SUMMIT PATHOLOGY
Offices located at Poudre Valley Hospital
1024 South Lemay Avenue
Fort Collins, CO 80524
Tel: (970) 495-8740
Fax: (970) 495-7605

ABNORMAL

SURGICAL PATHOLOGY REPORT

ADDENDED

Patient: IRWIN, ELAINE K
Med Rec#: **2866802** PV: **175002403**
DOB: **12/03/1941** Age: **78** Sex: **F**
Physician(s):
ROBERSON NICOLE MD POUDRE VALLEY HOSPITAL
Attn: **DIANA MEDGYESY, MD**

Accession #: 12101709
Date Collected: **05/20/2020**
Date Received: **05/20/2020**
Date Reported: **05/22/2020**
Report Modified: **06/17/2020**

Test Requested: **PVH Surgical**

Result ID: VS20-02179

Revision (06/17/2020)
ADDENDUM:

At the request of Dr. Medgyesy, HER-2 testing by immunohistochemistry was performed with the following results:

BLOCK TESTED: A1

HER-2/NEU (4b5/IHC): NEGATIVE FOR OVEREXPRESSION (0)

Tissue fixation is in 10% formalin and the duration of fixation is between 6 and 72 hours. Positive and negative controls react satisfactorily. The immunohistochemical stains are used for clinical purposes.

HER-2 positivity requires greater than 10% of tumor cells showing complete membrane staining; a score of 2+ is equivocal and will be confirmed by ISH. A score of 3+ is strong positive. Only the strong positive (3+) HER-2 shows strong concordance with clinical trial results for Herceptin. HER-2 scores of 0 and 1+ (faint, incomplete staining) are considered negative. This scoring method for HER-2/neu IHC is per the ASCO/CAP guidelines for HER-2/neu testing (Wolff et al, Recommendations for human epidermal growth factor receptor 2 testing in breast cancer, Arch Pathol Lab Med. doi:10.5858/arpa. 2013-0953-SA.Updated in Arch Pathol Lab Med. 2018;142:1364-1382;doi:10/5858/arpa.2018-0902-SA). These tests were developed and their performance characteristics validated by Summit Pathology. This laboratory is regulated under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing. Summit Pathology meets or exceeds all of the ASCO/CAP guidelines for estrogen receptor, progesterone receptor, and HER-2/neu testing. The most recent ASCO/CAP guidelines are utilized for these assessments: (Arch Pathol Lab Med. 2018;142:1364–1382; doi: 10.5858/arpa.2018-0902-SA, Her2) and Arch Pathol Lab Med. 2020;144(5):545-563, ER/PR.

Portion of CPT codes listed below that are attributable to this addendum: 88360 x1

Daniel Long, MD
Pathologist, Electronic Signature

FINAL DIAGNOSIS:

A) ENDOMETRIUM, CURETTAGE:
INVOLVED BY POORLY-DIFFERENTIATED CARCINOMA (SEE COMMENT).

B) VAGINA, WALL TUMOR, BIOPSY:
INVOLVED BY POORLY-DIFFERENTIATED CARCINOMA (SEE COMMENT).

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COMMENT:

The tumor in both samples is morphologically identical. The operative note is reviewed which describes tumor on the anterior distal one-third of the vagina and satellite tumor lesions on the posterior fourchette of the vagina. The cervix and upper vagina appeared normal. Given this clinical appearance, the findings in this case are consistent with a metastatic process. In this clinical setting, a poorly differentiated primary endometrial carcinoma is strongly favored, particularly given the absence of squamous differentiation. The primary differential diagnostic considerations include a high grade endometrioid carcinoma (FIGO grade 3), a dedifferentiated carcinoma (in which no glandular component has yet been sampled) or an undifferentiated carcinoma. **A high grade endometroid tumor is favored**. Note the tumor immunophenotype is not specific for endometrial differentiation, so further clinical and radiographic evaluation to assess for an alternative primary lesion could be considered.

Results were discussed with Dr. Roberson by Dr. Long on 5/22/2020 at 9:50 am. These findings correlate with the patient's recent AGUS Pap smear (2020P10666), which was reviewed in conjunction with this case.

Immunohistochemistry (IHC) Testing for Mismatch Repair (MMR) Proteins

MLH1: Loss of nuclear expression
MSH2: Retained nuclear expression
MSH6: Retained nuclear expression
PMS2: Loss of nuclear expression with a perinuclear dot-like pattern
Background nonneoplastic tissue/internal control with intact nuclear expression

IHC Interpretation:
Loss of nuclear expression of MLH1 and PMS2: Testing for methylation of the MLH1 promoter is indicated (the presence of MLH1 methylation suggests that the tumor is sporadic and germline evaluation is probably not indicated; absence of MLH1 methylation suggests the possibility of Lynch syndrome, and sequencing and/or large deletion/duplication testing of germline MLH1 is indicated).

Daniel Long, MD
Pathologist, Electronic Signature

The case has been reviewed with the following pathologist(s) who concur with the interpretation: Arlene Libby, MD

Clinical History: Vaginal tumor and post menopausal bleeding

GROSS DESCRIPTION:

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A) Received in a formalin filled bottle/container, which has been verified to belong to patient: IRWIN, ELAINE K and labeled "1 endometrial curettings" is a 2.9 x 2.4 x 0.6 cm aggregate of pink-tan, red rubbery, irregular soft tissues admixed with minimal blood clot. The entire specimen is filtered and submitted in block A1.

Out of Body: 1011 on 5/20/20
In formalin: 1011 on 5/20/20
Out of formalin: 1822 on 5/20/20

B) Received in a formalin filled bottle/container, which has been verified to belong to patient: IRWIN, ELAINE K and labeled "2 vaginal wall tumor" is a 1.8 x 0.7 x 0.2 cm aggregate of pink-tan, red rubbery, irregular soft tissues. The entire specimen is filtered and is submitted in block B1.

Out of Body: 1023 on 5/20/20
In formalin: 1023 on 5/20/20
Out of formalin: 1822 on 5/20/20

MICROSCOPIC DESCRIPTION:

A) 1 block, 1 H&E slide examined. Sections show a proliferation of round to ovoid malignant cells in sheets with areas of tumor necrosis. The cells show scant cytoplasm, stippled chromatin and occasional macronucleoli. There is prominent mitotic activity as well as increased karyorrhexis. Immunoperoxidase studies with appropriately staining controls are performed to further characterize the tumor cells. The tumor cells are diffusely positive for pancytokeratin. The cells show patchy staining for CK7, CEA and p16. A PTEN stain demonstrates loss of expression. An e-cadherin stain demonstrates retained expression. p53 shows a wild type staining pattern. The cells are negative for CK20, PAX8, ER (less than 1% of cells staining), PR (less than 1% of cells staining), GATA3, p63, and CK5/6. Markers of neuroendocrine differentiation (synaptophysin, chromogranin, INSM1) are negative. A Ki-67 study shows an increased proliferative index of approximately 90%. Studies for mismatch repair protein status are reported in the comment section. These results support the diagnosis of poorly differentiated carcinoma.

B) 1 block, 1 H&E slide examined.

Note: The immunoperoxidase tests utilized in this examination were developed and their performance characteristics determined by the laboratory at Summit Pathology. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical laboratory testing.

CPT Code(s): 88341 x18, 88360 x4, 88305 x2, 88342

Specimen grossed and processed at: Summit Pathology 5802 Wright Dr., Loveland, CO, 80538
Specimen interpreted at: Poudre Valley Hosp 1024 S Lemay, Fort Collins, CO 80524