

UK National Liver Histopathology EQA Scheme

Circulation LZ

Case Response Analysis

A meeting of the UKLPG quality subcommittee / EQA steering committee took place on Friday 11th November 2022. Responses were collated using the below data (as provided directly from EQA lite) and with additional access to the free text comments box.

Points of consensus are identified from the dropdowns menus in the first instance for tumour, pattern, stage and diagnosis. Consensus might be for one response *alone* in tumour pattern and diagnosis sections. If necessary consensus is sought from free text comments.

92 responses 74 needed for consensus (80%).

Collators propose what is an appropriate response/which consensus points should be included for 10 marks and how many marks are lost for being out of consensus. Please see summaries below in blue.

Cases will be discussed at the UKLPG meeting on 8th December 2022. After 8th December agreed scoring criteria are applied to responses, at this point the whole of the response including the comments box is accounted for.

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

Case Number: LZ1

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 28. Imaging features suggestive of PSC, ? autoimmune overlap ?IgG4.

Specimen: Liver biopsy

Macroscopic: 1 tan core measuring 26mm, bisected at 20. 2[1]nr

Immunohistochemistry: EPSR and Victoria blue included.

Original Diagnosis: Liver biopsy - the features are most in keeping with a diagnosis of Primary Sclerosing Cholangitis, without evidence for IgG 4 related disease; this is at a progressive stage, given the prominence of cholate stasis, established ductopenia and moderate fibrosis.

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

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		81
- No tumour/lesion present	- No tumour/lesion present	11

Pattern:	Popularity:
chronic biliary disease	93.5%
chronic hepatitis	17.4%
not applicable	2.2%
lobular hepatitis	2.2%
cholestasis, bilirubinostasis	1.1%
Other (please specify in Comments)	1.1%

Pattern 1:	Pattern 2:	Count:
chronic biliary disease		70
chronic hepatitis		6
chronic biliary disease	chronic hepatitis	6
chronic hepatitis	chronic biliary disease	4
chronic biliary disease	not applicable	2
chronic biliary disease	Other (please specify in Comments)	1
chronic biliary disease	lobular hepatitis	1
lobular hepatitis	chronic biliary disease	1
chronic biliary disease	cholestasis, bilirubinostasis	1

Stages:	Popularity:
fibrosis with bridging between vascular structures	82.6%
mild/early fibrosis without bridging	10.9%
advanced fibrosis with bridging and nodularity/cirrhosis	3.3%
Other (please specify in Comments)	3.3%

Diagnostic categories:	Popularity:
primary sclerosing cholangitis	84.8%
overlap syndrome	8.7%
chronic cholangiopathy NOS	8.7%
Other (please enter alternative diagnosis in comments box)	3.3%
autoimmune hepatitis	3.3%
primary biliary cholangitis	2.2%
- histologically indeterminate for cause	1.1%
acute / subacute hepatitis - autoimmune / drug / viral	1.1%
vanishing bile duct syndrome	1.1%

Diagnosis Combination:	Count:
primary sclerosing cholangitis	66
chronic cholangiopathy NOS	5
overlap syndrome	4
overlap syndrome, primary sclerosing cholangitis	4
chronic cholangiopathy NOS, primary sclerosing cholangitis	3

Other (please enter alternative diagnosis in comments box), primary sclerosing cholangitis	3
- histologically indeterminate for cause	1
acute / subacute hepatitis - autoimmune / drug / viral, primary sclerosing cholangitis	1
autoimmune hepatitis	1
autoimmune hepatitis, primary biliary cholangitis	1
autoimmune hepatitis, primary sclerosing cholangitis	1
primary biliary cholangitis	1
vanishing bile duct syndrome	1

Original report and further information (if any): Liver biopsy - the features are most in keeping with a diagnosis of Primary Sclerosing Cholangitis, without evidence for IgG 4 related disease; this is at a progressive stage, given the prominence of cholate stasis, established ductopenia and moderate fibrosis.

For 10 marks; PSC as sole or favoured diagnosis and bridging fibrosis

Stage other than bridging lose 5

Making additional diagnosis of AIH or overlap lose 5

No mention of PSC lose 10

After members meeting; LZ1 of those not saying PSC any biliary response including VBDSy should score 5 rather than zero

Case Number: LZ2

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 37. HBV. ? Fibrosis related to HBV or NAFLD. Abnormal LFTs. 18G cores

Specimen: Needle core biopsy

Macroscopic: 2 cores of tissue

Immunohistochemistry: HBSAg, Orcein, Masson Trichrome

Original Diagnosis: Mild/moderate steatosis. Very mild/focal portal inflammation. HBSAg detected. Bridging fibrosis, with some slender septa (possibly regressing) - pattern of fibrosis favouring chronic injury secondary to HBV rather than FLD. Minimal hepatitic activity at present.

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

Tumour 1:	Tumour 2:	Count:
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- No tumour/lesion present	86
- No tumour/lesion present	- No tumour/lesion present
	6

Pattern:	Popularity:
chronic hepatitis	68.5%
steatosis	60.9%
steatohepatitis	35.9%
Other (please specify in Comments)	13.0%
lobular hepatitis	2.2%
not applicable	1.1%

Pattern 1:	Pattern 2:	Count:
chronic hepatitis	steatosis	25
steatosis	chronic hepatitis	16
steatohepatitis	chronic hepatitis	13
steatohepatitis		7
steatosis		7
steatosis	Other (please specify in Comments)	6
chronic hepatitis	steatohepatitis	6
steatohepatitis	Other (please specify in Comments)	5
chronic hepatitis		2
lobular hepatitis		1
steatohepatitis	not applicable	1
chronic hepatitis	Other (please specify in Comments)	1
steatosis	steatohepatitis	1
lobular hepatitis	steatosis	1

