Liver Biopsy CPC Audit Template

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Objectives

- Describe the audit
- Audit development
- Results from pilot
- Audit recommendations

Premise

- Role of liver biopsy is evolving
- Guideline driven
- Debate over future role
- Need to demonstrate value
- Need to identify areas for improvement
- Need for clinical audit

CPC Audit

- Aim to develop Clinical Audit Template
- Evaluate the biopsy service from clinical & pathological point of view
- Qualitative and quantitative
- Ease of use
- Fast to complete
- Clear results

Development

- Led by Dr Wyatt & Prof Hubscher
- Questionnaire based
- MDT setting
- Focused on patient outcomes
- Looks at usefulness of pathology service for clinician

Pilot

- Pilot of the audit in Oxford
- Refine questionnaire
- Several questions changed
- Set standards for audit reccomendations

Template

- Questionnaire
- Two free text questions
- Nine yes/no tick boxes
- Filled out at the MDTM by hepatologists & team
- Paper or electronic
- One per patient
- Complete after each patient or at end of MDTM
- Around 1 min to complete
- (out MDT is around 5-10 cases, audit adds around 5 mins extra)

Audit Template

What was the indication for the biopsy/provisional diagnosis pre-biopsy?

What was the final clinical diagnosis after the biopsy?

1) Does the clinical information provided clearly indicate the reason for the biopsy?

2) If 'yes' does the report adequately address the clinical indication?

3) Was this biopsy clinically helpful in patient management/treatment?

4) If yes, did this liver biopsy:

a. support/confirm the provisional diagnosis?

b. help decide between/among differential diagnoses?

c. suggest an unanticipated diagnosis?

d. exclude other possible diagnoses?

e. provide stage/grade information required for treatment or follow up?

f. other

5) If 'no' why was this?

a. inadequate biopsy

b. don't understand the report

c. report didn't address the clinical question

d. other

6) Was the biopsy was necessary for the clinical management to be decided?

7) Was the patient management changed as a result of the report?

8) If 'yes':

a. The diagnosis was changed

b. The treatment was changed

c. The follow up was changed

9) Does the patient record indicate that the clinician discussed the case with the pathologist?

Pilot

- John Radcliffe Hospital
- 50 cases
- Consecutive cases
- Tumour/mass lesion cases excluded
- Referral cases excluded
- Around 12 weeks to complete

Results

Indications

Indication*	Frequency
?Fibrosis/cirrhosis	13 (26%)
Fatty liver disease	11 (22%)
Abnormal liver enzymes	10 (20%)
?Autoimmune hepatitis	7 (14%)
?Biliary disease	6 (12%)
?Drug reaction	5 (10%)
Viral hepatitis	4 (8%)
Alcoholic liver disease	3 (6%)
?Iron overload	3 (6%)
?Nodular regenerative hyperplasia	1 (2%)
?Wilson's disease	1 (2%)
Ascites	1 (2%)
?Transplant rejection	1 (2%)

*often more than one indication

Results

Indicator	Cases
Reports with adequate clinical information	47/50 (94%)
Reports addressing biopsy indication	48/50 (96%)
Reports felt to be clinically helpful *	48/50 (96%)
- because confirmed a diagnosis	27/48 (56%)
- because helped differentiate between differential diagnoses	22/48 (46%)
- because gave an unanticipated diagnosis	13/48 (27%)
- because excluded a diagnosis	20/48 (42%)
- because provided required grading/staging information	30/48 (63%)
Biopsies which were necessary for management decision	46/50 (92%)
Reports which resulted in a change of management*	37/50 (74%)
- due to a diagnosis change	15/37 (41%)
- resulting treatment change	19/37 (51%)
- resulting follow up change	31/37 (84%)

*in many cases, there was more than one reason for clinical usefulness or for change of management

