The vast majority of individuals tested to date are female, about half of whom had no diagnosis of malignancy or colorectal polyps at the time of testing (Table 2).

- The most common diagnosis among women tested was breast cancer (35.1%) and ovarian cancer (8.2%).

- 98% of affected women had at least one PV identified, compared to 4.0% of unaffected women.

Table 2. Personal Cancer Histories of Individuals with Pathogenic Variants (PVs)

<table>
<thead>
<tr>
<th>Personal Cancer History</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>35.1%</td>
<td>2.2%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Ovarian Cancer</td>
<td>8.2%</td>
<td>1.8%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Colon Cancer</td>
<td>2.1%</td>
<td>0.3%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Endometrial Cancer</td>
<td>1.8%</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Esophageal Cancer</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Melanoma Cancer</td>
<td>1.5%</td>
<td>1.1%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Gastric Cancer</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Pancreatic Cancer</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- PVs are detected in close to 10% of all affected individuals as an outcome of clinical testing using this 25-gene panel.

- The positive rate in unaffected individuals is close to 5%, consistent with these individuals having at least one first-degree relative with a PV in one of the panel genes.

- The positive rate is significantly higher in men compared to women, probably due to the higher proportion of affected men and adherence to inclusive professional society guidelines for testing women at risk for hereditary breast and ovarian cancer.

- The most common diagnosis among men tested was prostate cancer (26.4%), followed by melanoma (18.3%).

- 98% of affected men had at least one PV identified, compared to 8.4% of unaffected men.

- Compared with testing for BRCA1 and BRCA2, the panel resulted in a 2.3-fold increase in the percentage of identified individuals with an increased risk for cancer.

- The positive rate in unaffected individuals is close to 5%, consistent with these individuals having at least one first-degree relative with a PV in one of the panel genes.

REFERENCES

- The majority of individuals being ascertained for testing for cancers that are less common, i.e. ovarian and colorectal, were found in 5,676 individuals.

- 5,803 PVs linked to an increased risk for cancer were found in 15,672 individuals.

- 7,692 PVs were identified in individuals with an increased risk for all cancers.

- 5,803 PVs linked to an increased risk for cancer were found in 15,672 individuals.

- The second highest percentage of PVs (26.4%) were detected in 1,311 individuals with a PV associated with breast cancer (i.e. BRCA1 and BRCA2), Lynch syndrome (i.e. MLH1 and MSH2), and Lynch syndrome (i.e. MSH6).

- 60% of individuals were ascertained for testing based on suspicion of either hereditary breast cancer or hereditary ovarian cancer (HBOC).

- Close to 90% of all PVs identified in this cohort are in genes for which there are explicit professional society recommendations for medical management.

- This is relatively rare for genes associated with very high cancer risks, i.e. BRCA1 and BRCA2, and more common for genes associated with lower cancer risk, i.e. MSH6 and MLH2.

- The most common diagnoses among women tested were breast cancer (35.1%) and ovarian cancer (8.2%).

- The second highest percentage of PVs (26.4%) were detected in 1,311 individuals with a PV associated with breast cancer (i.e. BRCA1 and BRCA2), Lynch syndrome (i.e. MLH1 and MSH2), and Lynch syndrome (i.e. MSH6).

- The 2% of PV carriers with findings in two different genes would probably not have been identified without panel testing.

- PVs in different families were found to have PVs in two genes – this includes individuals with biallelic MUTYH/PV. For more information on individuals with 2 PVs, see Poster #137.

- The positive rate in unaffected individuals is close to 5%, consistent with these individuals having at least one first-degree relative with a PV in one of the panel genes.

- The most common diagnosis among men tested was prostate cancer (26.4%), followed by melanoma (18.3%).

- 98% of affected men had at least one PV identified, compared to 8.4% of unaffected men.

- Compared with testing for BRCA1 and BRCA2, the panel resulted in a 2.3-fold increase in the percentage of identified individuals with an increased risk for cancer.

- The positive rate in unaffected individuals is close to 5%, consistent with these individuals having at least one first-degree relative with a PV in one of the panel genes.

- The positive rate is significantly higher in men compared to women, probably due to the higher proportion of affected men and adherence to inclusive professional society guidelines for testing women at risk for hereditary breast and ovarian cancer.

- The overall positive rate with panel testing is similar in individuals of all ancestries.

- The vast majority of individuals tested to date are female, about half of whom had no diagnosis of malignancy or colorectal polyps at the time of testing (Table 2).