Poster #11 | Patterns of genomic testing for epithelial ovarian cancer across a large community based health care network- a real world experience

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Topic: Genetics

Objectives
NCCN guidelines recommend germline and somatic tumor testing including homologous recommendation deficiency for all women with invasive epithelial ovarian cancer (EOC). However, an optimal approach for achieving these goals has not been identified. We elected to review the patterns of germline and somatic tumor tissue testing for patients with EOC across a large health care network to identify barriers to testing in anticipation of developing a comprehensive network wide testing strategy that would be effective in multiple settings.

Methods
Clinical, pathologic, demographic and genomic testing (GT) information including involvement of a genetic counselor, specific test(s) ordered, test vendor, test turn-around time, and test results were obtained from the diverse dataset within the Providence St. Joseph Health (PSJH) Electronic Medical Records and the system-wide cancer registry data mart. PSJH is the third largest non-profit health care system in the US and treats roughly 43,000 cancer patients annually across a 5 state region. Patients with a diagnosis of EOC (ICD C56.x) who had at least a single in-person visit to a PSJH oncology department or a PSJH oncologist for EOC during the period between January 2015 and January 2020 were identified. GT data was manually abstracted, where structured data was un-available; data were analyzed in aggregate and to evaluate for trends over time in patterns of testing.

Results
Within this EOC cohort (n=2,847), 1,1015 (36%) had GT results available in the EMR. Germline testing (GMT) was the initial testing approach in 714 (71%) of women tested, and 202 (28%) of the 728 women who had GMT first went on to have tumor tissue testing (TTT). Of the 291 patients who had TTT first, 73 (25%) went on to have GMT. GT rates increased over time but less than 50% of patients received GT at the end of the study interval. GT rates was largely influenced by an increase in somatic testing. Involvement of a genetic counselor (GC) increased uptake of GT, however, only 62% of patients completed recommended GC referral. GT was ordered from 17 different vendors and panel size and depth varied greatly. Median time from initial diagnosis to GT order date decreased over time and was 5 weeks and then 19 weeks in 2019 for GMT and then somatic TTT, respectively. The median time interval between GMT and TTT in patients who had both tests decreased from 150 weeks in 2015 to 14 weeks in 2019. Despite improvement in median time to testing, multiple outliers were observed.

Conclusions
The uptake of GT for EOC patients has increased over time but remains low. There is substantial heterogeneity in testing approach including the timing, sequencing, and ordering of tests. These findings highlight the importance and the challenges of developing a standardized testing approach across a diverse health care system.

Abstract Table or Graph
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