Stages:	Popularity:
fibrosis with bridging between vascular structures	84.8%
mild/early fibrosis without bridging	6.5%
advanced fibrosis with bridging and nodularity/cirrhosis	4.3%
Other (please specify in Comments)	3.3%
no fibrosis/equivocal fibrosis	1.1%

Diagnostic categories:	Popularity:
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	85.9%
fatty liver disease - non-alcohol related fatty liver disease	52.2%
fatty liver disease - either alcohol or non-alcohol	35.9%
Other (please enter alternative diagnosis in comments box)	5.4%
non-hepatotropic - viral, bacterial, parasitic (please specify in comment box)	1.1%

Diagnosis Combination:	Count:
chronic viral hepatitis (hepatotropic viruses - please specify in comments box), fatty liver disease - non-alcohol related fatty liver disease	40
chronic viral hepatitis (hepatotropic viruses - please specify in comments box), fatty liver disease - either alcohol or non-alcohol	28
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	9

fatty liver disease - non-alcohol related fatty liver disease	5
fatty liver disease - either alcohol or non-alcohol	4
fatty liver disease - non-alcohol related fatty liver disease, Other (please enter alternative diagnosis in comments box)	3
chronic viral hepatitis (hepatotrophic viruses - please specify in comments box), non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	1
chronic viral hepatitis (hepatotrophic viruses - 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

Original report and further information (if any): Mild/moderate steatosis. Very mild/focal portal inflammation. HBSAg detected. Bridging fibrosis, with some slender septa (possibly regressing) - pattern of fibrosis favouring chronic injury secondary to HBV rather than FLD. Minimal hepatitic activity at present.

Complete answer for 10 marks; include fatty liver disease, hep B and bridging fibrosis.

Lose 5 for absence of any of these

Case Number: LZ3

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Female 45. Acute liver failure

Specimen: Section from expanded liver

Macroscopic: Liver, 1267g . Diffusely nutmeg in appearance.

Immunohistochemistry: none

Original Diagnosis: Zonal necrosis - this was due to paracetamol overdose, Our lab in Ireland is INAB accredited , rather than CPA , but I have answered yes below as standard is similar

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	6

Pattern:	Popularity:
Other (please specify in Comments)	80.4%
lobular hepatitis	10.9%
acute venous outflow obstruction	8.7%
vascular disease	4.3%
cholestasis, bilirubinostasis	3.3%

steatosis	1.1%
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Pattern 1:	Pattern 2:	Count:
Other (please specify in Comments)		66
lobular hepatitis		8
acute venous outflow obstruction		6
vascular disease		2
Other (please specify in Comments)	cholestasis, bilirubinostasis	2
Other (please specify in Comments)	lobular hepatitis	1
lobular hepatitis	Other (please specify in Comments)	1
Other (please specify in Comments)	Other (please specify in Comments)	1
vascular disease	Other (please specify in Comments)	1
Other (please specify in Comments)	steatosis	1
acute venous outflow obstruction	vascular disease	1
Other (please specify in Comments)	acute venous outflow obstruction	1
cholestasis, bilirubinostasis	cholestasis, bilirubinostasis	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	63.0%
no fibrosis/equivocal fibrosis	19.6%
hepatocyte loss or bridging - favour collapse not fibrosis	12.0%
Other (please specify in Comments)	2.2%
mild/early fibrosis without bridging	1.1%

Diagnostic categories:	Popularity:
drug induced liver injury (please specify in comments box)	44.6%
Other (please enter alternative diagnosis in comments box)	30.4%
acute / subacute hepatitis - autoimmune / drug / viral	17.4%
manifestation of systemic or extrahepatic disease (please specify in comments box)	10.9%
- histologically indeterminate for cause	3.3%
prothrombotic disorder (please specify in comments box)	1.1%
- no evidence of diffuse/background liver disease	1.1%

Diagnosis Combination:	Count:
drug induced liver injury (please specify in comments box)	34
Other (please enter alternative diagnosis in comments box)	23
acute / subacute hepatitis - autoimmune / drug / viral	15
manifestation of systemic or extrahepatic disease (please specify in comments box)	7
drug induced liver injury (please specify in comments box), Other (please enter alternative diagnosis in comments box)	4
- histologically indeterminate for cause	3
drug induced liver injury (please specify in comments box), manifestation of systemic or extrahepatic disease (please specify in comments box)	2
- no evidence of diffuse/background liver disease	1
acute / subacute hepatitis - autoimmune / drug / viral, drug induced liver injury (please specify in comments box)	1
manifestation of systemic or extrahepatic disease (please specify in comments box), Other (please enter alternative diagnosis in comments box)	1

prothrombotic disorder (please specify in comments box)

1

Original report and further information (if any): Zonal necrosis - this was due to paracetamol overdose, Our lab in Ireland is INAB accredited , rather than CPA , but I have answered yes below as standard is similar

No consensus from dropdowns but do reach consensus accounting for comments including paracetamol and/or DILI

1. For 10 marks; Paracetamol as likely or possible aetiology +/- necrosis OR DILI in differential AND reference to necrosis (n = 78 participants)

Just necrosis without DD of DILI or paracetamol lose 5

Lose 5 implicating a drug other than paracetamol.

After members meeting LZ3 members voted to score zero for ocp thrombotic complications or Budd chiari (POD case).