Changed diagnoses

Final Diagnosis*	Frequency
Biliary disease	5/15 (33%)
Fibrosis/cirrhosis	3/15 (20%)
Fatty liver disease	4/15 (27%)
Outflow obstruction	2/15 (13%)
Vasculopathy	1/15 (7%)
Minimal pathology/normal	1/15 (7%)
Iron overload	1/15 (7%)
Original Diagnoses*	
Fibrosis/cirrhosis	9/15 (60%)
Fatty liver disease	3/15 (20%)
Autoimmune hepatitis	2/15 (13%)
Alcoholic liver disease	1/15 (7%)
Drug reaction	1/15 (7%)
Transplant rejection	1/15 (7%)
Wilson's disease	1/15 (7%)

*in most cases, there was more than one changed clinical diagnosis

Unanticipated Diagnoses

Unanticipated Diagnosis*	Frequency
Biliary disease	4/13 (31%)
Venous outflow obstruction	4/13 (31%)
Fibrosis/cirrhosis	3/13 (23%)
Wilson's disease	1/13 (8%)
Iron overload	1/13 (8%)
Vasculopathy	1/13 (8%)
Autoimmune hepatitis	1/13 (8%)

*in some cases, there was more than one unanticipated diagnosis

Key findings

- 94% of request had adequate information
- 96% of reports are clinically useful
- 4% of biopsies inadequate
- 92% were needed for a management decision
- 74% of biopsies change management
- 38% resulted in treatment change
- 26% of biopsies found unexpected diagnoses
- 60% provided useful grading/staging information

Recommendations

- Annual audit
- 20 cases minimum adequate (depending on workload)
- 95% of request forms should have adequate clinical information
- 95% of reports should address clinical question
- 95% of biopsies should be clinically useful

Summary

- We developed a CPC audit tool
- Found audit easy to use
- Fast tool
- Clinicians were supportive and keen
- Provided interesting information about indications
- Indicated we needed to change
- Highlighted how diagnoses are changed by biopsy
- Unanticipated diagnoses
- Demonstrated good pathology service
- Demonstrated the value and impact of liver biopsy
- Template submitted to RCPath

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A template for a clinico-pathological audit of medical liver biopsies

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ABSTRACT

Aims With changing indications for performing medical liver biopsies, we aimed to develop a tool to allow pathologists to evaluate the current usefulness, value and impact of their medical liver biopsy service.

Methods We designed and piloted a questionnaire-based clinico-pathological audit for medical liver biopsies.

Results The audit tool was simple to implement and provided useful information about our service. Hepatologists felt that 96% of reports were clinically useful. 56% of biopsies confirmed clinical diagnoses, 46% helped differentiate between diagnoses and 42% were able to exclude possible diagnoses. 74% resulted in a change of management and 27% of liver biopsies resulted in a diagnosis which was not clinically suspected.

Conclusions We demonstrate the usefulness of an audit tool in providing evidence of the value of the liver pathology service in a large UK regional centre.

INTRODUCTION

Liver biopsy has traditionally been a mainstay and gold standard in the clinical evaluation of medical liver diseases.[1] There are conflicting data over the number of medical liver biopsies being performed,[2–4] but in the authors' experience, numbers in the UK are increasing. Furthermore, there is cases are advised. Referred cases are excluded to avoid problems coordinating with external hepatologists/pathologists. The questionnaire can be printed out, or used electronically, and is most conveniently filled in at around the time of the multidisciplinary team (MDT) meeting. The pilot took place at the John Radcliffe Hospital in Oxford, where the hepatopathology service receives around 500 liver biopsy cases annually (including referrals and mass lesions) and reports around 200 in-house medical liver biopsies per year. We audited 50 consecutive, new medical liver biopsies which were performed at our institution between September and December of 2014.

RESULTS

We found that the audit template was quick and easy to fill in and needed only minor changes in the wording and layout. We found that the most common reasons for biopsy included the assessment of fibrosis/cirrhosis, investigation of fatty liver disease (mainly non-alcoholic fatty liver disease) and abnormal liver enzymes (see table 2).

A breakdown of the questionnaire results can be seen in table 3. We found that 47/50 (94%) of cases had adequate clinical information provided on the requisition form. The hepatologists felt that 48/50 (96%) of reports addressed the clinical indication for biopsy and provided clinically useful