Phosphorylated ERK (pERK) as biomarker in patients with advanced pancreatic cancer treated with erlotinib within a randomized phase III trial (AIO-PK0104)

Abstract: # 189

Molecular and Statistical Methods

- **pERK Expression**
  - Immunohistochemistry (IHC) assay using the Phospho-pERK/42-44MAPK (E10) rabbit monoclonal antibody (Clone C21, Cell Signaling Technology, 2011). Staining was evaluated on the Ventana UltraViolet A platform.
  - Scoring performed centrally and blinded to IHC.
  - Nuclear expression (staining intensity & % of positive cells)
  - Statistical analysis: FFPE samples with a score of 0-12 were defined as pERK-negative (pERK-), and samples with a score of ≥13 were defined as pERK-positive (pERK+).

- **pERK Expression in FFPE Tissue**
  - pERK expression may have an impact on OS of APC trials treated with the anti-EGFR agent erlotinib.

Trial Design and Treatment

- **Experimental arm**
  - Capecitabine + erlotinib → Gemcitabine
  - 2 x 1000 mg orally d1-14, 2x3 weeks
  - Erlotinib: 150 mg orally daily

- **Reference arm**
  - Gemcitabine + erlotinib → Capecitabine
  - 1300 mg weekly × 7 days, followed by 1000 mg q2w × 4x4 weeks
  - Erlotinib: 150 mg orally daily

Patient Characteristics

- **TTF2 and OS Correlation**
  - Median OS: 11.8 vs. 6.9 months

- **pERK and OS**
  - Continued variable (Ca Model)

Conclusions

- Besides KRAS, also the pERK expression level seems to impact overall survival in erlotinib-treated patients with advanced pancreatic cancer.
- It remains unclear if the association of pERK with overall survival is a prognostic phenomenon, or a predictive factor for the efficacy of erlotinib.
- pERK expression has no impact on objective response or the occurrence of skin rash.
- External, prospective validation of these hypothesis-generating results is recommended.

[References and tables provided in the original document.]