

UK National Liver Histopathology EQA Scheme

Circulation L23_B

Case Response Analysis

Post meeting comments from EQA committee added in blue, please note collators also have access to the comments box, this has also accounted for in formulating criteria for some cases and will be accounted for before any marks are deducted.

89 responders 71 needed for consensus

This document gives information on individual cases in circulation L23_B of this scheme. It contains no personal details of participants.

Case Number: L23_B1

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 63 yrs. Abnormal LFTs, hepatomegaly. Ultrasound scan - fatty liver and enlarged spleen. Raised BMI, metabolic syndrome. To assess for fibrosis/cirrhosis.

Specimen: Liver biopsy

Macroscopic: A single core of cream and yellow tissue measuring 20mm

Immunohistochemistry: Orcein, Masson trichrome

Original Diagnosis: Elastic fibres in fibrous septa. Reported as active steato-hepatitis, consistent with NASH cirrhosis.

Tumour:	Popularity:
- No tumour/lesion present	100.0%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		83
- No tumour/lesion present	- No tumour/lesion present	6

Pattern:	Popularity:
steatohepatitis	95.5%
steatosis	7.9%
not applicable	2.2%

Pattern 1:	Pattern 2:	Count:
steatohepatitis		78
steatosis		3

steatohepatitis	not applicable	2
steatosis	steatohepatitis	2
steatohepatitis	steatosis	2
		1
steatohepatitis	steatohepatitis	1

Stages:	Popularity:
advanced fibrosis with bridging and nodularity/cirrhosis	100.0%

Diagnostic categories:	Popularity:
fatty liver disease - non-alcohol related fatty liver disease	65.2%
fatty liver disease - either alcohol or non-alcohol	37.1%

Diagnosis Combination:	Count:
fatty liver disease - non-alcohol related fatty liver disease	56
fatty liver disease - either alcohol or non-alcohol	31
fatty liver disease - either alcohol or non-alcohol, fatty liver disease - non-alcohol related fatty liver disease	2

Original report and further information (if any): Elastic fibres in fibrous septa. Reported as active steato-hepatitis, consistent with NASH cirrhosis.

Consensus major diagnosis Steatohepatitis 95.5% (85 cases)

Advanced fibrosis with bridging & nodularity (100%)

No consensus on alcohol or non-alcohol induced

Complete response for 10 marks; steatohepatitis and cirrhosis (adv fibrosis)

Lose 5 marks for not saying steatohepatitis (i.e calling it only steatosis)

Case Number: L23_B2

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 35. Jaundice, bilirubin >400, >2x INR. no drug or alcohol history.

Specimen: transjugular liver biopsy

Macroscopic: thin 14mm core plus fragments

Immunohistochemistry: HVG orcein reticulin

Original Diagnosis: acute hepatitis with necrosis

Tumour:	Popularity:
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- No tumour/lesion present	100.0%
leukaemia/lymphoma (please specify in Comments)	1.1%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		82
- No tumour/lesion present	- No tumour/lesion present	6
- No tumour/lesion present	leukaemia/lymphoma (please specify in Comments)	1

Pattern:	Popularity:
lobular hepatitis	83.1%
cholestasis, bilirubinostasis	30.3%
Other (please specify in Comments)	12.4%
vascular disease	2.2%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
lobular hepatitis		49
lobular hepatitis	cholestasis, bilirubinostasis	18
Other (please specify in Comments)		7
cholestasis, bilirubinostasis	lobular hepatitis	3
cholestasis, bilirubinostasis		3
cholestasis, bilirubinostasis	Other (please specify in Comments)	2
lobular hepatitis	Other (please specify in Comments)	2
cholestasis, bilirubinostasis	vascular disease	1
lobular hepatitis	vascular disease	1
		1
abnormal, no pattern discernible		1
lobular hepatitis	lobular hepatitis	1

Stages:	Popularity:
hepatocyte loss or bridging - favour collapse not fibrosis	56.2%
no fibrosis/equivocal fibrosis	40.4%
mild/early fibrosis without bridging	3.4%

Diagnostic categories:	Popularity:
acute / subacute hepatitis - autoimmune / drug / viral	91.0%
autoimmune hepatitis	7.9%
drug induced liver injury (please specify in comments box)	4.5%
manifestation of systemic or extrahepatic disease (please specify in comments box)	1.1%
prothrombotic disorder (please specify in comments box)	1.1%
- histologically indeterminate for cause	1.1%

Diagnosis Combination:	Count:
acute / subacute hepatitis - autoimmune / drug / viral	75
autoimmune hepatitis	6
acute / subacute hepatitis - autoimmune / drug / viral, drug induced liver injury (please specify in comments box)	2
drug induced liver injury (please specify in comments box)	2
- histologically indeterminate for cause, acute / subacute hepatitis - autoimmune / drug / viral	1

acute / subacute hepatitis - autoimmune / drug / viral, autoimmune hepatitis	1
acute / subacute hepatitis - autoimmune / drug / viral, manifestation of systemic or extrahepatic disease (please specify in comments box)	1
acute / subacute hepatitis - autoimmune / drug / viral, prothrombotic disorder (please specify in comments box)	1

Original report and further information (if any): acute hepatitis with necrosis

Consensus on lobular hepatitis (83%)

Stage – Consensus if we combine hepatocyte loss or bridging favour collapse AND no fibrosis/equivocal fibrosis

Diagnostic category- Consensus on Acute/SA hepatitis – AI/drug/viral

1 case mentions leukaemia/lymphoma but still calls hepatitis

Complete response for 10 marks; lobular hepatitis (includes selection of acute/subacute from diagnosis menu), necrosis or no/equivocal fibrosis, broad differential AI/drug /viral (comments box will be accounted for).

