UK National Liver Histopathology EQA Scheme

Circulation L24_A

Case Response Analysis

Post meeting comments from EQA committee

94 responders 75 needed for consensus

This document gives information on individual cases in circulation L24_A of this scheme. It contains no personal details of participants.

Case Number: L24_A1

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Female 65. Deranged LFTs. Jaundiced. Type 1 diabetes. On lisinopril. ANA 1/640. Negative other auto-antibodies. Mildly raised IgM, normal IgG. FIB4 3.3. ? DILI ? PBC

Specimen: Native liver, needle biopsy

Macroscopic: Core

Immunohistochemistry: orcein, PSR

Original Diagnosis: Destructive peripheral cholangiopathy with chronic cholestasis and a pattern suggesting large duct obstruction ?small duct primary sclerosing cholangitis

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

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		84
- No tumour/lesion present	- No tumour/lesion present	10

Pattern:	Popularity:
chronic biliary disease	78.7%
steatosis	24.5%
cholestasis, bilirubinostasis	11.7%
Other (please specify in Comments)	7.4%
granulomatous	6.4%
chronic hepatitis	4.3%
abnormal, no pattern discernible	3.2%
not applicable	2.1%

lobular hepatitis	2.1%

Pattern 1:	Pattern 2:	Count:
chronic biliary disease		45
chronic biliary disease	steatosis	16
chronic biliary disease	granulomatous	5
cholestasis, bilirubinostasis		3
Other (please specify in Comments)		3
chronic biliary disease	cholestasis, bilirubinostasis	2
chronic hepatitis		2
chronic biliary disease	not applicable	2
abnormal, no pattern discernible	steatosis	2
cholestasis, bilirubinostasis	steatosis	2
Other (please specify in Comments)	steatosis	2
chronic hepatitis	steatosis	1
cholestasis, bilirubinostasis	Other (please specify in Comments)	1
chronic biliary disease	Other (please specify in Comments)	1
chronic biliary disease	lobular hepatitis	1
granulomatous		1
abnormal, no pattern discernible		1
chronic hepatitis	cholestasis, bilirubinostasis	1
lobular hepatitis	cholestasis, bilirubinostasis	1
cholestasis, bilirubinostasis	chronic biliary disease	1
chronic biliary disease	chronic biliary disease	1

Stages:	Popularity:
mild/early fibrosis without bridging	76.6%
no fibrosis/equivocal fibrosis	19.1%
fibrosis with bridging between vascular structures	3.2%

Diagnostic categories:	Popularity:
primary biliary cholangitis	41.7%
drug induced liver injury (please specify in comments box)	19.1%
chronic cholangiopathy NOS	17.4%
fatty liver disease - non-alcohol related fatty liver disease	6.1%
fatty liver disease - either alcohol or non-alcohol	5.2%
primary sclerosing cholangitis	3.5%
large bile duct obstruction	2.6%
- histologically indeterminate for cause	1.7%
vanishing bile duct syndrome	1.7%
Other (please enter alternative diagnosis in comments box)	0.9%

Diagnosis Combination:	Count:
primary biliary cholangitis	33
drug induced liver injury (please specify in comments box)	16
chronic cholangiopathy NOS	13
fatty liver disease - non-alcohol related fatty liver disease, primary biliary cholangitis	5
chronic cholangiopathy NOS, primary biliary cholangitis	4
fatty liver disease - either alcohol or non-alcohol, primary biliary cholangitis	3
- histologically indeterminate for cause	2

drug induced liver injury (please specify in comments box), fatty liver disease - either alcohol or non-alcohol	2
drug induced liver injury (please specify in comments box), primary biliary cholangitis	2
large bile duct obstruction	2
primary sclerosing cholangitis	2
vanishing bile duct syndrome	2
[No selections made]	1
chronic cholangiopathy NOS, drug induced liver injury (please specify in comments box)	1
chronic cholangiopathy NOS, fatty liver disease - either alcohol or non-alcohol	1
chronic cholangiopathy NOS, fatty liver disease - non-alcohol related fatty liver disease	1
drug induced liver injury (please specify in comments box), fatty liver disease - non-alcohol related fatty liver disease	1
large bile duct obstruction, primary sclerosing cholangitis	1
Other (please enter alternative diagnosis in comments box)	1
primary biliary cholangitis, primary sclerosing cholangitis	1

Original report and further information (if any): Destructive peripheral cholangiopathy with chronic cholestasis and a pattern suggesting large duct obstruction ?small duct primary sclerosing cholangitis

Complete answer for 10 marks would include: recognition, anywhere in the response , of a chronic biliary pattern of injury and no or mild fibrosis.

