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IN BRIEF

CHEMOTHERAPY

Photodynamic therapy plus S-1 for hilar cholangiocarcinoma

Hilar cholangiocarcinoma is a rare cancer with an increasing incidence. In the palliative setting for patients with unresectable hilar cholangiocarcinoma, photodynamic therapy (PDT) is a treatment approach. However, little is known about the role of adding systemic chemotherapy to PDT. In a phase II randomized study, 21 patients were randomly assigned to receive PDT with S-1 chemotherapy or PDT alone. The 1-year survival rate for patients treated with the combination was significantly higher than for those receiving PDT alone (76.2% versus 32%, respectively). Importantly, the overall survival was also significantly improved for patients receiving PDT and S-1 (17 months versus 8 months). Progression-free survival was also prolonged with the combination, and the treatment was well tolerated. These promising results warrant further investigation of this combination in patients with unresectable hilar cholangiocarcinoma.

Original article Park, D. H. *et al.* Randomised phase II trial of photodynamic therapy plus oral fluoropyrimidine, S-1, versus photodynamic therapy alone for unresectable hilar cholangiocarcinoma. *Eur. J. Cancer* doi:10.1016/j.ejca.2014.01.008

RADIOTHERAPY

Postoperative radiotherapy for stage I breast cancer

For patients with stage I breast cancer, careful resection of tumour margins with a sector surgical technique is vital for a good outcome. Now, a study has investigated the long-term outcomes of the addition of postoperative radiotherapy for improving tumour control in 381 women with pT1N0 breast cancer. In this analysis, outcomes were assessed at 20 years of follow up. Postoperative radiotherapy was shown to benefit tumour control outcomes within the first 5 years of treatment. However, the cumulative incidence of first breast cancer was similar for both arms of the trial. Therefore, radiotherapy protects against disease recurrence in the first 5 years of follow up, but the similar recurrence rates beyond this point indicate that late recurrences are new tumours.

Original article Wickberg, A. *et al.* Sector resection with or without postoperative radiotherapy for stage I breast cancer: 20-year results of a randomized trial. *J. Clin. Oncol.* doi:10.1200/JCO.2013.50.6600

HAEMATOLOGICAL CANCER

Novel therapy provided by pan-PIM kinase inhibition

The PIM kinase family members have been shown to be oncogenic in mouse studies, and capable of driving the progression of haematological cancers in humans. Inhibition of all three PIM members has been proposed to be an effective treatment approach for haematological malignancies. A preclinical study in multiple-myeloma cells has shown that the potent and specific pan-PIM inhibitor, LGB321, was able to prevent inhibition of mTOR-C1 signalling and phosphorylation of the downstream component BAD. In a xenograft mouse model of acute myeloid leukaemia, the LGB321 inhibitor demonstrated potent and selective pan-PIM single agent activity and was also shown to synergize with cytarabine—part of the standard treatment for this disease. These results support the further development of pan-PIM inhibitors for treating haematological malignancies.

Original article Garcia, P. D. *et al.* Pan-PIM kinase inhibition provides a novel therapy for treating hematological cancers. *Clin. Cancer Res.* doi:10.1158/1078-0432.CCR-13-2062