WHAT'S NEW IN PATHOLOGY

Barrett's Esophagus FISH Panel

**Background**
A new FISH test is available to help identify those patients with Barrett’s esophagus (BE) who are at increased risk for progression to esophageal cancer.

**The Test**
Examines four probes in a panel to detect chromosomal gains and losses of MYC, p16, HER2 and ZNF217, genes that are associated with higher-risk disease. It compares patterns of chromosomal gains and losses in the patient’s sample to known patterns seen in adenocarcinoma and dysplasia to stratify BE patients into those with high grade dysplasia/adenocarcinoma or those with low grade dysplasia/no dysplasia.

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk</td>
<td>86%</td>
<td>67%</td>
</tr>
</tbody>
</table>

**Specimen collection**
This FISH test is performed on cytology brushings from BE. Two separate brushings should be submitted in PreserveCyt, one from the nodular area of BE and one from the complete affected area (pan brushing).

**Diagnostic Utility**
In patients with BE, it is often difficult to determine risk of progression to adenocarcinoma based on histology alone. Interobserver variability in the diagnosis of dysplasia and limited sampling on a small biopsy are among the current challenges of diagnosing dysplasia. This test adds information to determine the prognosis of BE, differentiate low grade from high grade dysplasia and determine the risk of progression to high grade dysplasia/adenocarcinoma in order to better manage BE patients.

**NORMAL**
A normal esophageal cell nucleus with the expected two signals from each probe.

**ABNORMAL**
An abnormal esophageal cell nucleus with one p16 signal missing and extra signals from all other probes.

**Interpretation of Results**
A positive test result indicates the patient is more likely to progress to adenocarcinoma and may require more stringent surveillance. A positive test result, with concordant morphology, would support a more aggressive treatment approach whereas a positive test result and discordant morphology suggest further investigation may be needed.

**How to order the test**
The technical component of this test is performed at NeoGenomics laboratory and the professional interpretation is performed by a pathologist at TOPA Diagnostics. The turn around time is approximately 3-5 days.
*Additional samples must be obtained at the time of endoscopy to order this test.

**References**

For questions, please contact Danielle Westfall, MD at TOPA Diagnostics at 805-373-8582.