptor (*AGTR2*) plasmid DNA and condensed with calcium chloride, has been shown to effectively deliver the *AGTR2* gene to various cancer cell lines. This effect was confirmed in orthotopic cancer grafts in syngeneic mice, in which gene therapy was successfully delivered, either using intravenous injection or intratracheal spray. *AGTR2* expression was predominantly detected in cancer cells or bronchial epithelial cells and, importantly, was associated with attenuated growth of lung tumours.

ORIGINAL ARTICLE Alhakamy, N. A. *et al.* AT2R gene delivered by condensed polylysine complexes attenuates lewis lung carcinoma after intravenous injection or intratracheal spray. *Mol. Cancer Ther.* doi:10.1158/1535-7163.MCT-15-044.

BREAST CANCER

Antipsychotic agent supresses metastatic TNBC

Penfluridol, a first-generation antipsychotic agent, has been shown to induce apoptosis in several triple-negative breast cancer (TNBC) cell lines, and in three different *in vivo* tumour models, including two models of metastases to the brain, where the presence of the blood–brain barrier limits the effectiveness of many conventional chemotherapies. Further analyses revealed reduced integrin β4 expression, suggesting that the antitumour effects of penfluridol occur through inhibition of integrin signalling.

ORIGINAL ARTICLE Ranjan, A. *et al.* Penfluridol: an antipsychotic agent suppresses metastatic tumor growth in triple negative breast cancer by inhibiting integrin signaling axis. *Cancer Res.* doi:10.1158/0008-5472.CAN-15-1233.

HAEMATOLOGICAL CANCER

SCT ameliorates the effects of *FLT3*–ITD in AML

Approximately 25% of patients with acute myelogenous leukaemia (AML) also have internal tandem duplication of the *FLT3* gene (*FLT3*–ITD); these patients typically have shorter overall survival compared with those who lack this aberration. Findings of a newly published retrospective review of cases reveal that patients with AML who received stem-cell transplantation between 2007 and 2011 had similar 4-year overall survival and relapse rates, regardless of *FLT3*–ITD mutation status.

ORIGINAL ARTICLE Berman, E. *et al.* Stem cell transplantation in adults with acute myelogenous leukemia, normal cytogenetics, and the *FLT3*-ITD mutation. *Leuk. Res.* doi: 10.1016/j.leukres.2015.11.010.