Lose 5 marks if only single diagnosis considered, no D/d of viral & Drugs It would be unreasonable to only offer AIH for example as treatment implications (there is consensus for AI/drug/viral).

Lose 5 marks for mild fibrosis n=3 – committee felt this would be harsh therefore no.

Case Number: L23_B3

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Male 47. Incidental finding of segment 6 liver lesion. HPB MDM suggests HCC/cholangiocarcinoma.

Specimen: Native liver, atypical segment 6 resection

Macroscopic: 31 g wedge of liver, capsule on one surface with lesion visible beneath. Firm pale white lesion 23 x 17 by up to 19 mm. Abuts, but does not invade capsule. Nearest margin 7 mm.

Immunohistochemistry: NA

Original Diagnosis: Well-differentiated neuroendocrine tumour

Tumour:	Popularity:
metastasis (further comment in Comments)	69.7%
Other (please specify in Comments)	28.1%
hepatocellular carcinoma	2.2%

- No tumour/lesion present	1.1%
hepatocellular adenoma NOS	0.0%

Tumour 1:	Tumour 2:	Count:
metastasis (further comment in Comments)		60
Other (please specify in Comments)		25
hepatocellular carcinoma		2
metastasis (further comment in Comments)	- No tumour/lesion present	1
metastasis (further comment in Comments)	metastasis (further comment in Comments)	1

Pattern:	Popularity:
steatosis	51.7%
within normal limits	29.2%
Other (please specify in Comments)	10.1%
not applicable	3.4%
acute venous outflow obstruction	1.1%

Pattern 1:	Pattern 2:	Count:
steatosis		44
within normal limits		26
Other (please specify in Comments)		7
		6
not applicable		2
steatosis	Other (please specify in Comments)	2
not applicable	not applicable	1
acute venous outflow obstruction		1

Stages:	Popularity:
not applicable / no special stains to assess architecture	49.4%
no fibrosis/equivocal fibrosis	33.7%
Other (please specify in Comments)	1.1%

Diagnostic categories:	Popularity:
fatty liver disease - either alcohol or non-alcohol	20.2%
- no evidence of diffuse/background liver disease	19.1%
Other (please enter alternative diagnosis in comments box)	9.0%
- not applicable (insufficient non-lesional tissue)	2.2%
fatty liver disease - non-alcohol related fatty liver disease	2.2%
- histologically indeterminate for cause	1.1%
fatty liver disease - alcohol related liver disease	1.1%

Diagnosis Combination:	Count:
[No selections made]	40
fatty liver disease - either alcohol or non-alcohol	18
- no evidence of diffuse/background liver disease	17
Other (please enter alternative diagnosis in comments box)	8
- not applicable (insufficient non-lesional tissue)	2
fatty liver disease - non-alcohol related fatty liver disease	2
- histologically indeterminate for cause	1
fatty liver disease - alcohol related liver disease	1

Original report and further information (if any): Well-differentiated neuroendocrine tumour

Mets + other - 97.8%

Stage – Consensus (Not applicable/no special stain AND No fibrosis) not for scoring

Diagnostic category for background – various ways of saying fatty disease does not reach consensus

Complete response for 10 marks; met NET

2 people – HCC (One mentions NET in comments and other says will do neuroendocrine IH but not NET) lose 5 marks if work up would lead to consensus diagnosis, if no work up lose 10.

Case Number: L23_B4

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Male 22. Bilirubin >500, conjugated, ALP 20e, ALP 250. Non-invasive liver screen and US/MRCP done locally normal. ? BRIC, ? viral - To assess for aetiology of acute liver injury ?/- evidence of necrosis or chronicity. No previous medical or family history. Onset of jaundice for 3 weeks. No history of travel or recent medication. Atypical lymphocytes on blood film, awaiting EBV. Hepatitis A IgM +ve, confirmed on PCR.

Specimen: liver core biopsy

Macroscopic: one core 22mm long

Immunohistochemistry: van Gieson, DPAS, Orcein, CK7

Original Diagnosis: Bland cholestasis, no ongoing hepatitis or portal tract inflammation no definite ductopenia. No drug history. Possibly BRIC unmasked by Hep A - still waiting for genetic studies. Responded to rifampicin.

Tumour:	Popularity:
- No tumour/lesion present	100.0%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		86
- No tumour/lesion present	- No tumour/lesion present	3

Pattern:	Popularity:
cholestasis, bilirubinostasis	98.9%
lobular hepatitis	6.7%
Other (please specify in Comments)	4.5%
chronic biliary disease	3.4%
not applicable	2.2%

Pattern 1:	Pattern 2:	Count:
cholestasis, bilirubinostasis		72
cholestasis, bilirubinostasis	lobular hepatitis	6
cholestasis, bilirubinostasis	Other (please specify in Comments)	3
cholestasis, bilirubinostasis	chronic biliary disease	3
cholestasis, bilirubinostasis	not applicable	2
		1
cholestasis, bilirubinostasis	cholestasis, bilirubinostasis	1
Other (please specify in Comments)	cholestasis, bilirubinostasis	1

Stages:	Popularity:
no fibrosis/equivocal fibrosis	94.4%
mild/early fibrosis without bridging	3.4%
not applicable / no special stains to assess architecture	1.1%

Diagnostic categories:	Popularity:
Other (please enter alternative diagnosis in comments box)	55.1%
acute / subacute hepatitis - autoimmune / drug / viral	21.3%
drug induced liver injury (please specify in comments box)	9.0%
chronic cholangiopathy NOS	7.9%
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	5.6%
- histologically indeterminate for cause	3.4%
non-hepatotropic - viral, bacterial, parasitic (please specify in comment box)	2.2%
vanishing bile duct syndrome	2.2%

