INTRODUCTION

Chemotherapy is a critical approach in the treatment of advanced or recurrent endometrial cancer. The use of chemotherapy is now the standard treatment for women with early-stage disease. However, there are no agents approved by the US Food and Drug Administration for the metastatic setting of endometrial cancer, which has a very low chance to be treated with success. Due to the great expectation on novel targeting agents in advanced endometrial cancer, new drugs against specific molecular pathways with particular focus on PI3KCA/AKT/mTOR axis are emerging as promising treatments for endometrial cancer with aggressive phenotype [1]. The very issue is the lack of progress in cancer treatment due to the heterogeneity and the genetic complexity of many tumours leading to an urgent knowledge of the molecular profile of an individual’s tumour to guide appropriate treatment selection.

We have read with enthusiasm the article by Slomovitz et al published in Journal of Clinical Oncology on January 26, 2015 where it was reported the increased clinical benefit rate with the combination of letrozole and everolimus in women with recurrent endometrial cancer along with a manageable toxicity [2]. Moreover, patients with endometrioid histotype carrying the CTNNB1 mutations underwent to a good response to treatment. On the counterpart the serous histology did not respond with the same rate to mTOR inhibition; moreover they have not identified based on the molecular analysis they performed a possible responsive-subtype of the serous cancer. The Cancer Genome Atlas has led to the molecular reclassification of endometrial cancer. These genomic advances are determinant for the proper selection of the adequate therapy in the future of the patient care.
Criteria, stable disease longer than 12 months in line with the positive data from the recent progression free survival analysis from the BOLERO-2 trial [7]. These results suggest that longer stable disease maybe achieved in the absence of a direct alteration in the PI3K/AKT/mTOR pathway, even when multiple molecular aberrations are present. However, FGFR2 may modulate the PIK3CA/AKT/mTOR axis perhaps explaining in part the response. Slomovitz et reported that only few patients with serous endometrial cancer responded to the combination of letrozole/everolimus and maybe they were FGFR 1 or 2 amplified. Thus, the combination of everolimus and aromatase inhibitors has the chance to show some activity in the particular subtype of EC as the FGFR2+ve serous carcinoma. Tumors with ER expression are dependent upon downstream growth factor signaling and may respond better with the addition of molecular inhibitors based on the proper target selection. Indeed, our reports encourage the perspective investigation of combination of everolimus along with hormone-therapy in pre-treated FGFR2+ recurrent endometrial cancer patients. Specific molecular analysis with focus on FGFR signalling in serous endometrial cancer is mandatory.

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**CONFLICTS OF INTERESTS**

There are no financial or other interests with regard to the submitted manuscript that might be construed as a conflict of interest and authorization has been given to use any information conveyed by either personal communication or release of unpublished experimental data.

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Author/s: Cappelletti, MR; Gnetti, L; Santini, D; Spada, D; Fox, SB; Generali, D

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