Comparing Group and Individual Breast Cancer Genetic Counseling

Calzone KA, Prindiville SA, Jourkiv O, et al. Randomized comparison of group versus individual genetic education and counseling for familial breast and/or ovarian cancer. J Clin Oncol 2005;23:3455–64.

Study Overview

Objective. To determine whether pretest education and counseling for breast cancer genetics in a group setting is equivalent to that provided on an individual basis.

Design. Prospective randomized trial.

Setting and participants. 142 patients at the Breast Care Center at the National Naval Medical Center and the National Cancer Institute identified as high risk for harboring a *BRCA* mutation were randomized to group or individual education/counseling sessions. "High risk" was defined as patients with a known *BRCA* mutation, women aged ≤ 45 years with a diagnosis of breast cancer or ductal carcinoma in-situ or aged ≤ 50 years with a diagnosis of ovarian cancer, men with breast cancer at any age, or women affected with breast or ovarian cancer and who had a family history of cancer consistent with a prior probability of harboring a mutation of at least 10% by any peer-reviewed prior probability model. Group education was followed by individual counseling. Sessions were conducted by trained genetic advanced-practice nurses. At the conclusion of the sessions, patients were offered genetic testing. Knowledge of breast cancer genetics and genetic testing (using a modified tool developed by the National Human Genome Research Institute Cancer Genetics Studies Consortium) and psychological sequelae (using the Impact of Events Scales [IES]) were measured at baseline, 1 week, and at 3, 6, and 12 months.

Main outcome measures. Differences in knowledge and IES scores between study groups. Other measures included sociodemographics, health and family histories, genetic test results, patient satisfaction, preferred method of education, and time analysis.

Main results. There were no statistical differences between groups for the demographic variables assessed. Group sessions ranged from 2 to 10 patients (mean, 5 patients). 96% of participants opted to undergo genetic testing after education and counseling. 30 patients (22%) who were tested were found to have a deleterious mutation. There was no difference in changes in knowledge or IES scores between groups. There was also no difference detected when knowledge or IES scores were stratified by genetic test results. Regardless of group, post-test IES scores in patients with positive results were higher than in patients with negative or uninformative results, but scores returned to baseline by 12 months. Participants were equally satisfied with the method they were assigned. Significantly more time was spent per patient in individual sessions (1.25 hr) than in group education (0.74 hr).

Conclusion. Group education and counseling for breast cancer genetics may confer similar benefits compared with traditional individual sessions.

Commentary

BRCA1 and *BRCA2* are genes that are integral in repairing double-strand DNA breaks [1]. Mutations in these genes are responsible for the majority of inherited breast cancers. The estimated lifetime risk of developing breast cancer for women with a *BRCA* mutation is 40% to 80% [2]. As well, the estimated lifetime risk of developing ovarian cancer for women with *BRCA* mutations is 20% to 60%. Identifying patients with these mutations can be important in helping women plan preventative care, such as prophylactic mastectomy and/or oophorectomy—measures proven to reduce the risk of subsequent malignancy.

Testing for the presence of *BRCA* mutations is widely available. However, testing can be complicated for health care providers and patients in terms of medical decisions, family planning/relationships, insurance concerns, psychological stress, and limited time for counseling. Counselors trained in genetic testing can help address many of these issues in the clinic but are not widely available in the community.

One approach to remedy patients' limited access to trained counselors is to consider group counseling. In this study, Calzone and colleagues compared group and individualized counseling for patients at high risk for harboring a *BRCA* mutation. Differences in counseling sessions were assessed by measuring patient knowledge of genetics/testing and psychological stress associated with testing. The authors found no differences between groups. In addition, patients were equally

satisfied with group counseling, which, importantly, took less time to conduct.

It is worth recognizing that participants in group sessions went on to receive individualized counseling, albeit brief. This crossover effect potentially masked any true benefit (or weakness) of group counseling relative to individualized sessions. However, in the end, this combined approach saved time while achieving similar endpoints in comparison to individualized counseling. As well, the long-term benefits and weaknesses of these approaches to counseling are unknown because this study was limited to 12-month follow-up. Finally, it is possible that patients who agreed to enroll in this study were motivated to learn about genetic testing and sought additional outside resources, such as the internet, other professionals, or specific literature. If true, this may set participants apart from the larger group of patients in the community and raise questions about how effective group counseling would be in that setting.

One interesting finding in this trial was the relatively low rate of positive mutations (22%) in a group of patients deemed "high risk." This underscores the potential for overtesting patients. It is possible that this disparity is even greater in the community, where access to commercial testing is widely available and patients are not as formally screened.

Applications for Clinical Practice

Education and counseling is an important component of genetic testing and should be a part of any cancer genetic testing program.

–Review by David R. Spigel, MD

References

1. Venkitaraman AR. Cancer susceptibility and the functions of BRCA1 and BRCA2. Cell 2002;108:171–82.
2. Brose MS, Rebbeck TR, Calzone KA, et al. Cancer risk estimates for BRCA1 mutation carriers identified in a risk evaluation program. J Natl Cancer Inst 2002;94:1365–72.