Diagnosis Combination:	Count:
Other (please enter alternative diagnosis in comments box)	45
acute / subacute hepatitis - autoimmune / drug / viral	18
drug induced liver injury (please specify in comments box)	6
chronic cholangiopathy NOS	5
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	4
- histologically indeterminate for cause	3
acute / subacute hepatitis - autoimmune / drug / viral, Other (please enter alternative diagnosis in comments box)	1
chronic cholangiopathy NOS, drug induced liver injury (please specify in comments box)	1
chronic cholangiopathy NOS, Other (please enter alternative diagnosis in comments box)	1
chronic viral hepatitis (hepatotropic viruses - please specify in comments box), Other (please enter alternative diagnosis in comments box)	1
drug induced liver injury (please specify in comments box), non-hepatotropic - viral, bacterial, parasitic (please specify in comment box)	1
non-hepatotropic - viral, bacterial, parasitic (please specify in comment box)	1
Other (please enter alternative diagnosis in comments box), vanishing bile duct syndrome	1
vanishing bile duct syndrome	1

Original report and further information (if any): Bland cholestasis, no ongoing hepatitis or portal tract inflammation no definite ductopenia. No drug history. Possibly BRIC unmasked by Hep A - still waiting for genetic studies. Responded to rifampicin.

There is **consensus for cholestasis / bilirubinostasis and no/equivocal fibrosis** . No consensus for cause .

Everyone has said cholestasis when comments into consideration

Three people said mild / early fibrosis, committee felt not to score down.

Two people did not comment on fibrosis or said there were no stains to assess (incorrect)

Complete response for 10 marks; mention cholestasis somewhere in the response and comment on stage (mild or less).

No comment on stage lose 5 marks

Case Number: L23_B5

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 22. Post lung transplant 18 m ago for cystic fibrosis. Recurrent infections. New sclerotic vertebral lesions and a liver lesion at dome. Infective vs other.

Specimen: Liver biopsy (H&E, MNF116, smooth muscle actin, EBER ISH).

Macroscopic: One tan core measuring 18mm

Immunohistochemistry: MNF116, smooth muscle actin and EBER ISH provided. Focal staining seen with calponin and caldesmon. Desmin, S100, CD34, STAT6, CD20 and CD3 are negative.

Original Diagnosis: EBV associated smooth muscle tumour

Tumour:	Popularity:
Other (please specify in Comments)	95.5%
metastasis (further comment in Comments)	4.5%
- No tumour/lesion present	1.1%
angiomyolipoma	1.1%
epithelioid haemangioendothelioma	1.1%
inflammatory pseudotumour	0.0%

Tumour 1:	Tumour 2:	Count:
Other (please specify in Comments)		80
metastasis (further comment in Comments)		3
Other (please specify in Comments)	Other (please specify in Comments)	2
angiomyolipoma		1
Other (please specify in Comments)	- No tumour/lesion present	1
Other (please specify in Comments)	epithelioid haemangioendothelioma	1
Other (please specify in Comments)	metastasis (further comment in Comments)	1

Pattern:	Popularity:
within normal limits	44.9%

Other (please specify in Comments)	22.5%
not applicable	14.6%
lobular hepatitis	3.4%
cholestasis, bilirubinostasis	3.4%
chronic hepatitis	2.2%
abnormal, no pattern discernible	1.1%
acute venous outflow obstruction	1.1%

Pattern 1:	Pattern 2:	Count:
within normal limits		40
Other (please specify in Comments)		20
not applicable		11
		7
lobular hepatitis		3
cholestasis, bilirubinostasis		2
not applicable	not applicable	2
chronic hepatitis		1
abnormal, no pattern discernible		1
acute venous outflow obstruction		1
cholestasis, bilirubinostasis	chronic hepatitis	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	61.8%
no fibrosis/equivocal fibrosis	21.3%

Diagnostic categories:	Popularity:
- no evidence of diffuse/background liver disease	24.7%
Other (please enter alternative diagnosis in comments box)	21.3%
- not applicable (insufficient non-lesional tissue)	6.7%
transplant complication NOS (please specify in comments box)	5.6%
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1.1%
non-hepatotropic - viral, bacterial, parasitic (please specify in comment box)	1.1%

Diagnosis Combination:	Count:
[No selections made]	35
- no evidence of diffuse/background liver disease	22
Other (please enter alternative diagnosis in comments box)	19
- not applicable (insufficient non-lesional tissue)	6
transplant complication NOS (please specify in comments box)	5
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1
non-hepatotropic - viral, bacterial, parasitic (please specify in comment box)	1

Original report and further information (if any): EBV associated smooth muscle tumour

Consensus for EBV smooth muscle tumour specified in comments box ('EBV' Epstein' 'EBER' all but 3).

Complete response for 10 marks; EBV smooth muscle tumour or closely synonymous terms recognising this has occurred in a setting of immunosuppression.

Committee felt;

1 response; 'Immunodeficiency associated smooth muscle tumour, requires sarcoma team input' would be acceptable.

1 response; 'Cellular vascular tumour. Morphology and immuno strongly favours KAPOSI Sarcoma. Background liver shows changes consistent with liver adjacent to the tumour' is outside consensus for recognising both a smooth muscle tumour and EBV association, lose 10.

1 response; 'tumour - leiomyosarcoma. Desmin and h-caldesmon IHC should be done to confirm the diagnosis ideally as SMA not specific.' Lose 5 as no mention of either EBV or the immunosuppressed state.

'metastatic' included in the response not to score down.

No meaningful consensus re stage or background liver.

Case Number: L23_B6

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Male 58. CT showed a large infiltrative mass in left lobe of liver, left portal vein thrombus and enlarged nodes.

Specimen: Liver resection (H&E, CD31 and ERG)

Macroscopic: Left hemihepatectomy containing a subcapsular poorly defined lesion measuring approximately 100mm.

