Pyrotinib versus lapatinib in HER2-positive breast cancer

Patients with previously treated HER2-positive relapsed or metastatic breast cancer have significantly better outcomes when treated with pyrotinib plus capecitabine than with lapatinib plus capecitabine, according to a recent study.

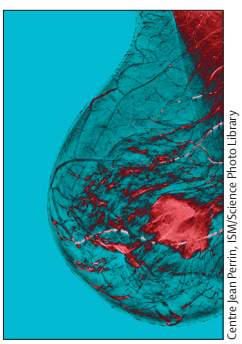
In the randomised, open-label, phase 2 trial, Fei Ma (Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China) and colleagues enrolled 128 patients from 11 hospitals in China with HER2-positive relapsed or metastatic breast cancer who had been previously treated with taxanes, anthracyclines, or trastuzumab, or a combination. Patients were randomly assigned (1:1) to receive either pyrotinib 400 mg (n=65) or lapatinib 1250 mg (n=63) once daily for 21-day cycles; both drugs were prescribed orally in combination with oral capecitabine 1000 mg/m² twice daily on days 1–14 of each cycle. The primary endpoint was investigator-assessed overall response.

Significantly more patients achieved an overall response in the pyrotinib group than in the lapatinib group (78·5% [51 of 65; 95% CI 68·5–88·5] *vs* 57·1% [36 of 63; 44·9–69·4]; treatment difference 21·3% [95% CI 4·0–38·7; p=0·01]). Median progression-free survival—a secondary endpoint—was also significantly longer with pyrotinib than with lapatinib (18·1 months [95% CI 13·9–not reached] *vs* 7·0 months [5·6–9·8]; hazard ratio 0·36 [95% CI 0·23–0·58], p<0·001). Grade 3–4 adverse events occurred in 41 (61·3%) of 65 patients in the pyrotinib group and 30 (47·6%) of 63 in the lapatinib group, the most common of which was hand-foot syndrome (16 [24·6%] *vs* 13 [20·6%]).

Coauthor Binghe Xu (Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China) said, "We are expecting an ongoing phase 3 trial (NCT03080805) to validate the superiority of pyrotinib plus capecitabine versus lapatinib plus capecitabine…in patients with HER2-positive breast cancer previously treated with trastuzumab and taxanes."

"With almost half of trastuzumab-naive patients and no patient with prior exposure to pertuzumab or T-DM1 enrolled, the main limitation of these results is generalisability," commented Filippo Montemurro (Candiolo Cancer Institute, Turin, Italy). "The increase in objective responses and progression-free survival over lapatinib and capecitabine is impressive, yet a study in a population that more closely represents the current setting for anti-HER2-TKI therapy is warranted."

Elizabeth Gourd



Centre Jean Perrin, ISM/Science Photo Library

Published **Online** August 30, 2019 http://dx.doi.org/10.1016/S1470-2045(19)30568-6

For the **study by Ma and colleagues** see *J Clin Oncol* 2019; published online Aug 20. DOI:10.1200/JCO.19.00108