

THYROID CANCER

Pazopanib alone is not effective against anaplastic thyroid cancer

Pazopanib monotherapy is not effective for treating advanced anaplastic thyroid cancer (ATC), according to new research. “Kinase inhibitors such as pazopanib have impressive clinical activity in differentiated thyroid cancer—from which ATC is thought to arise,” says Keith Bible of the Mayo Clinic Rochester, USA. “Therefore, we wanted to investigate pazopanib activity in ATC.”

The researchers had previously shown that pazopanib has single-agent activity against ATC *in vitro*. In their new study, KTC2 ATC cells were implanted into nude mice. Pazopanib therapy inhibited tumour growth in these mice. These findings provided the rationale for assessing pazopanib monotherapy for human ATC in a single-arm, multicentre, phase II trial in which 15 patients were treated with this drug. The investigators had planned to enrol more patients, but the trial was stopped early because of poor antitumour activity of pazopanib.

Treatment was discontinued owing to disease progression in 12 patients and treatment intolerance in two others. Another patient died from haemorrhage, which was possibly treatment-related. Despite several transient tumour reductions, no responses were confirmed according to the Response Evaluation Criteria in Solid Tumours.

Although the researchers do not recommend pazopanib as a monotherapy for ATC, the drug does seem to improve the effects of paclitaxel in ATC mouse models. “A phase II trial of radiotherapy, paclitaxel and pazopanib is underway to assess this more aggressive therapeutic approach in humans,” says Bible.

Andy McLarnon

Original article Bible, K. C. *et al.* A multinational phase 2 trial of pazopanib monotherapy in advanced anaplastic thyroid cancer. *J. Clin. Endocrinol. Metab.* doi:10.1210/jc.2012-1520