Combination epigenetic therapy for recurrent platinum resistant-platinum refractory epithelial ovarian cancer

Ovarian cancer is the most lethal gynecologic malignancy. Epithelial ovarian cancer (EOC) which is the most common histologic type has 5-year survival for all stages at 45.6%. This rate increases are about 70% in the minority of patients who are diagnosed at an early stage, but declines to 35% in most patients diagnosed at advanced stage. The standard treatment is primary surgery followed by platinum-based chemotherapy. In recurrent platinum-resistant/platinum-refractory EOC, sequential single-agent salvage chemotherapy is the standard of therapy, however none achieves the desired prognostic and curative effect. Currently, the impact of targeted therapies and immunotherapies on progression-free survival and overall survival, is under investigation. A new treatment modality is needed to achieve satisfactory oncologic outcomes. Triple therapy; sensitization for immune checkpoint therapy following combined inhibition of DNMT1 and EZH2 induces ovarian cancer cells to express CXC-motif chemokine 9 (CXCL9) and CXCL10, which can stimulate T helper 1 cells. This chemokine upregulation induces the attraction of tumourinfiltrating lymphocytes (TILs), which leads to the killing of tumor cells when combined with immune checkpoint therapy such as CTLA4 immune check antibody. This regimen demonstrated significant therapeutic synergy and durable treatment responses. In conclusion, the epigenetic drugs target the epigenome, and this lessens the need for precision approaches to individualized cancer therapy.

Biography
Samir A Farghaly is a Professor/Physician/Scientist and national and international expert in Obstetrics and Gynecology at Joan and Sanford I Weill College of Medicine, Sandra and Edward Meyer Cancer Center and, the New York Presbyterian Hospital/Weill Cornell Medical Center- Cornell University, New York, USA. He has received his MD from London University and his PhD degree in Molecular Biology from London University. He was affiliated with major London University teaching hospitals, Columbia University College of Physicians and Surgeons/Columbia University Medical Center, New York, USA. He has been an invited speaker at several national and international conferences on Women’s Health, Molecular Genetics of Female Cancers, Gynecological Cancer, and Oncologic Radical Surgical Techniques. He is a member of several national and international societies, organizations, foundations of Women Health and Cancer. He is the founding Editor-in Chief of Insights in Gynecologic Oncology Journal, and Enliven Challenges in Cancer Detection and Therapy Journal. He acts as Senior Editor/Editor and member of editorial boards, editorial advisory boards of 18 international medical journals on Gynecological Cancers, Gene expression and Therapy, Women's Health, and Gynecology. He acted as Guest Editor of 4 special issues of international medical journals on Oncology, Gynecology and Gene Therapy. He is a reviewer for several medical journals on Obstetrics & Gynecology, Molecular Genetics and Therapy, Oncology, and Surgery. He has published 105 articles in reputed peer review journals. He has written several book chapters, and is an author and editor of (2) books on Ovarian Cancer published in 2012, and the third one published in Nov. 2013. The fourth book on Endometrial Cancer was published in January 2015. The fifth book on Recent Advances in Diagnosis and Management Gynecologic Cancers was published in March 2016, the sixth book on Ovarian Cancer Immunotherapy will be published in November 2017, and the seventh book on Uterine Cervical Cancer will be published in Feb. 2018.

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