

MP08-14 Metabolomic approach to elucidate mechanisms of acquired resistance to sunitinib in renal cell carcinoma

Tomonori Sato¹, Yoshihide Kawasaki¹, Masamitsu Maekawa², Shinya Takasaki², Shuichi Shimada¹, Kento Morozumi¹, Masahiko Sato¹, Naoki Kawamorita¹, Shinichi Yamashita¹, Koji Mitsuzuka¹, Nariyasu Mano², Akihiro Ito¹

1 Department of Urology, Tohoku University Graduate School of Medicine, Sendai, Miyagi, Japan 2 Department of Pharmaceutical Sciences, Tohoku University Hospital, Sendai, Miyagi, Japan



AUA VIRTUAL EXPERIENCE

Introduction

- Identification of increasing metabolites accompanying cancer progression would be a novel therapeutic targets.
- In RCC, the relation between sunitinib resistance and cellular metabolism has not been fully elucidated.
- The present study aimed to determine possible mechanisms of resistance to sunitinib focus on cancer metabolites in RCC.

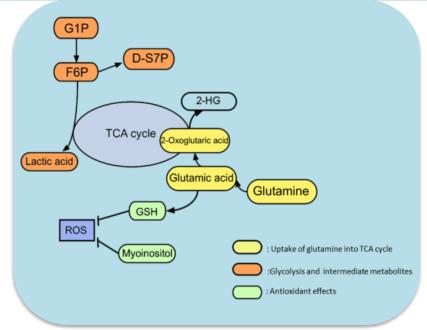
Methods

 Intracellular metabolites were identified by LC-MS from cell lines extracted from mouse model acquired with sunitinib resistance.

AUA VIRTUAL EXPERIENCE

Results

 Energy metabolism with glutamine uptake and glycolysis upregulation, as well as antioxidant activity, contributed to the mechanism of sunitinib-resistance.



 The expression of SLC1A5 (a transporter that carries glutamine into cells) was significantly increased in sunitinib-resistance cell compared to control cell.