Case Number: LZ4

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 68. Lung Adeno on Pembro

Specimen: liver biopsy

Macroscopic: 2 cores of liver ALT62 ,ALP 675, Bili 125

Immunohistochemistry: PSR,DPAS

Original Diagnosis: Cholestatic hepatitis with bile duct damage, Likely due to Pembrolizumab

Tumour:	Popularity:
- No tumour/lesion present	95.7%
Other (please specify in Comments)	3.3%
metastasis (further comment in Comments)	1.1%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		83
- No tumour/lesion present	- No tumour/lesion present	5
Other (please specify in Comments)		2
Other (please specify in Comments)	Other (please specify in Comments)	1
metastasis (further comment in Comments)		1

Pattern:	Popularity:
cholestasis, bilirubinostasis	72.8%
lobular hepatitis	39.1%
Other (please specify in Comments)	14.1%
chronic hepatitis	14.1%
steatohepatitis	14.1%
steatosis	7.6%
chronic biliary disease	3.3%

Pattern 1:	Pattern 2:	Count:
cholestasis, bilirubinostasis		20
lobular hepatitis	cholestasis, bilirubinostasis	16
cholestasis, bilirubinostasis	Other (please specify in Comments)	9
lobular hepatitis		7
cholestasis, bilirubinostasis	lobular hepatitis	6
cholestasis, bilirubinostasis	steatohepatitis	6
cholestasis, bilirubinostasis	steatosis	4
steatohepatitis	chronic hepatitis	3
lobular hepatitis	chronic hepatitis	2
chronic biliary disease	lobular hepatitis	2
Other (please specify in Comments)		2
steatohepatitis	cholestasis, bilirubinostasis	2
cholestasis, bilirubinostasis	chronic hepatitis	2
lobular hepatitis	steatosis	2
chronic hepatitis	steatohepatitis	2
Other (please specify in Comments)	steatosis	1
chronic hepatitis	chronic hepatitis	1
chronic biliary disease	cholestasis, bilirubinostasis	1
chronic hepatitis	cholestasis, bilirubinostasis	1
chronic hepatitis	lobular hepatitis	1
Other (please specify in Comments)	Other (please specify in Comments)	1
chronic hepatitis		1

Stages:	Popularity:
mild/early fibrosis without bridging	68.5%
no fibrosis/equivocal fibrosis	25.0%
fibrosis with bridging between vascular structures	3.3%
hepatocyte loss or bridging - favour collapse not fibrosis	2.2%
not applicable / no special stains to assess architecture	1.1%

Diagnostic categories:	Popularity:
drug induced liver injury (please specify in comments box)	93.5%
fatty liver disease - either alcohol or non-alcohol	9.8%
acute / subacute hepatitis - autoimmune / drug / viral	8.7%
fatty liver disease - non-alcohol related fatty liver disease	7.6%
Other (please enter alternative diagnosis in comments box)	5.4%
chronic cholangiopathy NOS	1.1%

autoimmune hepatitis	1.1%
manifestation of systemic or extrahepatic disease (please specify in comments box)	1.1%
storage disorder (please specify in comments box)	1.1%

Diagnosis Combination:	Count:
drug induced liver injury (please specify in comments box)	59
drug induced liver injury (please specify in comments box), fatty liver disease - either alcohol or non-alcohol	9
drug induced liver injury (please specify in comments box), fatty liver disease - non-alcohol related fatty liver disease	7
acute / subacute hepatitis - autoimmune / drug / viral	4
acute / subacute hepatitis - autoimmune / drug / viral, drug induced liver injury (please specify in comments box)	4
drug induced liver injury (please specify in comments box), Other (please enter alternative diagnosis in comments box)	4
autoimmune hepatitis	1
chronic cholangiopathy NOS, drug induced liver injury (please specify in comments box)	1
drug induced liver injury (please specify in comments box), manifestation of systemic or extrahepatic disease (please specify in comments box)	1
drug induced liver injury (please specify in comments box), storage disorder (please specify in comments box)	1
Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Cholestatic hepatitis with bile duct damage, Likely due to Pembrolizumab

Complete answer for 10 marks would include; DILI either from dropdown, alone or in combination, or in comments (should specify Prembro ideally but don't propose to score down) everyone has this, and mild or no fibrosis

lose 5 for bridging fibrosis or NA (has PSR) but not for favour collapse

Lose 10 adenocarcinoma unqualified

Case Number: LZ5

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Female 71. Newly deranged LFTs ALT 127, MRCP shows cirrhosis, non invasive screen negative (but SMA pos on system!)

Specimen: liver biopsy

Macroscopic: 2 cores of liver

Immunohistochemistry: PSR

Original Diagnosis: Suggestive of moderately active AIH, with advanced fibrosis

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	6

Pattern:	Popularity:
chronic hepatitis	88.0%
lobular hepatitis	10.9%
chronic biliary disease	5.4%
Other (please specify in Comments)	3.3%

Pattern 1:	Pattern 2:	Count:
chronic hepatitis		72
lobular hepatitis		8
chronic hepatitis	chronic biliary disease	3
chronic hepatitis	chronic hepatitis	2
chronic biliary disease		2
Other (please specify in Comments)		1
lobular hepatitis	chronic hepatitis	1
Other (please specify in Comments)	chronic hepatitis	1
chronic hepatitis	lobular hepatitis	1
chronic hepatitis	Other (please specify in Comments)	1

Stages:	Popularity:
advanced fibrosis with bridging and nodularity/cirrhosis	47.8%
fibrosis with bridging between vascular structures	42.4%
hepatocyte loss or bridging - favour collapse not fibrosis	4.3%
Other (please specify in Comments)	4.3%
mild/early fibrosis without bridging	1.1%

Diagnostic categories:	Popularity:
autoimmune hepatitis	84.8%
- histologically indeterminate for cause	4.3%
Other (please enter alternative diagnosis in comments box)	4.3%
overlap syndrome	3.3%
acute / subacute hepatitis - autoimmune / drug / viral	3.3%
primary sclerosing cholangitis	2.2%
drug induced liver injury (please specify in comments box)	1.1%
chronic cholangiopathy NOS	1.1%

