MOLQ LABORATORY
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Patient Name And Address
Mr. KESHAV SARDA

Name	**Mr. KESHAV SARDA**			**Collection Date**	05-Aug-2017 01:50 PM
Age	61 Years	**Ordering Physician**	Dr. Amish Vohra	**Specimen Received**	05-Aug-2017 01:30 PM
Sex	Male	**Institution**	W. Pratiksha Hosp.	**Report Date**	10-Aug-2017 12:02 PM
Lab ID	011708050043	**Specimen Collected by**	Mr. Gopal	**Print Date**	10-Aug-2017 12:02 PM
Vial ID	01140023			**Status**	**Final Report**

SPECIMEN INFORMATION

Received one paraffin block labelled with 1702194-A/B for MMR.

CLINICAL HISTORY

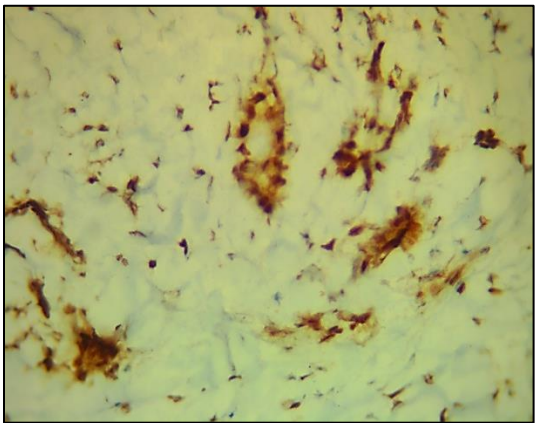
Known case of dual malignancy - Colon and gallbladder, with recurrence over abdominal wall.

METHODOLOGY

Immunohistochemistry

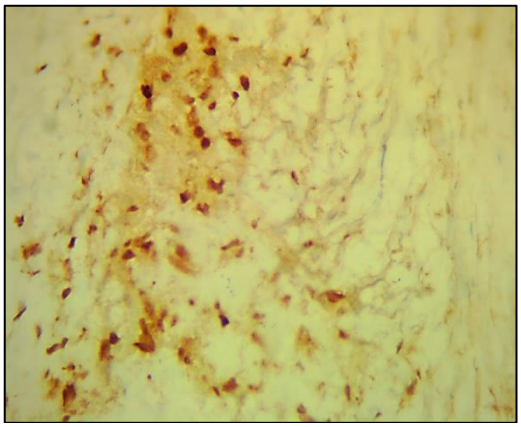
IMMUNOHISTOCHEMISTRY STUDIES: Markers

hMLH-1



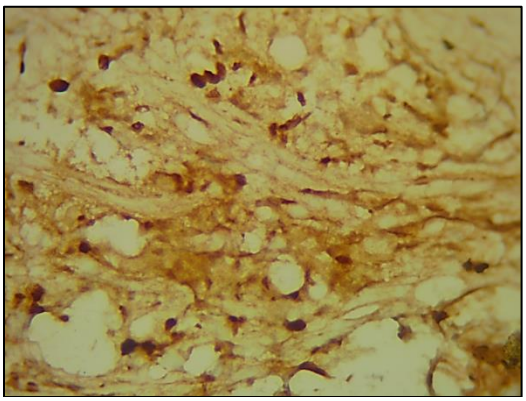
RESULT	PATTERN
Positive	Nuclear Staining

hMSH-2



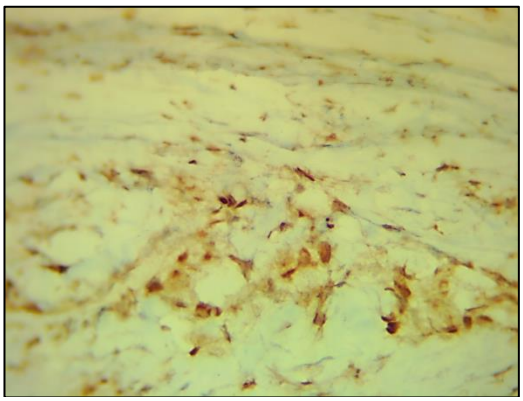
RESULT	PATTERN
Positive	Nuclear Staining

hMSH-6



RESULT	PATTERN
Positive	Nuclear Staining

hPMS-2



RESULT	PATTERN
Positive	Nuclear Staining

COMMENT

1. Positive immunoreactivity for all MMR proteins indicates that this tumour does not have microsatellite instability (MSI) but is microsatellite stable (MSS) and therefore does not fall into the HNPCC (hereditary non-polyposis colon cancer) group of colorectal cancers.
2. Several studies have shown that microsatellite stable (MSS) tumours have a less favorable prognosis and are more prone to lymph node and systemic metastasis when compared with MSI tumours. Also, current data shows that MSS tumours may be less responsive to irinotecan than MSI tumours. However, MSS tumours are known to respond better to 5FU therapy than MSI tumours.
3. A normal(positive) result does not completely rule out Lynch Syndrome. Based on age of onset and family history, genetic counseling to consider additional tumor analysis, including MSI, DNA analysis, and follow-up may be warranted. Clinical correlation is recommended.

IHC Interpretation:

- No loss of nuclear expression of MMR proteins: low probability of MSI-H.
- Loss of nuclear expression of MLH1 and PMS2: testing for methylation of the *MLH1* promoter and mutation of *BRAF* is indicated (presence of both *BRAF* mutation and *MLH1* methylation indicates sporadic case; absence of both *MLH1* methylation and of *BRAF* mutation indicates Lynch syndrome and sequencing of germline *MLH1* is indicated; presence of *MLH1* methylation without *BRAF* mutation is equivocal for a sporadic case and Lynch syndrome and sequencing of germline MLH1 is indicated)
- Loss of nuclear expression of MSH2 and MSH6: high probability of Lynch syndrome (sequencing of germline MSH2 is indicated and, if negative, evaluation of EPCAM (TACSTD1) deletion, methylation of MSH2 promoter, and sequencing of germline MSH6 are indicated)
- Loss of nuclear expression of MSH6 only: high probability of Lynch syndrome (tumor MSI evaluation and sequencing of germline MSH6 are indicated)
- Loss of nuclear expression of PMS2 only: high probability of Lynch syndrome (tumor MSI evaluation and sequencing of germline PMS2 are indicated)

(REF. Colon and Rectum- Biomarkers Colon Biomarkers 1.2.0.0)

Technical Notes*: All immunohistochemistry markers have been evaluated in the context of appropriate positive and negative controls.*

Dr. Gulshan Yadav
Concerned Pathologist