Atezolizumab with chemoradiation is safe and demonstrates signs of immune activation in women with cervical cancer

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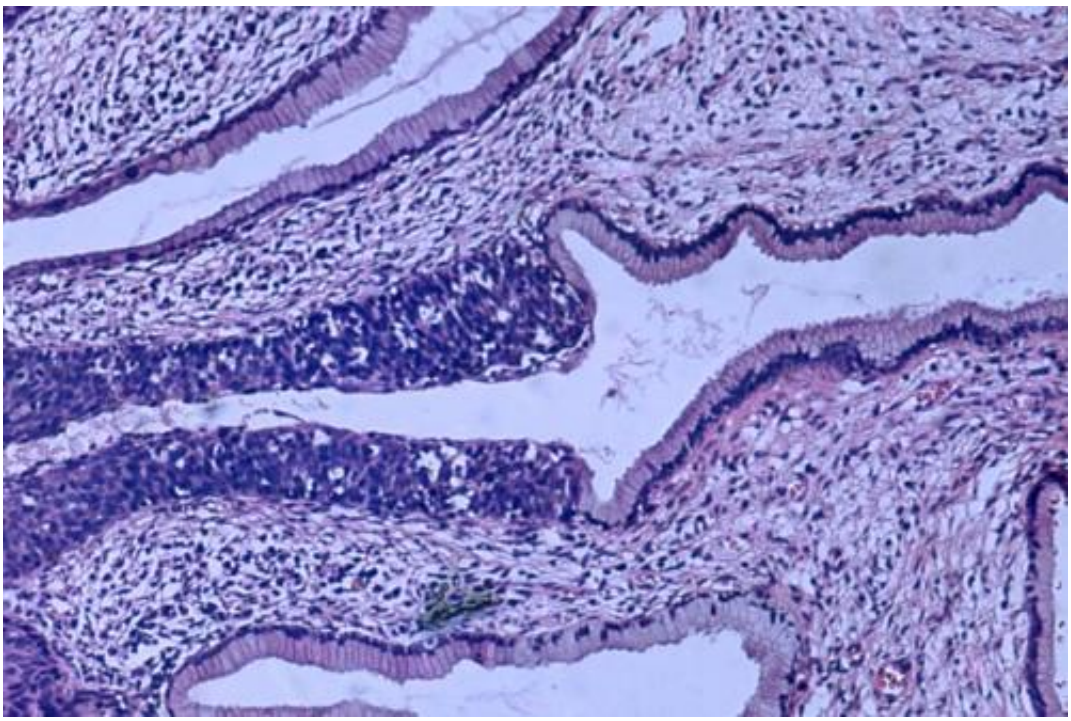

High grade dysplasia (carcinoma in situ) in the uterine cervix. The abnormal epithelium is extending into a mucus gland to the left of centre. This disease can progress to invasive cancer (squamous cell carcinoma) of the cervix. Credit: Haymanj/public domain

A Phase I/Ib trial conducted by the National Cancer Institute (NCI) National Clinical Trials Network (NCTN) group NRG Oncology, NRG-

GY017, concluded that the addition of the immunotherapy drug atezolizumab prior to and concurrently given with chemoradiation (CRT) treatment was safe for women with node-positive, locally advanced cervical cancer. Trial data also showed that combination of atezolizumab with CRT exhibited immune-modulating activity. These findings were presented during the Plenary Session of the Society for Gynecologic Oncology's (SGO) Annual Meeting on Women's Cancer in March 2022.

"The goal of NRG-GY017 was to investigate peripheral blood T cell receptor (TCR) clonal expansion in response to chemoradiation and immunotherapy, and to establish the safety and efficacy of atezolizumab (Anti PDL-1) immunotherapy as a primer to CRT combined with atezolizumab. This trial gives insight into the immunological basis for therapy response. These results allow future research to consider immunotherapy and treatment sequencing in larger scale trials as a way of improving outcomes for this high-risk population of women," said Jyoti Mayadev, MD, of the University of California, San Diego, and the lead author of the NRG-GY017 abstract.

NRG-GY017 analyzed 36 eligible patients and randomly assigned patients to either Treatment Arm A where patients received three doses of atezolizumab (one prior to CRT, and two doses during CRT); or to Treatment Arm B where patients received all three doses of atezolizumab during CRT treatment. Tumor biopsies were taken before and during treatment, peripheral blood was collected, and dose limiting toxicities (DLT) were assessed for all eligible trial participants. In addition to safety and immunogenicity, researchers were also evaluating secondary objectives including toxicity and the predictive value of T-cell repertoire parameters for clinical outcomes.

The median follow-up for 36 patients was 20 months and 75% of patients completed all of the study treatment. On the study, 30 patients

were evaluable for DLTs: none of the 16 patients on Treatment Arm A exhibited DLTs and three of the 14 patients on Treatment Arm B reported to have a DLT (8%). Overall, three patients on Arm Treatment A and 10 patients on Treatment Arm B experienced a grade 3 or higher treatment-related adverse event with only one being immune related. There was an increase in peripheral blood T-cell receptor (TCR) clonal expansion and expansion of tumor-associated T-cell clones between the start of treatment and day 21 of CRT in Arm A (p=0.0001) and Arm B (p=0.001). Patients with higher pre-treatment TCR diversity had increased likelihood of complete pathologic response in on-treatment biopsy (p= 0.049).

Correlations between treatment schedule, T-cell repertoire parameters, and clinical outcomes will be reported at a later date as more data is collected in follow-up.

More information: Mayadev J, et al, Safety and immunogenicity of Anti PD-L1 (Atezolizumab) given as an immune primer or concurrently with extended field chemoradiotherapy for node positive locally advanced cervical cancer: an NRG Oncology trial. *Annual Meeting on Women's Cancer for the Society of Gynecologic Oncology* (2022).

Conference: www.sgo.org/events/annual-meeting/

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