Immunohistochemistry: ERG and CD31 provided. AE1/AE3. BerEP4, arginase and HepPar1 negative. No WWTR1-CAMTA1 fusion detected.

Original Diagnosis: Angiosarcoma

Tumour:	Popularity:
angiosarcoma	67.4%
epithelioid haemangioendothelioma	30.3%
Other (please specify in Comments)	3.4%

Tumour 1:	Tumour 2:	Count:
angiosarcoma		60
epithelioid haemangioendothelioma		25
Other (please specify in Comments)		2
epithelioid haemangioendothelioma	epithelioid haemangioendothelioma	1
epithelioid haemangioendothelioma	Other (please specify in Comments)	1

Pattern:	Popularity:
steatosis	59.6%
steatohepatitis	20.2%

not applicable	15.7%
within normal limits	3.4%
cholestasis, bilirubinostasis	1.1%
acute venous outflow obstruction	1.1%
chronic biliary disease	1.1%
Other (please specify in Comments)	1.1%

Pattern 1:	Pattern 2:	Count:
steatosis		48
steatohepatitis		15
not applicable		12
		3
within normal limits		3
steatosis	steatohepatitis	2
steatohepatitis	cholestasis, bilirubinostasis	1
steatosis	chronic biliary disease	1
not applicable	not applicable	1
steatosis	not applicable	1
steatosis	Other (please specify in Comments)	1
acute venous outflow obstruction		1

Stages:	Popularity:
not applicable / no special stains to assess architecture	66.3%
no fibrosis/equivocal fibrosis	6.7%
mild/early fibrosis without bridging	5.6%
fibrosis with bridging between vascular structures	4.5%
advanced fibrosis with bridging and nodularity/cirrhosis	3.4%
Other (please specify in Comments)	1.1%

Diagnostic categories:	Popularity:
fatty liver disease - either alcohol or non-alcohol	39.3%
- not applicable (insufficient non-lesional tissue)	7.9%
fatty liver disease - non-alcohol related fatty liver disease	4.5%
fatty liver disease - alcohol related liver disease	1.1%
Other (please enter alternative diagnosis in comments box)	1.1%
- no evidence of diffuse/background liver disease	1.1%
chronic cholangiopathy NOS	1.1%

Diagnosis Combination:	Count:
[No selections made]	40
fatty liver disease - either alcohol or non-alcohol	34
- not applicable (insufficient non-lesional tissue)	7
fatty liver disease - non-alcohol related fatty liver disease	4
- no evidence of diffuse/background liver disease	1
chronic cholangiopathy NOS, fatty liver disease - either alcohol or non-alcohol	1
fatty liver disease - alcohol related liver disease	1
Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Angiosarcoma

No consensus cannot score.

Case Number: L23_B7

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 45. raised ALT 187, ? cause. raised IgG 26.6, +ve ANA ? autoimmune element. Previously on treatment for breast cancer (2020) including tamoxifen. Alk Phos 125, bilirubin 7, albumin 34.

Specimen: liver core biopsy

Macroscopic: one core 25mm long

Immunohistochemistry: van Gieson

Original Diagnosis: steatohepatitis, also features suggestive of autoimmune hepatitis. Clinical follow up - has metabolic risk factors, also hypothyroidism. stopped tamoxifen shortly before this biopsy started budesonide 3 weeks after this biopsy - gradual improvement in AL, normal 3 months later. Fibrosan 8,7. weight gain on budesonide - plan to change to azathioprine.

Tumour:	Popularity:
- No tumour/lesion present	100.0%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		86
- No tumour/lesion present	- No tumour/lesion present	3

Pattern:	Popularity:
steatohepatitis	79.8%
chronic hepatitis	68.5%
lobular hepatitis	15.7%
steatosis	5.6%
Other (please specify in Comments)	4.5%

Pattern 1:	Pattern 2:	Count:
chronic hepatitis	steatohepatitis	27
steatohepatitis	chronic hepatitis	21
steatohepatitis		11
chronic hepatitis		8
steatohepatitis	lobular hepatitis	5
steatohepatitis	Other (please specify in Comments)	4
chronic hepatitis	lobular hepatitis	3
lobular hepatitis		2
lobular hepatitis	steatohepatitis	2
chronic hepatitis	steatosis	2
lobular hepatitis	steatosis	2
steatosis	steatohepatitis	1

	1
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Stages:	Popularity:
mild/early fibrosis without bridging	56.2%
fibrosis with bridging between vascular structures	37.1%
no fibrosis/equivocal fibrosis	6.7%

Diagnostic categories:	Popularity:
autoimmune hepatitis	67.4%
fatty liver disease - either alcohol or non-alcohol	38.2%
drug induced liver injury (please specify in comments box)	22.5%
fatty liver disease - non-alcohol related fatty liver disease	18.0%
Other (please enter alternative diagnosis in comments box)	4.5%
acute / subacute hepatitis - autoimmune / drug / viral	3.4%
primary biliary cholangitis	1.1%
overlap syndrome	1.1%
- histologically indeterminate for cause	1.1%
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1.1%