If bridging (or worse) or stage missing from response lose 5
If 'cholestasis' only and/or without any reference to chronic biliary disease lose 5
No mention of anything biliary anywhere in response lose 10

Case Number: L24_A2

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Female 57. Jaundice. ALT 1500, AMA M2 +ve, ANA 1/640. Hypothyroidsim. Started on pred 28/7/22. From EPR, viral serology -ve.

Specimen: Native liver, needle biopsy

Macroscopic: Core

Immunohistochemistry: NA

Original Diagnosis: Severe portal, interface and lobular lymphoplasmacytic hepatitis with confluent necrosis. In keeping with autoimmune hepatitis.

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	8

1

Pattern:	Popularity:
lobular hepatitis	81.9%
chronic biliary disease	48.9%
chronic hepatitis	20.2%
Other (please specify in Comments)	7.4%
cholestasis, bilirubinostasis	3.2%
not applicable	2.1%
steatosis	1.1%
granulomatous	1.1%

Pattern 1:	Pattern 2:	Count:
lobular hepatitis	chronic biliary disease	25
lobular hepatitis		24
chronic biliary disease	lobular hepatitis	13
chronic hepatitis	lobular hepatitis	6
lobular hepatitis	Other (please specify in Comments)	5
chronic hepatitis		4
chronic biliary disease		2
chronic biliary disease	chronic hepatitis	2
lobular hepatitis	chronic hepatitis	2
chronic hepatitis	chronic biliary disease	2
chronic biliary disease	granulomatous	1
cholestasis, bilirubinostasis	lobular hepatitis	1
not applicable		1
Other (please specify in Comments)		1
chronic biliary disease	cholestasis, bilirubinostasis	1
lobular hepatitis	cholestasis, bilirubinostasis	1
chronic hepatitis	steatosis	1
chronic hepatitis	not applicable	1
chronic hepatitis	Other (please specify in Comments)	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	70.2%
no fibrosis/equivocal fibrosis	21.3%
mild/early fibrosis without bridging	7.4%
hepatocyte loss or bridging - favour collapse not fibrosis	1.1%

Diagnostic categories:	Popularity:
overlap syndrome	27.6%
autoimmune hepatitis	26.0%
primary biliary cholangitis	21.3%
acute / subacute hepatitis - autoimmune / drug / viral	19.7%
Other (please enter alternative diagnosis in comments box)	3.1%
fatty liver disease - either alcohol or non-alcohol	1.6%
- histologically indeterminate for cause	0.8%

Diagnosis Combination:	Count:
overlap syndrome	25

autoimmune hepatitis	16
acute / subacute hepatitis - autoimmune / drug / viral	13
acute / subacute hepatitis - autoimmune / drug / viral, primary biliary cholangitis	9
autoimmune hepatitis, primary biliary cholangitis	9
autoimmune hepatitis, overlap syndrome	6
primary biliary cholangitis	5
Other (please enter alternative diagnosis in comments box), primary biliary cholangitis	2
overlap syndrome, primary biliary cholangitis	2
- histologically indeterminate for cause	1
acute / subacute hepatitis - autoimmune / drug / viral, autoimmune hepatitis	1
acute / subacute hepatitis - autoimmune / drug / viral, Other (please enter alternative diagnosis in comments box)	1
acute / subacute hepatitis - autoimmune / drug / viral, overlap syndrome	1
autoimmune hepatitis, fatty liver disease - either alcohol or non-alcohol	1
fatty liver disease - either alcohol or non-alcohol, overlap syndrome	1
Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Severe portal, interface and lobular lymphoplasmacytic hepatitis with confluent necrosis. In keeping with autoimmune hepatitis.

Complete answer for 10 marks would include: recognition, somewhere in the response, of a hepatitic pattern of injury/AIH as DD, +/- biliary component.

If only biliary disease considered lose 5 agreed by committee

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Case Number: L24_A3

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 37. Known Crohn's disease. Admitted from clinic with abdominal pain, ascites and transaminitis. Super-urgent liver transplant.

Specimen: Liver explant (H&E and EPSR)

Macroscopic: Liver explant weighing 2021g and measuring 245 x 175 x 105mm. There is a mottled, haemorrhagic cut surface.

Immunohistochemistry: N/A

Original Diagnosis: Acute on chronic Budd-Chiari syndrome with severe vascular outflow obstruction associated with extensive hepatic vein and portal vein thrombosis. Minor fibrosis.

