**GAST-B**

**External Request:**
Submission from Foundation Medicine, Inc (09/05/19) to consider the following requested updates pertaining to the evaluation and management of patients with gastroesophageal cancers (GEC):

1. Add comprehensive genomic profiling via a validated next-generation sequencing (NGS) assay as a valid methodology for the identification of HER2 (ERBB2) overexpression or gene amplification in the Principles of Pathologic Review section of the guidelines.

2. Include the option for MSI testing by a validated NGS-based assay in the Principles of Pathologic section, as in the NCCN Guidelines for Colon Cancer (version 2.2019, COL-B pg 4 of 6), particularly for patients with metastatic disease who may benefit from more comprehensive genomic testing.

3. Recommend testing for NTRK gene fusions to Principles of Pathologic Review and Biomarker Testing.

4. Amend the Principles of Pathologic Review section to indicate that comprehensive genomic testing via a validated, NGS-based liquid biopsy test, such as FoundationOne® Liquid, is an acceptable testing method and may provide unique advantages over tissue-based testing alone.

5. Recommend the option of testing using a single validated NGS-based comprehensive genomic profiling (CGP) assay, such as FoundationOne CDx (as opposed to sequential testing of single biomarkers or use of limited molecular diagnostic panels).

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**Panel Discussion/References**

Based on a review of data and discussion, the panel did not use the language proposed in the submission. However, the panel supported addressing points #1, #2, #3 and #5 in the submission by changing the language under “Next-Generation Sequencing (NGS)” in the Principles of Pathologic Review and Biomarker Testing as follows:

“At present, three targeted therapeutic agents, trastuzumab, ramucirumab, and pembrolizumab, have been approved by the FDA for use in gastric cancer. Trastuzumab is based on testing for HER2 positivity. Pembrolizumab is based on testing for MSI and PD-L1 expression by CPS. Although an enhanced understanding of genomics/epigenomics of gastric cancer is needed, there are insufficient data to support the use of NGS at the time of initial diagnosis for clinical decision-making. However, NGS profiling can be used for the identification of treatment and/or clinical trial enrollment. NGS may be useful in patients with advanced cancer in later stages of therapy rather than in the early phases of disease. The FDA granted approval for the use of select TRK inhibitors for NTRK gene fusion-positive solid tumors. When limited tissue is available for testing, sequential testing of single biomarkers or use of limited molecular diagnostic panels may quickly exhaust the sample. In these scenarios, comprehensive genomic profiling via a validated NGS assay performed in a CLIA-approved laboratory may be used for the identification of HER2 amplification, MSI, and NTRK gene fusions. It should be noted that NGS has several inherent limitations and thus whenever possible, the use of gold-standard assays (IHC/FISH/targeted PCR) should be performed.”

Point #4 in the submission is not in this form and has been deferred by the panel. It will be addressed in a future version update.

See submission for references.