MAYO CLINIC LABORATORIES

Patient with personal or family history of cancer suspicious for Lynch syndrome

Has genetic testing been previously performed on family member?

YES

NO

Pathogenic variant identified

Testing in family member was negative or variant of uncertain significance identified

Is patient's tumor available for testing?

Consider FMTT / Familial Mutation, Targeted Testing, Varies for known variant in family

YES

NO

Consider TMSI / Microsatellite Instability, Tumor and IHC / Mismatch Repair (MMR) Protein Immunohistochemistry Only, Tumor

Consider ordering one of the following:
LYNCP / Lynch Syndrome Panel, Varies
Or a comprehensive germline panel such as:
- CRCGP / Hereditary Gastrointestinal Cancer Panel, Varies
- COMCP / Hereditary Common Cancer Panel, Varies
Also consider referring to a genetics specialist

Microsatellite instability-high (MSI-H) and loss of *MLH1/PMS2* on immunohistochemical (IHC) staining

MSI-H and loss of *PMS2* on IHC staining

MSI-H and loss of *MSH2/MSH6* on IHC staining

MSI-H and loss of *MSH6* on IHC staining

MSI-low or microsatellite-stable (MSS) and intact protein expression on IHC

Patient is young (<50) or family history suggestive of Lynch syndrome

Patient is older (>50) and family history is not suggestive of Lynch syndrome

Consider *PMS2* germline testing: order CGPH / Custom Gene Panel, Hereditary, Next-Generation Sequencing, Varies and specify genes as appropriate

Consider *MSH2* and *MSH6* germline testing: order CGPH and specify genes as appropriate

Consider *MSH6* germline testing: order CGPH and specify genes as appropriate

Younger onset (<50)

Older onset (>50)

Consider *MLH1* germline testing: order CGPH and specify genes as appropriate

If negative consider *MLH1* germline testing: order CGPH and specify genes as appropriate

If negative consider *MSH2* germline testing: order CGPH and specify genes as appropriate

Consider a comprehensive germline panel such as:
- CRCGP
- COMCP
Or referring to a genetics specialist

Low likelihood of germline variant, however depending on family history, may still consider a comprehensive germline panel such as:
- CRCGP
- COMCP
Or referring to a genetics specialist

If negative consider a comprehensive germline panel such as:
- CRCGP
- COMCP
Or referring to a genetics specialist

If endometrial tumor: consider ML1HM / *MLH1* Hypermethylation Analysis, Tumor

If colorectal tumor: consider BRMLH / *MLH1* Hypermethylation and *BRAF* Mutation Analysis, Tumor

No hypermethylation

Hypermethylation

Hypermethylation and *BRAF* negative

No hypermethylation and *BRAF* negative

Hypermethylation and *BRAF* positive

Sporadic in origin OR if still suspicious of Lynch syndrome consider MLHPB / *MLH1* Hypermethylation Analysis, Blood on blood specimen

Sporadic in origin; no further testing recommended

Consider *MLH1* and *PMS2* germline testing: order CGPH and specify genes as appropriate

Clickable PDF
Click on blue tests to view test catalog information

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