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	6
		1

Pattern:	Popularity:
acute venous outflow obstruction	59.6%
vascular disease	45.7%
Other (please specify in Comments)	8.5%
cholestasis, bilirubinostasis	3.2%
steatosis	2.1%
not applicable	2.1%
lobular hepatitis	2.1%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
acute venous outflow obstruction		37
vascular disease		25
acute venous outflow obstruction	vascular disease	9
vascular disease	acute venous outflow obstruction	5
Other (please specify in Comments)		5
vascular disease	cholestasis, bilirubinostasis	2
vascular disease	lobular hepatitis	1
acute venous outflow obstruction	not applicable	1
vascular disease	not applicable	1
acute venous outflow obstruction	Other (please specify in Comments)	1
Other (please specify in Comments)	Other (please specify in Comments)	1
steatosis	Other (please specify in Comments)	1
acute venous outflow obstruction	steatosis	1
abnormal, no pattern discernible		1
lobular hepatitis		1
acute venous outflow obstruction	cholestasis, bilirubinostasis	1
acute venous outflow obstruction	acute venous outflow obstruction	1

Stages:	Popularity:
no fibrosis/equivocal fibrosis	43.6%
mild/early fibrosis without bridging	22.3%
hepatocyte loss or bridging - favour collapse not fibrosis	12.8%
subtle architectural abnormalities, vascular disease	7.4%
not applicable / no special stains to assess architecture	4.3%
Other (please specify in Comments)	3.2%
fibrosis with bridging between vascular structures	3.2%

Diagnostic categories:	Popularity:
Other (please enter alternative diagnosis in comments box)	46.3%
prothrombotic disorder (please specify in comments box)	24.1%
manifestation of systemic or extrahepatic disease (please specify in comments box)	19.4%
transplant complication NOS (please specify in comments box)	3.7%
acute / subacute hepatitis - autoimmune / drug / viral	2.8%
drug induced liver injury (please specify in comments box)	1.9%
- histologically indeterminate for cause	1.9%

Diagnosis Combination:	Count:
Other (please enter alternative diagnosis in comments box)	43

prothrombotic disorder (please specify in comments box)	17
manifestation of systemic or extrahepatic disease (please specify in comments box)	11
manifestation of systemic or extrahepatic disease (please specify in comments box), prothrombotic disorder (please specify in comments box)	6
Other (please enter alternative diagnosis in comments box), prothrombotic disorder (please specify in comments box)	3
acute / subacute hepatitis - autoimmune / drug / viral	2
drug induced liver injury (please specify in comments box)	2
manifestation of systemic or extrahepatic disease (please specify in comments box), Other (please enter alternative diagnosis in comments box)	2
manifestation of systemic or extrahepatic disease (please specify in comments box), transplant complication NOS (please specify in comments box)	2
transplant complication NOS (please specify in comments box)	2
[No selections made]	1
- histologically indeterminate for cause	1
- histologically indeterminate for cause, Other (please enter alternative diagnosis in comments box)	1
acute / subacute hepatitis - autoimmune / drug / viral, Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Acute on chronic Budd-Chiari syndrome with severe vascular outflow obstruction associated with extensive hepatic vein and portal vein thrombosis. Minor fibrosis.

Complete answer for 10 marks would include: reference, somewhere in the response to venous thrombosis and/or Budd Chiari or a vascular pattern of injury.

If vascular disease completely missing from response lose 10 committee agreed 10

Case Number: L24_A4

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 60. History of acute myeloid leukaemia. Treated with allogenic stem cell transplant (x2). Chronic skin changes. Bilirubin 88, ALP 329, ALT 139, ferritin 4000.

Specimen: Liver biopsy (H&E, EPSR, perls, victoria blue)

Macroscopic: One tan core measuring 26mm. Bisected at 20mm.

Immunohistochemistry: N/A

Original Diagnosis: Features are entirely consistent with graft versus host disease with severe degenerative duct changes, cholate stasis and cholestasis. Mild fibrosis. Grade 2-3 hepatocellular siderosis consistent with secondary iron overload in the context of AML & multiple blood transfusions. Known to have chronic GvHD affecting skin, mouth and eyes.

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	6
		1

Pattern:	Popularity:
iron overload	90.4%
chronic biliary disease	37.2%
Other (please specify in Comments)	23.4%
cholestasis, bilirubinostasis	7.4%
not applicable	3.2%
chronic hepatitis	1.1%

Pattern 1:	Pattern 2:	Count:
iron overload		24
chronic biliary disease	iron overload	21
Other (please specify in Comments)	iron overload	12
iron overload	Other (please specify in Comments)	9
iron overload	chronic biliary disease	9
cholestasis, bilirubinostasis	iron overload	5
chronic biliary disease		5
iron overload	not applicable	2
chronic hepatitis	iron overload	1
iron overload	iron overload	1
		1
cholestasis, bilirubinostasis		1
not applicable		1
Other (please specify in Comments)		1
iron overload	cholestasis, bilirubinostasis	1

Stages:	Popularity:
fibrosis with bridging between vascular structures	71.3%
mild/early fibrosis without bridging	18.1%
advanced fibrosis with bridging and nodularity/cirrhosis	7.4%
no fibrosis/equivocal fibrosis	3.2%

