Perspective for PRIME study

Panitumomab differs from cetuximab in two aspects: it is a fully humanized monoclonal antibody while cetuximab is a chimeric one. The other difference is their isotypes with panitumomab being of IgG2 and cetuximab IgG1. IgG1 monoclonal antibody tends to activate compliment pathway and antibody-dependent cellular cytotoxicity (ADCC). There are anecdotal reports on successful administration of panitumomab to patients who are intolerant to cetuximab due to infusional reaction.

There is no direct comparison between cetuximab and panitumomab when added to chemotherapy in first line treatment for mCRC. In patients with wild-type K-ras, hazard ratio (HR) for progression for panitumomab added to FOLFOX in the PRIME study was 0.8. HR for progression for cetuximab when added to FOLFOX (OPUS) was 0.57, while HR for progression for cetuximab when added to FOLFIRI (CRYSTAL) was 0.68. A phase III study comparing the two agents in patients with wild-type K-ras who have failed multiple lines of chemotherapy is on-going.

BRAF V600E mutation has been associated with panitumomab resistance in wild-type K-ras patients. PIK3CA and PTEN are other potential biomarkers for response to anti-EGFR monoclonal antibody therapy in mCRC.

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