Diagnosis Combination:	Count:
autoimmune hepatitis, fatty liver disease - either alcohol or non-alcohol	25
autoimmune hepatitis	14
autoimmune hepatitis, fatty liver disease - non-alcohol related fatty liver disease	11
autoimmune hepatitis, drug induced liver injury (please specify in comments box)	9
drug induced liver injury (please specify in comments box)	8
fatty liver disease - either alcohol or non-alcohol	5
fatty liver disease - non-alcohol related fatty liver disease	4
acute / subacute hepatitis - autoimmune / drug / viral, fatty liver disease - either alcohol or non-alcohol	2
Other (please enter alternative diagnosis in comments box)	2
- histologically indeterminate for cause	1
acute / subacute hepatitis - autoimmune / drug / viral	1
autoimmune hepatitis, primary biliary cholangitis	1
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1
drug induced liver injury (please specify in comments box), fatty liver disease - either alcohol or non-alcohol	1
drug induced liver injury (please specify in comments box), fatty liver disease - non-alcohol related fatty liver disease	1
drug induced liver injury (please specify in comments box), Other (please enter alternative diagnosis in comments box)	1
fatty liver disease - either alcohol or non-alcohol, Other (please enter alternative diagnosis in comments box)	1
overlap syndrome	1

Original report and further information (if any): steatohepatitis, also features suggestive of autoimmune hepatitis. Clinical follow up - has metabolic risk factors, also hypothyroidism. stopped tamoxifen shortly before this biopsy started budesonide 3 weeks after this biopsy - gradual improvement in AL, normal 3 months later. Fibrosan 8,7. weight gain on budesonide - plan to change to azathioprine.

89 responders need 71 for consensus

Points of consensus from dropdowns menus:

Tumour: N/A

Pattern:

Steatohepatitis (71 responses) but will be +/- combination with chronic hepatitis pattern or lobular hepatitis pattern

Potential for "hepatitis": 61 responses = chronic hepatitis pattern, 12 responses = lobular hepatitis pattern (including 3 that said both together)

However, only 59 participants selected steatohepatitis AND chronic hepatitis, or steatohepatitis AND lobular hepatitis.

Stage: No consensus

Diagnosis: No single consensus

If no consensus from dropdowns can consensus be reached from the comments box?

Only for individual processes i.e. steatohepatitis or hepatitis, specifically probable or possible AIH, and not as a combined diagnosis.

AIH probable, likely or possible +/- any other diagnosis = 76 (including 63 responders that refer to AIH in "Diagnoses" dropdown)

SH and probable/possible AIH = 61 therefore in combination does not meet consensus criteria in combination

FLD (steatosis or steatohepatitis) and Hepatitis (any cause) = 69;

Complete answer for 10 marks: *No meaningful consensus can be achieved that accounts for dual aetiology indicated by individual consensus*

Lose 5 marks: *Not applicable*

Lose 10 marks: *Not applicable*

NON SCORING CASE

Case Number: L23_B8

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 32. Liver lesions, suspected benign. Increase in size on recent imaging, unusual imaging. Background siderosis. Two biopsies - one lesional, other non lesional with lesion at end of core.

Specimen: Native liver, separate targeted lesional and non-lesional biopsies

Macroscopic: Cores

Immunohistochemistry: Lesional hepatocytes show expanded areas of glutamine synthetase immunopositivity and are liver fatty acid binding protein immunopositive; they are immunonegative for serum amyloid A, nuclear beta-catenin, and glypican-3, and there is no increased expression on HSP70.

Original Diagnosis: FNH. Iron overload.

Tumour:	Popularity:
focal nodular hyperplasia	85.4%
hepatocellular adenoma NOS	7.9%
- No tumour/lesion present	2.2%
hepatocellular adenoma inflammatory	2.2%
hepatocellular adenoma beta catenin activated	2.2%
cholangiocarcinoma	1.1%
Other (please specify in Comments)	1.1%
hepatocellular adenoma HNFalpha1 inactivated	1.1%

Tumour 1:	Tumour 2:	Count:
focal nodular hyperplasia		73
hepatocellular adenoma NOS		6
focal nodular hyperplasia	- No tumour/lesion present	2
hepatocellular adenoma inflammatory		2
cholangiocarcinoma		1
hepatocellular adenoma beta catenin activated		1
hepatocellular adenoma HNFalpha1 inactivated		1
focal nodular hyperplasia	focal nodular hyperplasia	1
hepatocellular adenoma beta catenin activated	hepatocellular adenoma NOS	1
Other (please specify in Comments)		1

Pattern:	Popularity:
within normal limits	38.2%
iron overload	31.5%
Other (please specify in Comments)	16.9%
not applicable	6.7%
cholestasis, bilirubinostasis	1.1%
chronic hepatitis	1.1%
abnormal, no pattern discernible	1.1%
vascular disease	1.1%

Pattern 1:	Pattern 2:	Count:
within normal limits		32
iron overload		27
Other (please specify in Comments)		11
not applicable		5
		5
abnormal, no pattern discernible		1
cholestasis, bilirubinostasis		1

chronic hepatitis		1
vascular disease		1
Other (please specify in Comments)	not applicable	1
	Other (please specify in Comments)	1
iron overload	Other (please specify in Comments)	1
within normal limits	Other (please specify in Comments)	1
within normal limits	within normal limits	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	53.9%
no fibrosis/equivocal fibrosis	22.5%
fibrosis with bridging between vascular structures	1.1%
subtle architectural abnormalities, vascular disease	1.1%
Other (please specify in Comments)	1.1%

Diagnostic categories:	Popularity:
iron overload, hereditary	19.1%
Other (please enter alternative diagnosis in comments box)	11.2%
- no evidence of diffuse/background liver disease	10.1%
- not applicable (insufficient non-lesional tissue)	3.4%
- histologically indeterminate for cause	1.1%
iron overload - acquired, secondary	1.1%

Diagnosis Combination:	Count:
[No selections made]	48
iron overload, hereditary	17
Other (please enter alternative diagnosis in comments box)	10
- no evidence of diffuse/background liver disease	9
- not applicable (insufficient non-lesional tissue)	3
- histologically indeterminate for cause	1
iron overload - acquired, secondary	1

Original report and further information (if any): FNH. Iron overload.