Diagnosis Combination:	Count:
autoimmune hepatitis	74
- histologically indeterminate for cause	4
Other (please enter alternative diagnosis in comments box)	4
acute / subacute hepatitis - autoimmune / drug / viral	3

overlap syndrome	2
autoimmune hepatitis, chronic cholangiopathy NOS	1
autoimmune hepatitis, drug induced liver injury (please specify in comments box)	1
autoimmune hepatitis, overlap syndrome	1
autoimmune hepatitis, primary sclerosing cholangitis	1
primary sclerosing cholangitis	1

Original report and further information (if any): Suggestive of moderately active AIH, with advanced fibrosis

Complete answer for 10 marks would include; AIH alone from dropdown or AIH is considered diagnosis in comment without suggesting, anywhere in the response, biliary component or another disease, and bridging fibrosis or advanced fibrosis

Lose 5 for AIH plus something else or overlap alone

Lose 5 for anything other than bridging or advanced in stage section

Lose 10 for a response not including AIH

Case Number: LZ6

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 36. Hepatocellular lesion on biopsy and MRI ? HCC or adenoma

Specimen: liver segment 6

Macroscopic: Liver segment 109g, 105x55x47mm. on slicing there is an ill-defined greyish irregular lesion 20mm diameter, 10mm from the nearest margin.

Immunohistochemistry: reticulin, CD34, amyloid A, glutamine synthetase, beta catenin, glypican 3, CK7

Original Diagnosis: incidental liver lesion found during investigation for haematuria. Imaging features atypical. Biopsy inconclusive; background liver fatty, not cirrhotic. Accessible to resection. .

Tumour:	Popularity:
hepatocellular adenoma inflammatory	73.9%
hepatocellular adenoma NOS	10.9%
hepatocellular carcinoma	6.5%
hepatocellular adenoma beta catenin activated	4.3%
hepatocellular lesion, well differentiated NOS (please add comment)	3.3%
hepatocellular adenoma HNFalpha1 inactivated	3.3%
bile duct adenoma / peribiliary gland hamartoma	1.1%
Other (please specify in Comments)	1.1%

Tumour 1:	Tumour 2:	Count:
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hepatocellular adenoma inflammatory		64
hepatocellular adenoma NOS		9
hepatocellular carcinoma		4
hepatocellular adenoma beta catenin activated		3
hepatocellular adenoma HNFalpha1 inactivated		2
hepatocellular lesion, well differentiated NOS (please add comment)		2
Other (please specify in Comments)		1
hepatocellular adenoma inflammatory	hepatocellular adenoma beta catenin activated	1
hepatocellular adenoma HNFalpha1 inactivated	hepatocellular adenoma HNFalpha1 inactivated	1
hepatocellular carcinoma	hepatocellular adenoma inflammatory	1
hepatocellular adenoma inflammatory	hepatocellular adenoma NOS	1
hepatocellular adenoma inflammatory	hepatocellular carcinoma	1
hepatocellular lesion, well differentiated NOS (please add comment)	hepatocellular lesion, well differentiated NOS (please add comment)	1
bile duct adenoma / peribiliary gland hamartoma		1

Pattern:	Popularity:
steatosis	79.3%
not applicable	6.5%
Other (please specify in Comments)	3.3%
within normal limits	2.2%
steatohepatitis	2.2%

Pattern 1:	Pattern 2:	Count:
steatosis		71
		6
not applicable		6
Other (please specify in Comments)		3
steatohepatitis		2
within normal limits		2
steatosis	steatosis	2

Stages:	Popularity:
not applicable / no special stains to assess architecture	46.7%
no fibrosis/equivocal fibrosis	33.7%
mild/early fibrosis without bridging	3.3%

Diagnostic categories:	Popularity:
fatty liver disease - either alcohol or non-alcohol	34.8%
fatty liver disease - non-alcohol related fatty liver disease	6.5%
- no evidence of diffuse/background liver disease	5.4%
- not applicable (insufficient non-lesional tissue)	3.3%
Other (please enter alternative diagnosis in comments box)	2.2%

fatty liver disease - alcohol related liver disease	1.1%
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Diagnosis Combination:	Count:
[No selections made]	43
fatty liver disease - either alcohol or non-alcohol	32
fatty liver disease - non-alcohol related fatty liver disease	6
- no evidence of diffuse/background liver disease	5
- not applicable (insufficient non-lesional tissue)	3
Other (please enter alternative diagnosis in comments box)	2
fatty liver disease - alcohol related liver disease	1

Original report and further information (if any): incidental liver lesion found during investigation for haematuria. Imaging features atypical. Biopsy inconclusive; background liver fatty, not cirrhotic. Accessible to resection. .

Complete answer for 10 marks would include; hepatocellular adenoma, and background steatosis

Lose 5 for no background pattern comment (steatosis broadly in any part of response)

Just HCC unqualified lose 10

Considering DD / clearly favouring HCC lose 5 (considering DD favouring adenoma or HUMP score 10)

Case Number: LZ7

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Female 34. Previous bariatric surgery/gastric sleeve. Recent bowel obstruction: Dx volvulus - Jaundiced since this CT - Adhesional small bowel obstruction. Underwent laparotomy, small bowel resection and double-barrelled ileostomy formation. Difficult post-operative recovery complicated by poor oral intake, a midline wound infection, multiple pressure sores and jaundice of unknown aetiology. Had blood transfusion post operatively. Wound dehissed and worsening jaundice. Raised ALT >1000, raised ALP 176, raised bilirubin 82. Non-invasive liver screen was negative. CT TAP showed evidence of Endometritis for which patient is getting IV clindamycin. Liver functions remained static despite treating the sepsis ?drug induced ?NAFLD/rapid weight loss

Specimen: Liver core biopsy

Macroscopic: Single core of brown tissue measuring 25mm in length

Immunohistochemistry: None

Original Diagnosis: Acute functional cholestasis with appearances of "cholangitis lenta", most likely due to extrahepatic sepsis. DILI not entirely excluded but thought less likely. Changes do not suggest obstructive aetiology.

