## Audit of magnetic resonance cholangiopancreatography (MRCP) in the evaluation of pancreaticobiliary disease

## Descriptor

The aim of this audit is to evaluate the accuracy of magnetic resonance cholangiopancreatography (MRCP) in the evaluation of pancreaticobiliary disease.

## Background

Magnetic resonance cholangiopancreatography (MRCP) is an established accurate, non-invasive and safe technique for imaging the biliary tree and pancreatic duct [1]. This audit is to determine whether common and important pathologies are being accurately detected by MRCP.

## The Cycle

### The Standard

MRCP reports should accurately identify the presence of Obstruction, Calculi and ?Malignancy. The lower confidence intervals (-1.96 SD) for sensitivity and specificity derived from a published meta-analysis of 4711 patients undergoing MRCP are used as standards, ie. Obstruction Sensitivity 91%, Specificity 91%; Calculi Sensitivity 80%, Specificity 90% and Malignancy Sensitivity 70%, Specificity 82% [2].

Reference standards are ERCP, endoscopic ultrasonography (EUS), surgical exploration, clinical and imaging follow up, and histopathology.

### Target

• Obstruction Presence Sensitivity 91%, Specificity 91%

• Calculi Sensitivity 80%, Specificity 90%

• ?Malignancy Sensitivity 70%, Specificity 82%

## Assess local practice

### Indicators

Three imaging end point indicators are chosen:

1. Presence of biliary obstruction

2. Diagnosis of Calculi

3. Diagnosis of malignancy

Sensitivity and specificity calculated for each.

### Data items to be collected

MRCP reports over a period (e.g. a year) are collected. These are compared to combined reference standards of ERCP, EUS, surgical exploration, histopathology, clinical and imaging follow up. Cases where correlation with any of these methods is not available should be excluded from the data analysis. []](file:///C%3A%5C%5CUsers%5C%5Cbalasr91%5C%5CDownloads%5C%5CAudit%20of%20magnetic%20resonance%20cholangiopancreatography%20%28MRCP%29%20in%20the%20evaluation%20of%20pancreat-%20RB%20edit.htm%22%20%5Cl%20%22_msocom_1)  (Must be measured against a gold standard that is superior to MRCP for validation of its accuracy therefore conventional ultrasound and CT are not acceptable and better for the data to be excluded instead.)

Other findings: note ancillary findings demonstrated on MRCP, eg strictures (benign or malignant), biliary hamartomas, pancreatic duct anomalies.

### Suggested number

50 minimum

## Suggestions for change if target not met

• Feedback to reporters with all false positives and negatives to be reviewed by reporters to aid learning

• Reporters revise MRCP pitfalls and artefacts using review articles [1-4]

• Introducing policy of radiographers rescanning patient immediately (e.g with breathing coaching) if they note motion artefact or updating MRI protocol sequences to overcome motion artefact (e.g using a TruFISP sequences rather than radial HASTE acquisitions)

## Resources

• Time 20 hours

   - This includes obtaining and reading patient notes and MRCP/ERCP/EUS reports. Also reporting radiologists will need to review the cases if any of the targets are not met

## References

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3.      Irie H, Honda H, Kuroiwa T, et al. Pitfalls in MR pancreatographic interpretation. Radiographics 2001;21:23-37.

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## Editors Comments

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