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Comparing actionable results for breast and colorectal cancer patients across multigene panels.

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Abstract Text:

Background: Many multigene panel (MGP) options are available for hereditary cancer testing. Previously, management guidelines were only published for a few high-risk genes, but now such guidelines exist for most genes on MGPs. Many clinicians question which MGP(s) may be most appropriate for their patients. We examined the likelihood of a positive result for patients diagnosed with breast cancer (BC) or colorectal cancer (CRC) across several MGPs and assessed the potential impact of these results on patient care. **Methods:** Positive results, defined by the presence of at least one pathogenic or likely pathogenic variant, were assessed for patients with BC or CRC across various MGPs ordered 6/2012-6/2016 at one commercial laboratory. For BC, the MGPs used for comparison were a high-risk BC panel (up to 6 genes), a comprehensive BC panel (up to 17 genes), and a multi-cancer panel (up to 32 genes). For CRC, a comprehensive CRC panel (up to 17 genes) was compared to the 32 gene multi-cancer panel. **Results:** For both BC and CRC patients, the utilization of a MGP with more genes led to more positive results than a MGP with fewer genes, with the vast majority of additional findings occurring in genes with published management guidelines (Table).

Panel	Positive Rate	Positive rate in genes not included on smaller MGP	Positive rate in genes with published management guidelines not included on smaller MGP
BC			
High-risk	6.1%	--	--
Comprehensive	9.4%	54.8% (1276/2327)	87.3% (1114/1276)
Multi-cancer	11.3%	11.4% (175/1538)	99.4% (174/175)
CRC			
Comprehensive	12.2%	--	--
Multi-cancer	14.7%	37.1% (126/340)	86.5% (109/126)

Conclusions: The majority of positive results occurring in genes on larger MGPs, but not smaller MGPs, are in genes with published management guidelines. These results can impact treatment decisions and cancer risk management, including earlier and/or more frequent screening, chemoprevention, and/or other measures. In some cases, positive results occurred in genes not associated with the patient's cancer diagnosis, but may still impact risk management for other cancer(s). Further studies are needed to determine the impact of larger MGPs on clinical outcomes for patients and their families.

Title:

Comparing actionable results for breast and colorectal cancer patients across multigene panels.

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No

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No

Would like to be considered for a Merit Award:

No

Have the data in this abstract been presented at another major medical meeting?

No

Has this research been submitted for publication in a medical journal?

No

Type of Research:

Retrospective

Research Category:

Clinical

Continued Trial Accrual:

No

Received Grant funding:

No

Relevant to geriatric oncology:

No

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