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

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		86
- No tumour/lesion present	- No tumour/lesion present	5
		1

Pattern:	Popularity:
cholestasis, bilirubinostasis	100.0%
Other (please specify in Comments)	9.8%
lobular hepatitis	7.6%
steatosis	3.3%
acute venous outflow obstruction	1.1%
steatohepatitis	1.1%
chronic biliary disease	1.1%
not applicable	1.1%
granulomatous	1.1%

Pattern 1:	Pattern 2:	Count:
cholestasis, bilirubinostasis		66
cholestasis, bilirubinostasis	Other (please specify in Comments)	9
cholestasis, bilirubinostasis	lobular hepatitis	5
cholestasis, bilirubinostasis	steatosis	3
lobular hepatitis	cholestasis, bilirubinostasis	2
cholestasis, bilirubinostasis	cholestasis, bilirubinostasis	2
chronic biliary disease	cholestasis, bilirubinostasis	1
cholestasis, bilirubinostasis	acute venous outflow obstruction	1
cholestasis, bilirubinostasis	granulomatous	1
cholestasis, bilirubinostasis	not applicable	1
cholestasis, bilirubinostasis	steatohepatitis	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	77.2%
no fibrosis/equivocal fibrosis	14.1%
mild/early fibrosis without bridging	4.3%
hepatocyte loss or bridging - favour collapse not fibrosis	2.2%

Diagnostic categories:	Popularity:
drug induced liver injury (please specify in comments box)	37.0%
Other (please enter alternative diagnosis in comments box)	34.8%
manifestation of systemic or extrahepatic disease (please specify in comments box)	25.0%
large bile duct obstruction	15.2%
chronic cholangiopathy NOS	2.2%
- histologically indeterminate for cause	2.2%
fatty liver disease - non-alcohol related fatty liver disease	1.1%
fatty liver disease - either alcohol or non-alcohol	1.1%
ascending cholangitis	1.1%

Diagnosis Combination:	Count:
Other (please enter alternative diagnosis in comments box)	24
drug induced liver injury (please specify in comments box)	23
manifestation of systemic or extrahepatic disease (please specify in comments box)	15
large bile duct obstruction	8
drug induced liver injury (please specify in comments box), Other (please enter alternative diagnosis in comments box)	4
drug induced liver injury (please specify in comments box), manifestation of systemic or extrahepatic disease (please specify in comments box)	3
large bile duct obstruction, manifestation of systemic or extrahepatic disease (please specify in comments box)	3
- histologically indeterminate for cause	2
drug induced liver injury (please specify in comments box), large bile duct obstruction	2
manifestation of systemic or extrahepatic disease (please specify in comments box), Other (please enter alternative diagnosis in comments box)	2
ascending cholangitis	1
chronic cholangiopathy NOS	1
chronic cholangiopathy NOS, drug induced liver injury (please specify in comments box)	1
drug induced liver injury (please specify in comments box), fatty liver disease - non-alcohol related fatty liver disease	1
fatty liver disease - either alcohol or non-alcohol, Other (please enter alternative diagnosis in comments box)	1
large bile duct obstruction, Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Acute functional cholestasis with appearances of "cholangitis lenta", most likely due to extrahepatic sepsis. DILI not entirely excluded but thought less likely. Changes do not suggest obstructive aetiology.

There is complete consensus for recognising a pattern of cholestasis somewhere in the response, no consensus for diagnosis – may well be multifactorial, good case for discussion re cholangitis lenta and sepsis, Everyone score 10.

Case Number: LZ8

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 66. Medisatinal adenopathy and hepatomegaly , ? lymphoma

Specimen: Liver biopsy

Macroscopic: 2 cores, each 20mm

Immunohistochemistry: congo red

Original Diagnosis: Amyloid (I have follow up immunostaining and proteomic analysis from the Royal Free showing AA lambda subtype) Our lab in SVUH is INAB accredited , not CPA , but standard is similar so I answered yes below

Tumour:	Popularity:
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- No tumour/lesion present	88.0%
Other (please specify in Comments)	9.8%
leukaemia/lymphoma (please specify in Comments)	1.1%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		77
Other (please specify in Comments)		8
- No tumour/lesion present	- No tumour/lesion present	4
Other (please specify in Comments)	Other (please specify in Comments)	1
leukaemia/lymphoma (please specify in Comments)		1
		1

Pattern:	Popularity:
Other (please specify in Comments)	87.0%
not applicable	9.8%
abnormal, no pattern discernible	2.2%

Pattern 1:	Pattern 2:	Count:
Other (please specify in Comments)		75
not applicable		8
Other (please specify in Comments)	Other (please specify in Comments)	4
		2
abnormal, no pattern discernible		2
Other (please specify in Comments)	not applicable	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	82.6%
Other (please specify in Comments)	7.6%
no fibrosis/equivocal fibrosis	4.3%

Diagnostic categories:	Popularity:
Other (please enter alternative diagnosis in comments box)	52.2%
manifestation of systemic or extrahepatic disease (please specify in comments box)	44.6%
storage disorder (please specify in comments box)	1.1%
- not applicable (insufficient non-lesional tissue)	1.1%
- histologically indeterminate for cause	1.1%

Diagnosis Combination:	Count:
Other (please enter alternative diagnosis in comments box)	45
manifestation of systemic or extrahepatic disease (please specify in comments box)	38
[No selections made]	3
manifestation of systemic or extrahepatic disease (please specify in comments box), Other (please enter alternative diagnosis in comments box)	3
- histologically indeterminate for cause	1
- not applicable (insufficient non-lesional tissue)	1
storage disorder (please specify in comments box)	1

Original report and further information (if any): Amyloid (I have follow up immunostaining and proteomic analysis from the Royal Free showing AA lambda subtype) Our lab in SVUH is INAB accredited , not CPA , but standard is similar so I answered yes below

[complete consensus for amyloid, everyone score 10](#)

Case Number: LZ9

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Female 19. super urgent liver transplant for acute on chronic liver failure.

