Mainstreaming Genetic Testing for Epithelial Ovarian Cancer by Oncology Providers: A Survey of Current Practice

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With significant deficits in early detection and poor treatment response, ovarian cancer is a devastating diagnosis for many women. However, knowledge of an affected individual's genetic status can have implications for treatment and prognosis. Up to 25% of epithelial ovarian cancer (EOC) is due to a hereditary predisposition, most commonly in *BRCA1* and *BRCA2*. Women with pathogenic variants in these genes have an enhanced response to platinum-based chemotherapy and poly ADP-ribose polymerase PARP inhibitors, leading to an improved prognosis. Additionally, due to a lack of effective screening methods, risk-reducing surgery is the most effective way to prevent development of EOC. Women with a pathogenic variant in *BRCA1* have a 45% lifetime risk of EOC, whereas the general population risk is only 1-2%. Identifying individuals who harbor pathogenic variants in ovarian cancer predisposition genes is therefore of critical importance.

Current National Comprehensive Cancer Network (NCCN) guidelines recommend that all individuals diagnosed with EOC be offered germline genetic testing. While this would ideally be performed by genetics professionals, a shortage of genetic counselors precludes timely access to these services. This study sought to investigate the current genetic testing practices of oncology providers in order to determine the feasibility of oncologist-led genetic testing for patients with EOC. A survey was distributed to members of the Society of Gynecologic Oncologists with questions regarding the timing, frequency, and type of genetic testing, referrals to genetics

professionals, confidence with aspects of genetics services, and any barriers that currently hinder these processes. Results of the study were encouraging, with the majority of providers always ordering genetic testing for patients with EOC and often using results to guide treatment. Testing was most commonly ordered at diagnosis and was typically multi-gene panel testing that included *BRCA1/2.* Provider confidence with the genetic testing process was generally high, especially for deciding which patients to referral to genetics professionals. Patient disinterest and lack of insurance coverage were commonly cited barriers to testing and referrals. Thus, oncologist-led genetic testing for patients with EOC, with referrals to genetics professionals for positive or otherwise complex results, has the potential to be a viable alternative service delivery model and warrants additional investigation.