89 responders need 71 for consensus

Points of consensus from dropdowns menus:

Tumour: Focal nodular hyperplasia

Pattern: No consensus (n = 28 mention iron in pattern or comments), >50 responders make no comment on background changes

Stage: No consensus

Diagnosis: Focal nodular hyperplasia

Complete answer for 10 marks would include: Focal nodular hyperplasia

Lose 5 marks – HCA but makes further comment that may aid a consensus diagnosis e.g. “would review GS stain” (1 participant)

Lose 10 marks – cholangiocarcinoma or hepatocellular adenoma without potential (specified work up) for making consensus diagnosis (11 participants)

Case Number: L23_B9

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 25. Presented with left flank pain. CT showed large 85 x 67 mm lesion within Morrison's pouch which is either extending into or arising from the right lobe of liver.

Specimen: Liver resection, segments 6 and 7

Macroscopic: Liver resection specimen with a 83 x 38 x 80mm multilobulated part-solid, part-cystic lesion and a thin rim of adjacent liver tissue. The lesion has a heterogenous cut surface with yellow and gelatinous areas.

Immunohistochemistry: N/A

Original Diagnosis: Mature teratoma. Primary mature teratomas arising in association with the liver are rare and this lesion appears to be on the surface of the liver. Clinical and radiological correlation are advised as this may represent maturation of metastatic immature teratoma arising from the ovary or possibly rarer primary sites such as thyrocervical, mediastinal or sacrococcygeal. Given the thyroid tissue present follow up as for struma ovarii could be considered.

Tumour:	Popularity:
Other (please specify in Comments)	96.6%
metastasis (further comment in Comments)	2.2%
- No tumour/lesion present	1.1%

Tumour 1:	Tumour 2:	Count:
Other (please specify in Comments)		83
metastasis (further comment in Comments)		2
Other (please specify in Comments)	Other (please specify in Comments)	2
		1
Other (please specify in Comments)	- No tumour/lesion present	1

Pattern:	Popularity:
steatosis	44.9%
steatohepatitis	30.3%
not applicable	16.9%
Other (please specify in Comments)	3.4%
within normal limits	1.1%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
steatosis		36
steatohepatitis		24

not applicable		13
		7
steatosis	Other (please specify in Comments)	2
steatosis	steatohepatitis	1
steatohepatitis	steatosis	1
abnormal, no pattern discernible		1
Other (please specify in Comments)		1
within normal limits		1
not applicable	not applicable	1
steatohepatitis	not applicable	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	61.8%
no fibrosis/equivocal fibrosis	11.2%
advanced fibrosis with bridging and nodularity/cirrhosis	2.2%
Other (please specify in Comments)	1.1%
mild/early fibrosis without bridging	1.1%
fibrosis with bridging between vascular structures	1.1%

Diagnostic categories:	Popularity:
fatty liver disease - either alcohol or non-alcohol	41.6%
- no evidence of diffuse/background liver disease	4.5%
fatty liver disease - non-alcohol related fatty liver disease	3.4%
Other (please enter alternative diagnosis in comments box)	2.2%
- not applicable (insufficient non-lesional tissue)	2.2%
- histologically indeterminate for cause	1.1%

Diagnosis Combination:	Count:
[No selections made]	40
fatty liver disease - either alcohol or non-alcohol	37
- no evidence of diffuse/background liver disease	4
fatty liver disease - non-alcohol related fatty liver disease	3
- not applicable (insufficient non-lesional tissue)	2
Other (please enter alternative diagnosis in comments box)	2
- histologically indeterminate for cause	1

Original report and further information (if any): Mature teratoma. Primary mature teratomas arising in association with the liver are rare and this lesion appears to be on the surface of the liver. Clinical and radiological correlation are advised as this may represent maturation of metastatic immature teratoma arising from the ovary or possibly rarer primary sites such as thyrocervical, mediastinal or sacrococcygeal. Given the thyroid tissue present follow up as for struma ovarii could be considered.

Points of consensus from dropdowns menus:

Tumour: "Other" – 88 responses = mature cystic teratoma as diagnosis or likely diagnosis,

Pattern: No consensus: 26 SH, 39 steatosis

Stage: No consensus (not applicable most common)

Diagnosis: Mature cystic teratoma

Complete answer for 10 marks would include: Mature cystic teratoma

Lose 5 marks – None

Lose 10 marks – 2 responses did not describe tumour/teratoma but did mention FLD **both selected 'other please specify in comments box' for "tumour" category but did not write a comment

Case Number: L23_B10

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 35. Fluctuating transaminitis. UC. [From EPR - diagnosed with PBC 2015, positive AMA (not M2 positive). intermittently raised ALT and IgG. March 2022 - ANA >1/640, ALT 97 (ALT 234 28/02/22), ALP 94, bilirubin 9. Hepatitis A, B, C, E negative, CMV negative.]

Specimen: Native liver, needle biopsy

Macroscopic: Core

Immunohistochemistry: orcein

Original Diagnosis: Portal inflammation with bile duct injury and loss; chronic cholestasis; interface and lobular lymphoplasmacytic hepatitis. PBC - autoimmune hepatitis overlap.