Specimen: explant

Macroscopic: Liver 1324g, bile stained with multiple nodules up to 8mm.

Immunohistochemistry: van Gieson , shikata

Original Diagnosis: From patient record - jaundice 10 days, developed coagulopathy and encephalopathy. Also haemolysis and low alkaline phosphatase, so ? Wilson

Tumour:	Popularity:
- No tumour/lesion present	90.2%
Other (please specify in Comments)	6.5%
hepatocellular lesion, well differentiated NOS (please add comment)	1.1%
hepatocellular lesion - dysplastic nodule	0.0%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		79
Other (please specify in Comments)		4
- No tumour/lesion present	- No tumour/lesion present	3
		3
hepatocellular lesion, well differentiated NOS (please add comment)		1
- No tumour/lesion present	Other (please specify in Comments)	1
Other (please specify in Comments)	Other (please specify in Comments)	1

Pattern:	Popularity:
Other (please specify in Comments)	40.2%
cholestasis, bilirubinostasis	34.8%
chronic hepatitis	23.9%
lobular hepatitis	18.5%
steatosis	7.6%
chronic biliary disease	6.5%
abnormal, no pattern discernible	4.3%
not applicable	1.1%

Pattern 1:	Pattern 2:	Count:
Other (please specify in Comments)		27
chronic hepatitis		8
lobular hepatitis		8
steatosis	cholestasis, bilirubinostasis	5
chronic hepatitis	cholestasis, bilirubinostasis	4
lobular hepatitis	cholestasis, bilirubinostasis	4
cholestasis, bilirubinostasis	chronic hepatitis	4
cholestasis, bilirubinostasis	Other (please specify in Comments)	3
Other (please specify in Comments)	Other (please specify in Comments)	3
Other (please specify in Comments)	cholestasis, bilirubinostasis	3
abnormal, no pattern discernible		3
cholestasis, bilirubinostasis		3
chronic biliary disease		2
chronic biliary disease	cholestasis, bilirubinostasis	2
lobular hepatitis	chronic hepatitis	2
steatosis	chronic hepatitis	1
cholestasis, bilirubinostasis	lobular hepatitis	1
chronic hepatitis	lobular hepatitis	1
cholestasis, bilirubinostasis	chronic biliary disease	1
chronic hepatitis	chronic biliary disease	1
		1
cholestasis, bilirubinostasis	abnormal, no pattern discernible	1
not applicable		1
cholestasis, bilirubinostasis	steatosis	1
lobular hepatitis	Other (please specify in Comments)	1
chronic hepatitis	chronic hepatitis	1

Stages:	Popularity:
advanced fibrosis with bridging and nodularity/cirrhosis	50.0%
hepatocyte loss or bridging - favour collapse not fibrosis	17.4%
Other (please specify in Comments)	8.7%
no fibrosis/equivocal fibrosis	7.6%
mild/early fibrosis without bridging	6.5%
fibrosis with bridging between vascular structures	6.5%

Diagnostic categories:	Popularity:
Wilson disease	72.8%
Other (please enter alternative diagnosis in comments box)	14.1%
acute / subacute hepatitis - autoimmune / drug / viral	5.4%
- histologically indeterminate for cause	3.3%
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	3.3%
chronic cholangiopathy NOS	2.2%
storage disorder (please specify in comments box)	2.2%
iron overload, hereditary	1.1%
primary biliary cholangitis	1.1%
primary sclerosing cholangitis	1.1%

Diagnosis Combination:	Count:
Wilson disease	61
Other (please enter alternative diagnosis in comments box)	7
Other (please enter alternative diagnosis in comments box), Wilson disease	5
acute / subacute hepatitis - autoimmune / drug / viral	4
- histologically indeterminate for cause	3
chronic cholangiopathy NOS	2
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	2
storage disorder (please specify in comments box)	2
[No selections made]	1
acute / subacute hepatitis - autoimmune / drug / viral, Other (please enter alternative diagnosis in comments box)	1
chronic viral hepatitis (hepatotropic viruses - please specify in comments box), Wilson disease	1
iron overload, hereditary	1
primary biliary cholangitis	1
primary sclerosing cholangitis	1

Original report and further information (if any): From patient record - jaundice 10 days, developed coagulopathy and encephalopathy. Also haemolysis and low alkaline phosphatase, so ? Wilson

There is not quite consensus for Wilson either from dropdown or in comments. Non scoring case.

Case Number: LZ10

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Female 37. Budd Chiari?

Specimen: biopsy

Macroscopic: Trans jugular biopsy, thin core 16mm.

