



Patient ID 321	Patient Name TEST, IMPLEMENTATION	Birth Date 1970-11-13	Gender M	Age 46
Order Number X100222601	Client Order Number X100222601	Ordering Physician TESTING	Report Notes	
Account Information C7028846 DLMP Rochester		Collected 01 Aug 2017 09:00		

Biliary Tract Malignancy-Cyto/FISH

Case Number NR-17-2614

Interpretation

MCR

A. Bile Duct, Right hepatic, brushing (ThinPrep):
Cytology: Negative for malignancy. Reactive biliary tract epithelium.

Fluorescence in situ hybridization (FISH) Results: Negative.

B. Bile Duct, Left hepatic, brushing (ThinPrep):
Cytology: Atypical. Abnormal glandular cells, favor reactive/degenerative etiology.

Fluorescence in situ hybridization (FISH) Results: Analysis revealed greater than or equal to 10% of epithelial cells with gain of the 7p12 locus.

C. Bile Duct, Common, brushing (ThinPrep):
Cytology: Suspicious. Abnormal glandular cells suspicious for adenocarcinoma.

Fluorescence in situ hybridization (FISH) Results: Analysis revealed greater than or equal to 5% of epithelial cells with homozygous deletion of the 9p21 locus.

D. Bile Duct, brushing (ThinPrep):
Cytology: Positive for malignancy. Adenocarcinoma.

Fluorescence in situ hybridization (FISH) Results: Analysis revealed greater than or equal to four epithelial cells with gains of two or more loci: 1q21, 7p12, 8q24, and/or 9p21.

E. Bile Duct, aspiration (ThinPrep):
Cytology: Nondiagnostic. Acellular specimen.

Fluorescence in situ hybridization (FISH) Results: The specimen was processed for FISH, but analysis failed due to: an insufficient number of cells.

F. Bile Duct, Hepatobiliary, brushing (ThinPrep):
Cytology: Negative for malignancy.

Fluorescence in situ hybridization (FISH) Results: Negative.

Interpretation Parts A and F:

No evidence of malignancy. However, these results do not rule out malignancy as some tumors may not be detected due to inadequate sampling or an inability of testing to sometimes detect tumor cells even when present in the sample.

Results should be interpreted in conjunction with clinical findings. Test results are intended for diagnostic purposes and should not be utilized to make theranostic decisions.

Performing Site Legend

Code	Laboratory	Address
MCR	Mayo Clinic Dept. of Lab Med and Pathology	200 First Street SW, Rochester, MN 55905

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Please consider clinical consultation with Dr. Gregory Gores (507-284-6488) or Dr. Lewis Roberts (507-284-7958) of the Mayo Clinic Department of Gastroenterology and Hepatology for advice on the interpretation of these test results and the proper management of the patient based on these test results.

Interpretation Part B:

These results are equivocal and should be correlated with clinical findings to assess the risk for biliary tract neoplasia. In the absence of a clinically identifiable tumor, close follow-up is warranted.

Results should be interpreted in conjunction with clinical findings. Test results are intended for diagnostic purposes and should not be utilized to make theranostic decisions.

Please consider clinical consultation with Dr. Gregory Gores (507-284-6488) or Dr. Lewis Roberts (507-284-7958) of the Mayo Clinic Department of Gastroenterology and Hepatology for advice on the interpretation of these test results and the proper management of the patient based on these test results.

Interpretation Part C:

These results are highly suspicious for malignancy or high-grade dysplasia of the pancreatobiliary tract.

Results should be interpreted in conjunction with clinical findings. Test results are intended for diagnostic purposes and should not be utilized to make theranostic decisions.

Please consider clinical consultation with Dr. Gregory Gores (507-284-6488) or Dr. Lewis Roberts (507-284-7958) of the Mayo Clinic Department of Gastroenterology and Hepatology for advice on the interpretation of these test results and the proper management of the patient based on these test results.

Please note, for PSC patients we do not recommend radical treatment due to abnormal FISH results in the absence of other corroborative information (e.g. positive/suspicious cytology or abnormal imaging findings), but close follow-up in the setting of polysomy is warranted.

Interpretation Part D:

These results are consistent with malignancy or high-grade dysplasia of the pancreatobiliary tract.

