Thymidine Phosphorylase expression is associated with time to progression in patients receiving docetaxel-modulated capecitabine for metastatic breast cancer

Fabio Puglisi, Giovanni Cardellino, Carla Di Loreto, Davide Lombardi, Tiziana Perin, Cinzia Puppin, Claudia Andreatta, Stefania Russo, Alessandro Minisini, Mauro Mansutti, Stefano Pizzolitto, Gianna Adami, Mariachiara Dipasquale, Andrea Veronesi

Department of Oncology and Institute of Pathology, University Hospital of Udine, Italy. CRO di Aviano, Aviano (PN), Italy.

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Background & Objectives

Thymidine phosphorylase (TP) is a key enzyme of the three-step metabolic cascade that converts the oral pro-drug capecitabine to the active form 5-fluorouracil (5-FU).

Eligibility criteria (Phase II study)

• Histological proven breast cancer
• Measurable metastatic disease by RECIST criteria
• No more than one chemotherapy line for MBC
• Previous anthracycline treatment

Chemotherapeutic regimen

Capecitabine orally 625 mg/m² bid, days 8 to 21. Docetaxel 35 mg/m² i.v., days 1, 8, and 15. Cycles were repeated every 4 weeks.

Results

47 pts were enrolled into the phase II study.

A subgroup analysis confirmed TTP benefit in patients with TP-positive tumors obtaining a tumor response (log-rank test, p=0.009).

No association was found between TP mRNA expression and TTP.

Conclusion

This analysis provides preliminary evidence that, at least in breast cancer, TP expression may be a predictive marker of benefit from capecitabine-based chemotherapy.

References