Immunohistochemistry: nil

Original Diagnosis: venous outflow obstruction ikw Budd Chiari

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

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		87
- No tumour/lesion present	- No tumour/lesion present	4
		1

Pattern:	Popularity:
acute venous outflow obstruction	77.2%

vascular disease	23.9%
Other (please specify in Comments)	1.1%
iron overload	1.1%

Pattern 1:	Pattern 2:	Count:
acute venous outflow obstruction		68
vascular disease		19
vascular disease	acute venous outflow obstruction	2
vascular disease	iron overload	1
acute venous outflow obstruction	acute venous outflow obstruction	1
Other (please specify in Comments)		1

Stages:	Popularity:
not applicable / no special stains to assess architecture	76.1%
no fibrosis/equivocal fibrosis	18.5%
subtle architectural abnormalities, vascular disease	2.2%
Other (please specify in Comments)	1.1%
mild/early fibrosis without bridging	1.1%
hepatocyte loss or bridging - favour collapse not fibrosis	1.1%

Diagnostic categories:	Popularity:
Other (please enter alternative diagnosis in comments box)	72.8%
prothrombotic disorder (please specify in comments box)	21.7%
manifestation of systemic or extrahepatic disease (please specify in comments box)	10.9%

Diagnosis Combination:	Count:
Other (please enter alternative diagnosis in comments box)	63
prothrombotic disorder (please specify in comments box)	16
manifestation of systemic or extrahepatic disease (please specify in comments box)	8
Other (please enter alternative diagnosis in comments box), prothrombotic disorder (please specify in comments box)	3
manifestation of systemic or extrahepatic disease (please specify in comments box), Other (please enter alternative diagnosis in comments box)	1
manifestation of systemic or extrahepatic disease (please specify in comments box), prothrombotic disorder (please specify in comments box)	1

Original report and further information (if any): venous outflow obstruction ikw Budd Chiari

Complete response; acute venous outflow obstruction or vascular pattern and Budd Chiari, everyone scores 10

Case Number: LZ11

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 53. metastatic HCC for tissue diagnosis

Specimen: targetted liver biopsy

Macroscopic: 1 core 15mm long

Immunohistochemistry: none

Original Diagnosis: HCC confirmed. Radiology Presented with PE and CXR showed multiple lesions. MRI - 17cm liver mass with LN and lung mets. LIRADS4 - ? HCC or CCa. AFP11300. clinically NAFLD, no comment on cirrhosis. Ferritin raised 969 but no indication that haemochromatosis had been suspected.

Tumour:	Popularity:
hepatocellular carcinoma	80.4%
Other (please specify in Comments)	9.8%
metastasis (further comment in Comments)	7.6%
hepatocellular carcinoma variant (specify in Comments)	4.3%
combined hepatocellular and cholangiocarcinoma	1.1%

Tumour 1:	Tumour 2:	Count:
hepatocellular carcinoma		70
Other (please specify in Comments)		8
hepatocellular carcinoma variant (specify in Comments)		4
metastasis (further comment in Comments)		4
hepatocellular carcinoma	metastasis (further comment in Comments)	3
Other (please specify in Comments)	Other (please specify in Comments)	1
combined hepatocellular and cholangiocarcinoma		1
hepatocellular carcinoma	hepatocellular carcinoma	1

Pattern:	Popularity:
not applicable	47.8%
iron overload	30.4%
Other (please specify in Comments)	10.9%
cholestasis, bilirubinostasis	1.1%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
not applicable		42
iron overload		27
		9
Other (please specify in Comments)		9
iron overload	iron overload	1
not applicable	not applicable	1
not applicable	Other (please specify in Comments)	1
abnormal, no pattern discernible		1
cholestasis, bilirubinostasis		1

Stages:	Popularity:
not applicable / no special stains to assess architecture	73.9%

advanced fibrosis with bridging and nodularity/cirrhosis	7.6%
Other (please specify in Comments)	3.3%
no fibrosis/equivocal fibrosis	1.1%

Diagnostic categories:	Popularity:
iron overload, hereditary	23.9%
- not applicable (insufficient non-lesional tissue)	19.6%
Other (please enter alternative diagnosis in comments box)	6.5%
iron overload - acquired, secondary	3.3%
- no evidence of diffuse/background liver disease	1.1%

Diagnosis Combination:	Count:
[No selections made]	43
iron overload, hereditary	21
- not applicable (insufficient non-lesional tissue)	18
Other (please enter alternative diagnosis in comments box)	6
iron overload - acquired, secondary	2
- no evidence of diffuse/background liver disease	1
iron overload - acquired, secondary, iron overload, hereditary	1

Original report and further information (if any): HCC confirmed. Radiology Presented with PE and CXR showed multiple lesions. MRI - 17cm liver mass with LN and lung mets. LIRADS4 - ? HCC or CCa. AFP11300. clinically NAFLD, no comment on cirrhosis. Ferritin raised 969 but no indication that haemochromatosis had been suspected.

Consensus for HCC, this must be favoured diagnosis to score 10

Met alone score 0

Considers DD with panel that would lead to diagnosis score 5

Combined HCC cholangio score 5

Can't score background

Case Number: LZ12

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Male 74. 18 years previously diagnosed with haemochromatosis and early cirrhosis. Previous lesions treated with RFA (2010) and resection (2014). This is a new lesion in segment 3.

Specimen: liver segment 3 resection

Macroscopic: Subcapsular wedge, 5g, 30x20x15mm. Contains a tumour 20mm max, occupying almost all of the specimen. Solid, nodular appearance, some bile stained areas.

Immunohistochemistry: A1: background liver - Perls, van Gieson. A2: lesion - no additional stains

Original Diagnosis: HCC. Background - no iron, regressed fibrosis, some bridging remains.

Tumour:	Popularity:
hepatocellular carcinoma	91.3%
hepatocellular lesion, well differentiated NOS (please add comment)	4.3%
hepatocellular carcinoma variant (specify in Comments)	3.3%
focal nodular hyperplasia	1.1%
hepatocellular adenoma NOS	1.1%
hepatocellular adenoma HNFalpha1 inactivated	1.1%

Tumour 1:	Tumour 2:	Count:
hepatocellular carcinoma		81
hepatocellular lesion, well differentiated NOS (please add comment)		4
hepatocellular carcinoma variant (specify in Comments)		2
hepatocellular carcinoma	hepatocellular carcinoma	2
hepatocellular carcinoma	hepatocellular carcinoma variant (specify in Comments)	1
focal nodular hyperplasia		1
hepatocellular adenoma NOS	hepatocellular adenoma HNFalpha1 inactivated	1