Results should be interpreted in conjunction with clinical findings. Test results are intended for diagnostic purposes and should not be utilized to make theranostic decisions.

Please consider clinical consultation with Dr. Gregory Gores (507-284-6488) or Dr. Lewis Roberts (507-284-7958) of the Mayo Clinic Department of Gastroenterology and Hepatology for advice on the interpretation of these test results and the proper management of the patient based on these test results.

Please note, for PSC patients we do not recommend radical treatment due to abnormal FISH results in the absence of other corroborative information (e.g. positive/suspicious cytology or abnormal imaging findings), but close follow-up in the setting of polysomy is warranted.

Interpretation Part E:

A number of pre-analytical factors can lead to low sample cellularity. Please refer to the Mayo Medical Laboratories Test Catalog for instructions on optimizing collection and preservation of cytology samples for FISH testing.

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Report electronically signed by

MCR

Sarah E. Kerr, M.D.

3-5784

FISH results reviewed by

Sarah E. Kerr, M.D.

3-5784

Cytology interpreted by

Michael R. Henry, M.D.

4-6992

I verify that I have examined all relevant slides/materials for the specimen(s) and rendered or confirmed the diagnosis.

Gross Description

MCR

- A: Received 35 cc of clear fluid in PreservCyt with 1 brush.
- B: Received 35 cc of bloody tinged fluid in PreservCyt with 1 brush.
- C: Received 35 cc of bloody tinged fluid in PreservCyt with 1 brush.
- D: Received 45 cc of bloody tinged fluid in PreservCyt with 1 brush.
- E: Received 35 cc of brown fluid in PreservCyt with 1 brush.
- F: Received 35 cc of bloody tinged fluid in PreservCyt with 1 brush.

Collection Procedure

MCR

brushing and aspirate

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Source

MCR

- A. Bile Duct, Right hepatic, brushing
- B. Bile Duct, Left hepatic, brushing
- C. Bile Duct, Common, brushing
- D. Bile Duct, brushing
- E. Bile Duct, aspiration
- F. Bile Duct, Hepatobiliary, brushing

Clinical History

MCR

Adenocarcinoma

Fixative

MCR

PreservCyt

Received: 03 Aug 2017 09:11

Reported: 03 Aug 2017 14:45

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Biliary Tract Malignancy, FISH — Summary for All Tests

Specimen Source	Result Summary	Result
Bile Duct, Right hepatic, brushing	Refer to Cytology/FISH combination report for final summary of the results.	Negative.
Bile Duct, Left hepatic, brushing	Refer to Cytology/FISH combination report for final summary of the results.	Analysis revealed greater than or equal to 10% of epithelial cells with gain of the 7p12 locus.
Bile Duct, Common, brushing	Refer to Cytology/FISH combination report for final summary of the results.	Analysis revealed greater than or equal to 5% of epithelial cells with homozygous deletion of the 9p21 locus.
Bile Duct, brushing	Refer to Cytology/FISH combination report for final summary of the results.	Analysis revealed greater than or equal to four epithelial cells with gains of two or more loci: 1q21, 7p12, 8q24, and/or 9p21.
Bile Duct, aspiration	Refer to Cytology/FISH combination report for final summary of the results.	The specimen was processed for FISH, but analysis failed due to: an insufficient number of cells.
Bile Duct, Hepatobiliary, brushing	Refer to Cytology/FISH combination report for final summary of the results.	Negative.

An interpretive report for each specimen follows.

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Biliary Tract Malignancy, FISH

Source MCR

Bile Duct, Right hepatic, brushing

Specimen MCR

Bile Duct

Reason for Referral MCR

Evaluate for biliary tract malignancy

Method MCR

Fluorescence in situ hybridization (FISH) with locus specific probes for 1q21 (MCL1), 7p12 (EGFR), 8q24 (MYC), and 9p21 (CDKN2A).

Result Summary MCR

Refer to Cytology/FISH combination report for final summary of the results.

Result MCR

Negative.

Interpretation 1 MCR

Refer to Cytology/FISH combination report for final interpretation.

Released By MCR

Sarah E. Kerr, M.D.