Tumour:	Popularity:
- No tumour/lesion present	98.9%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		84
- No tumour/lesion present	- No tumour/lesion present	4
		1

Pattern:	Popularity:
chronic biliary disease	80.9%
chronic hepatitis	27.0%
Other (please specify in Comments)	11.2%
lobular hepatitis	5.6%
cholestasis, bilirubinostasis	1.1%

Pattern 1:	Pattern 2:	Count:
chronic biliary disease		48
chronic biliary disease	chronic hepatitis	11
chronic hepatitis	chronic biliary disease	7
chronic hepatitis		6
Other (please specify in Comments)		6
chronic biliary disease	lobular hepatitis	3
chronic biliary disease	Other (please specify in Comments)	2
		2

cholestasis, bilirubinostasis		1
lobular hepatitis	Other (please specify in Comments)	1
Other (please specify in Comments)	Other (please specify in Comments)	1
lobular hepatitis	chronic biliary disease	1

Stages:	Popularity:
no fibrosis/equivocal fibrosis	47.2%
mild/early fibrosis without bridging	30.3%
not applicable / no special stains to assess architecture	18.0%
Other (please specify in Comments)	3.4%

Diagnostic categories:	Popularity:
primary sclerosing cholangitis	31.5%
primary biliary cholangitis	21.3%
overlap syndrome	18.0%
chronic cholangiopathy NOS	16.9%
Other (please enter alternative diagnosis in comments box)	10.1%
autoimmune hepatitis	10.1%
- histologically indeterminate for cause	2.2%
vanishing bile duct syndrome	2.2%

Diagnosis Combination:	Count:
primary sclerosing cholangitis	23
chronic cholangiopathy NOS	14
primary biliary cholangitis	13
overlap syndrome	12
Other (please enter alternative diagnosis in comments box)	7
autoimmune hepatitis	3
autoimmune hepatitis, primary biliary cholangitis	3
- histologically indeterminate for cause	2
autoimmune hepatitis, primary sclerosing cholangitis	2
overlap syndrome, primary biliary cholangitis	2
vanishing bile duct syndrome	2
[No selections made]	1
autoimmune hepatitis, Other (please enter alternative diagnosis in comments box)	1
chronic cholangiopathy NOS, primary sclerosing cholangitis	1
Other (please enter alternative diagnosis in comments box), overlap syndrome	1
overlap syndrome, primary sclerosing cholangitis	1
primary biliary cholangitis, primary sclerosing cholangitis	1

Original report and further information (if any): Portal inflammation with bile duct injury and loss; chronic cholestasis; interface and lobular lymphoplasmacytic hepatitis. PBC - autoimmune hepatitis overlap.

89 responders need 71 for consensus

Points of consensus from dropdowns menus:

Tumour:NA

Pattern: chronic biliary 48 most popular single choice but not consensus, chronic biliary + another pattern 24 = 72 (just over consensus) in total recognising chronic biliary pattern of injury alone or in

combination from dropdowns. Most others describe biliary features in comment/consider biliary diagnoses.

Stage: Not quite consensus for none/mild. Orcein is a connective tissue stain.

Diagnosis: PSC single most popular choice but not consensus 25, another 38 consider only a biliary diagnosis (including one PSC and PBC!), 23 consider some kind of overlap (1 just selecting 2 patterns?). Biliary plus overlap = 86.

Complete answer for 10 marks would include: consideration of a biliary pathology somewhere in the response (+/- 'overlap').

If recognition of biliary pattern and/or disease missing from response lose 5 n=3 all selecting 'chronic hepatitis' alone and 'AIH' alone without any comments.

Case Number: L23_B11

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Male 45. Cirrhosis. High ALT (193), often >100 for years. Fatty liver on Fibroscan CAP.

Specimen: Native liver, needle biopsy

Macroscopic: Core

Immunohistochemistry: PSR

Original Diagnosis: Active chronic steatohepatitis, in keeping with the clinical suggestion of NAFLD/NASH. Cirrhosis.

Tumour:	Popularity:
- No tumour/lesion present	98.9%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		85
- No tumour/lesion present	- No tumour/lesion present	3
		1

Pattern:	Popularity:
steatohepatitis	85.4%
steatosis	15.7%
chronic hepatitis	3.4%
Other (please specify in Comments)	1.1%

Pattern 1:	Pattern 2:	Count:
steatohepatitis		71
steatosis		10
steatohepatitis	chronic hepatitis	2

steatosis	steatohepatitis	2
steatohepatitis	steatosis	1
		1
chronic hepatitis		1
steatosis	Other (please specify in Comments)	1

Stages:	Popularity:
advanced fibrosis with bridging and nodularity/cirrhosis	85.4%
fibrosis with bridging between vascular structures	14.6%

Diagnostic categories:	Popularity:
fatty liver disease - either alcohol or non-alcohol	89.9%
Other (please enter alternative diagnosis in comments box)	5.6%
fatty liver disease - non-alcohol related fatty liver disease	5.6%
fatty liver disease - alcohol related liver disease	3.4%
- histologically indeterminate for cause	1.1%

Diagnosis Combination:	Count:
fatty liver disease - either alcohol or non-alcohol	77
fatty liver disease - alcohol related liver disease	3
fatty liver disease - either alcohol or non-alcohol, Other (please enter alternative diagnosis in comments box)	3
fatty liver disease - non-alcohol related fatty liver disease	3
fatty liver disease - non-alcohol related fatty liver disease, Other (please enter alternative diagnosis in comments box)	2
- histologically indeterminate for cause	1

Original report and further information (if any): Active chronic steatohepatitis, in keeping with the clinical suggestion of NAFLD/NASH. Cirrhosis.

Need 71 for consensus

Points of consensus from dropdowns menus:

Tumour: NA

Pattern: consensus for SH alone (74) committee felt selecting additional 'chronic hepatitis' not to lose marks.

Stage: complete consensus for bridging or advanced.

Diagnosis: consensus for either cause (ArLD or NAFLD) but include all, weren't told any history (and therefore accept 'indeterminate for cause' in an otherwise consensus response).

Complete answer for 10 marks would include: steatohepatitis and bridging or advanced fibrosis/cirrhosis and fatty liver disease diagnosis.

If steatohepatitis missing from response lose 5

Case Number: L23_B12

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Male 36. Chronic liver disease with decompensation.