Pattern:	Popularity:
iron overload	53.3%
Other (please specify in Comments)	26.1%
within normal limits	14.1%
chronic hepatitis	7.6%
abnormal, no pattern discernible	3.3%
steatosis	1.1%
not applicable	1.1%

Pattern 1:	Pattern 2:	Count:
iron overload		42
Other (please specify in Comments)		21
within normal limits		13
abnormal, no pattern discernible		3
chronic hepatitis		3
iron overload	chronic hepatitis	2
chronic hepatitis	iron overload	1
iron overload	iron overload	1
Other (please specify in Comments)	iron overload	1
iron overload	not applicable	1
chronic hepatitis	Other (please specify in Comments)	1
Other (please specify in Comments)	Other (please specify in Comments)	1
iron overload	steatosis	1
		1

Stages:	Popularity:
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fibrosis with bridging between vascular structures	37.0%
mild/early fibrosis without bridging	31.5%
no fibrosis/equivocal fibrosis	22.8%
Other (please specify in Comments)	4.3%
advanced fibrosis with bridging and nodularity/cirrhosis	2.2%
subtle architectural abnormalities, vascular disease	1.1%
not applicable / no special stains to assess architecture	1.1%

Diagnostic categories:	Popularity:
iron overload, hereditary	60.9%
Other (please enter alternative diagnosis in comments box)	16.3%
- no evidence of diffuse/background liver disease	6.5%
- histologically indeterminate for cause	6.5%
fatty liver disease - either alcohol or non-alcohol	1.1%
chronic viral hepatitis (hepatotropic viruses - please specify in comments box)	1.1%
iron overload - acquired, secondary	1.1%
manifestation of systemic or extrahepatic disease (please specify in comments box)	1.1%

Diagnosis Combination:	Count:
iron overload, hereditary	54
Other (please enter alternative diagnosis in comments box)	15
[No selections made]	7
- histologically indeterminate for cause	6
- no evidence of diffuse/background liver disease	6
chronic viral hepatitis (hepatotropic viruses - please specify in comments box), iron overload, hereditary	1
fatty liver disease - either alcohol or non-alcohol, iron overload, hereditary	1
iron overload - acquired, secondary	1
manifestation of systemic or extrahepatic disease (please specify in comments box)	1

Original report and further information (if any): HCC. Background - no iron, regressed fibrosis, some bridging remains.

Consensus for HCC, must be favoured diagnosis to score 10

FNH or adenoma score 0

No consensus for background therefore can't score on this

Case Number: LZ13

Number of responses: 92. Date of analysis: 02 Nov 2022

Clinical: Female 9. as given on request form ' Known AI liver disease and coeliac disease. ?non compliant'

Specimen: biopsy

Macroscopic: 3 cores 8,8, and 10mm

Immunohistochemistry: PAS, PASD, VG

Original Diagnosis: [Lysosomal acid lipase deficiency \(LALD\)](#).

Tumour:	Popularity:
- No tumour/lesion present	73.9%
Other (please specify in Comments)	1.1%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		67
		23
- No tumour/lesion present	- No tumour/lesion present	1
Other (please specify in Comments)	Other (please specify in Comments)	1

Pattern:	Popularity:
steatosis	39.1%
steatohepatitis	20.7%
Other (please specify in Comments)	20.7%
abnormal, no pattern discernible	3.3%
not applicable	2.2%
lobular hepatitis	2.2%

Pattern 1:	Pattern 2:	Count:
steatosis		26
		22
steatohepatitis		15
Other (please specify in Comments)		11
steatosis	Other (please specify in Comments)	4
abnormal, no pattern discernible		3
not applicable		2
steatosis	steatohepatitis	2
Other (please specify in Comments)	steatosis	2
lobular hepatitis	steatosis	1
steatohepatitis	steatohepatitis	1
steatosis	lobular hepatitis	1
Other (please specify in Comments)	Other (please specify in Comments)	1
steatohepatitis	Other (please specify in Comments)	1

Stages:	Popularity:
advanced fibrosis with bridging and nodularity/cirrhosis	39.1%
fibrosis with bridging between vascular structures	18.5%
mild/early fibrosis without bridging	6.5%

Other (please specify in Comments)	3.3%
no fibrosis/equivocal fibrosis	2.2%
not applicable / no special stains to assess architecture	1.1%
hepatocyte loss or bridging - favour collapse not fibrosis	1.1%

Diagnostic categories:	Popularity:
storage disorder (please specify in comments box)	25.0%
fatty liver disease - non-alcohol related fatty liver disease	18.5%
manifestation of systemic or extrahepatic disease (please specify in comments box)	13.0%
Other (please enter alternative diagnosis in comments box)	13.0%
fatty liver disease - either alcohol or non-alcohol	6.5%
fatty liver disease - alcohol related liver disease	2.2%

Diagnosis Combination:	Count:
[No selections made]	24
storage disorder (please specify in comments box)	21
fatty liver disease - non-alcohol related fatty liver disease	15
Other (please enter alternative diagnosis in comments box)	11
manifestation of systemic or extrahepatic disease (please specify in comments box)	10
fatty liver disease - either alcohol or non-alcohol	5
fatty liver disease - alcohol related liver disease	2
fatty liver disease - either alcohol or non-alcohol, Other (please enter alternative diagnosis in comments box)	1
fatty liver disease - non-alcohol related fatty liver disease, manifestation of systemic or extrahepatic disease (please specify in comments box)	1
fatty liver disease - non-alcohol related fatty liver disease, storage disorder (please specify in comments box)	1
manifestation of systemic or extrahepatic disease (please specify in comments box), storage disorder (please specify in comments box)	1

Original report and further information (if any):

[LALD. DPAS positive storage cells in portal tracts and parenchyma – pericellular fibrosis useful clue.](#)