Received: 03 Aug 2017 09:11

Reported: 03 Aug 2017 14:39

Biliary Tract Malignancy, FISH

Source MCR

Bile Duct, Left hepatic, brushing

Specimen MCR

Bile Duct

Reason for Referral MCR

Evaluate for biliary tract malignancy

Method MCR

Fluorescence in situ hybridization (FISH) with locus specific probes for 1q21 (MCL1), 7p12 (EGFR), 8q24 (MYC), and 9p21 (CDKN2A).

Result Summary MCR

Refer to Cytology/FISH combination report for final summary of the results.

Result MCR

Analysis revealed greater than or equal to 10% of epithelial cells with gain of the 7p12 locus.

Interpretation 1 MCR

Refer to Cytology/FISH combination report for final interpretation.

Released By MCR

Sarah E. Kerr, M.D.

Received: 03 Aug 2017 09:15

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Biliary Tract Malignancy, FISH

Source

MCR

Bile Duct, Common, brushing

Specimen

MCR

Bile Duct

Reason for Referral

MCR

Evaluate for biliary tract malignancy

Method

MCR

Fluorescence in situ hybridization (FISH) with locus specific probes for 1q21 (MCL1), 7p12 (EGFR), 8q24 (MYC), and 9p21 (CDKN2A).

Result Summary

MCR

Refer to Cytology/FISH combination report for final summary of the results.

Result

MCR

Analysis revealed greater than or equal to 5% of epithelial cells with homozygous deletion of the 9p21 locus.

Interpretation

1 MCR

Refer to Cytology/FISH combination report for final interpretation.

Released By

MCR

Sarah E. Kerr, M.D.

Received: 03 Aug 2017 09:16

Reported: 03 Aug 2017 14:40

Biliary Tract Malignancy, FISH

Source

MCR

Bile Duct, brushing

Specimen

MCR

Bile Duct

Reason for Referral

MCR

Evaluate for biliary tract malignancy

Method

MCR

Fluorescence in situ hybridization (FISH) with locus specific probes for 1q21 (MCL1), 7p12 (EGFR), 8q24 (MYC), and 9p21 (CDKN2A).

Result Summary

MCR

Refer to Cytology/FISH combination report for final summary of the results.

Result

MCR

Analysis revealed greater than or equal to four epithelial cells with gains of two or more loci: 1q21, 7p12, 8q24, and/or 9p21.

Interpretation

1 MCR

Refer to Cytology/FISH combination report for final interpretation.

Released By

MCR

Sarah E. Kerr, M.D.

Received: 03 Aug 2017 09:16

Reported: 03 Aug 2017 14:41

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Biliary Tract Malignancy, FISH

Source

MCR

Bile Duct, aspiration

Specimen

MCR

Bile Duct

Reason for Referral

MCR

Evaluate for biliary tract malignancy

Method

MCR

Fluorescence in situ hybridization (FISH) with locus specific probes for 1q21 (MCL1), 7p12 (EGFR), 8q24 (MYC), and 9p21 (CDKN2A).

Result Summary

MCR

Refer to Cytology/FISH combination report for final summary of the results.

Result

MCR

The specimen was processed for FISH, but analysis failed due to: an insufficient number of cells.

Interpretation

1 MCR

Refer to Cytology/FISH combination report for final interpretation.

Released By

MCR

Sarah E. Kerr, M.D.

Received: 03 Aug 2017 09:17

Reported: 03 Aug 2017 14:42

Biliary Tract Malignancy, FISH

Source

MCR

Bile Duct, Hepatobiliary, brushing

Specimen

MCR

Bile Duct

Reason for Referral

MCR

Evaluate for biliary tract malignancy

Method

MCR

Fluorescence in situ hybridization (FISH) with locus specific probes for 1q21 (MCL1), 7p12 (EGFR), 8q24 (MYC), and 9p21 (CDKN2A).

Result Summary

MCR

Refer to Cytology/FISH combination report for final summary of the results.

Result

MCR

Negative.

Interpretation

1 MCR

Refer to Cytology/FISH combination report for final interpretation.

Released By

MCR

Sarah E. Kerr, M.D.

Received: 03 Aug 2017 09:17

Reported: 03 Aug 2017 14:42

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Laboratory Notes

- 1 This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

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