Specimen: Liver explant (H/E, EPSR, victoria blue submitted)

Macroscopic: Liver explant weighing 2268g and measuring 295 x 205 x 83mm. The parenchyma is green tinged with numerous small nodules throughout.

Immunohistochemistry: EPSR, victoria blue

Original Diagnosis: Primary sclerosing cholangitis

Tumour:	Popularity:
- No tumour/lesion present	93.3%
Other (please specify in Comments)	3.4%
focal nodular hyperplasia	2.2%
hepatocellular lesion - dysplastic nodule	1.1%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		79
- No tumour/lesion present	- No tumour/lesion present	4
Other (please specify in Comments)		3
focal nodular hyperplasia		2
hepatocellular lesion - dysplastic nodule		1

Pattern:	Popularity:
Other (please specify in Comments)	39.3%
chronic biliary disease	38.2%
chronic hepatitis	14.6%
cholestasis, bilirubinostasis	11.2%
abnormal, no pattern discernible	5.6%

Pattern 1:	Pattern 2:	Count:
Other (please specify in Comments)		32
chronic biliary disease		29
chronic hepatitis		9
abnormal, no pattern discernible		5
chronic biliary disease	cholestasis, bilirubinostasis	4
cholestasis, bilirubinostasis		3
chronic hepatitis	cholestasis, bilirubinostasis	2
cholestasis, bilirubinostasis	chronic biliary disease	1
Other (please specify in Comments)	chronic hepatitis	1
chronic hepatitis	Other (please specify in Comments)	1
Other (please specify in Comments)	Other (please specify in Comments)	1
		1

Stages:	Popularity:
advanced fibrosis with bridging and nodularity/cirrhosis	98.9%
not applicable / no special stains to assess architecture	1.1%

Diagnostic categories:	Popularity:
Wilson disease	39.3%
primary sclerosing cholangitis	18.0%
chronic cholangiopathy NOS	16.9%
- histologically indeterminate for cause	9.0%
Other (please enter alternative diagnosis in comments box)	6.7%
primary biliary cholangitis	2.2%
vanishing bile duct syndrome	2.2%
ductal plate malformation/polycystic liver disease/congenital hepatic fibrosis	1.1%
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1.1%
acute / subacute hepatitis - autoimmune / drug / viral	1.1%
- no evidence of diffuse/background liver disease	1.1%

Diagnosis Combination:	Count:
Wilson disease	32
primary sclerosing cholangitis	15
chronic cholangiopathy NOS	13
- histologically indeterminate for cause	7
Other (please enter alternative diagnosis in comments box)	6
[No selections made]	5
primary biliary cholangitis	2
vanishing bile duct syndrome	2
- histologically indeterminate for cause, Wilson disease	1
- no evidence of diffuse/background liver disease, Wilson disease	1
acute / subacute hepatitis - autoimmune / drug / viral	1
chronic cholangiopathy NOS, primary sclerosing cholangitis	1
chronic cholangiopathy NOS, Wilson disease	1
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1
ductal plate malformation/polycystic liver disease/congenital hepatic fibrosis	1

Original report and further information (if any): Primary sclerosing cholangitis

89 responders need 71 for consensus

Points of consensus from dropdowns menus:

Tumour: consensus for none. 6 saying mass forming lesion. Couple of others mention nodule in comments. All benign. (committee felt unreasonable to score on this basis, there is heterogeneity/potentially hyperplastic nodule like change).

Pattern: no consensus, from dropdowns commonest chronic biliary but does not reach consensus

Stage: strong consensus for advanced/cirrhosis

Diagnosis: most popular wilsons – not consensus. PSC 15, other biliary diseases 18. No consensus.

Complete answer for 10 marks would include; positive identification of cirrhosis.

? include this case – ask members.

If score as suggested; lose 5 for no stage offered n=1 (there was a stain)

Case Number: L23_B13 EDUCATIONAL CASE WILL BE DISCUSSED IN THE 7TH DECEMBER MEETING

Number of responses: 89. Date of analysis: 01 Nov 2023

Clinical: Female 10. Hepatosplenomegaly with thrombocytopenia. Cause unknown. No other features. Normal LFTs. Storage disorder?

Specimen: Liver biopsy

Macroscopic: 2 mottled cores 1.6 and 1cm.

Immunohistochemistry: HVG PAS PASD

Original Diagnosis: Gaucher

Tumour:	Popularity:
- No tumour/lesion present	79.8%
Other (please specify in Comments)	1.1%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		69
		17
- No tumour/lesion present	- No tumour/lesion present	2
Other (please specify in Comments)		1

Pattern:	Popularity:
Other (please specify in Comments)	70.8%
abnormal, no pattern discernible	3.4%
within normal limits	2.2%
not applicable	1.1%
granulomatous	1.1%

Pattern 1:	Pattern 2:	Count:
Other (please specify in Comments)		62
		20
abnormal, no pattern discernible		2
within normal limits		2
abnormal, no pattern discernible	granulomatous	1
Other (please specify in Comments)	Other (please specify in Comments)	1
not applicable		1

Stages:	Popularity:
no fibrosis/equivocal fibrosis	50.6%
mild/early fibrosis without bridging	14.6%
not applicable / no special stains to assess architecture	5.6%
Other (please specify in Comments)	1.1%

Diagnostic categories:	Popularity:
storage disorder (please specify in comments box)	68.5%
Other (please enter alternative diagnosis in comments box)	5.6%
manifestation of systemic or extrahepatic disease (please specify in comments box)	3.4%
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	1.1%

Diagnosis Combination:	Count:
storage disorder (please specify in comments box)	60
[No selections made]	20
Other (please enter alternative diagnosis in comments box)	5
manifestation of systemic or extrahepatic disease (please specify in comments box)	3
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box), storage disorder (please specify in comments box)	1

Original report and further information (if any): Gaucher