Diagnostic categories:	Popularity:
iron overload - acquired, secondary	48.6%
Other (please enter alternative diagnosis in comments box)	20.8%
transplant complication NOS (please specify in comments box)	16.0%
manifestation of systemic or extrahepatic disease (please specify in comments box)	5.6%
chronic cholangiopathy NOS	4.2%
vanishing bile duct syndrome	2.1%
iron overload, hereditary	1.4%
- histologically indeterminate for cause	0.7%
acute / subacute hepatitis - autoimmune / drug / viral	0.7%

Diagnosis Combination:	Count:
iron overload - acquired, secondary	23
iron overload - acquired, secondary, Other (please enter alternative diagnosis in comments box)	19

iron overload - acquired, secondary, transplant complication NOS (please specify in comments box)	13
Other (please enter alternative diagnosis in comments box)	10
transplant complication NOS (please specify in comments box)	8
iron overload - acquired, secondary, manifestation of systemic or extrahepatic disease (please specify in comments box)	7
chronic cholangiopathy NOS, iron overload - acquired, secondary	3
chronic cholangiopathy NOS	2
iron overload - acquired, secondary, iron overload, hereditary	2
iron overload - acquired, secondary, vanishing bile duct syndrome	2
- histologically indeterminate for cause, transplant complication NOS (please specify in comments box)	1
acute / subacute hepatitis - autoimmune / drug / viral, iron overload - acquired, secondary	1
chronic cholangiopathy NOS, Other (please enter alternative diagnosis in comments box)	1
manifestation of systemic or extrahepatic disease (please specify in comments box)	1
transplant complication NOS (please specify in comments box), vanishing bile duct syndrome	1

Original report and further information (if any): Features are entirely consistent with graft versus host disease with severe degenerative duct changes, cholate stasis and cholestasis. Mild fibrosis. Grade 2-3 hepatocellular siderosis consistent with secondary iron overload in the context of AML & multiple blood transfusions. Known to have chronic GvHD affecting skin, mouth and eyes.

No consensus for GVHD/chronic biliary disease

Ask members;
Should this case be scored as there is no consensus for the primary disease process? Secondary iron overload does not explain the clinical features. The only way it could be scored would be :

Complete answer for 10 marks; description of iron overload and greater than or = to bridging fibrosis.
***Lose 5 marks** – stage is less than bridging, no mention of iron (n=0).*

Vote; Score on this basis or exclude from scoring?

Members voted to EXCLUDE this case from scoring (meeting 27.6.24).

Case Number: L24_A5

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Female 42. Distal colonic Crohn's disease diagnosed 2009. Started on infliximab. Now abnormal LFTs and strongly positive ANA.

Specimen: Liver biopsy (H&E & EPSR)

Macroscopic: Liver core

Immunohistochemistry: N/A

Original Diagnosis: Mild to moderate portal and lobular lymphoplasmacytic inflammation with interface activity. In the given clinical context the appearances would be in keeping with drug/infliximab induced autoimmune hepatitis. Minor-mild fibrosis.

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	6
		1

Pattern:	Popularity:
chronic hepatitis	78.7%
lobular hepatitis	21.3%
cholestasis, bilirubinostasis	6.4%
Other (please specify in Comments)	3.2%
abnormal, no pattern discernible	2.1%
not applicable	1.1%

Pattern 1:	Pattern 2:	Count:
chronic hepatitis		62
lobular hepatitis		15
chronic hepatitis	lobular hepatitis	5
chronic hepatitis	cholestasis, bilirubinostasis	4
chronic hepatitis	Other (please specify in Comments)	2
cholestasis, bilirubinostasis	chronic hepatitis	1
		1
abnormal, no pattern discernible		1
not applicable		1
Other (please specify in Comments)		1
abnormal, no pattern discernible	cholestasis, bilirubinostasis	1

Stages:	Popularity:
mild/early fibrosis without bridging	67.0%
no fibrosis/equivocal fibrosis	24.5%
fibrosis with bridging between vascular structures	5.3%
hepatocyte loss or bridging - favour collapse not fibrosis	2.1%

Diagnostic categories:	Popularity:
drug induced liver injury (please specify in comments box)	44.3%
autoimmune hepatitis	39.3%
acute / subacute hepatitis - autoimmune / drug / viral	8.2%
Other (please enter alternative diagnosis in comments box)	5.7%
- histologically indeterminate for cause	1.6%
manifestation of systemic or extrahepatic disease (please specify in comments box)	0.8%

Diagnosis Combination:	Count:

drug induced liver injury (please specify in comments box)	26
autoimmune hepatitis	24
autoimmune hepatitis, drug induced liver injury (please specify in comments box)	24
acute / subacute hepatitis - autoimmune / drug / viral	8
Other (please enter alternative diagnosis in comments box)	5
- histologically indeterminate for cause	2
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), Other (please enter alternative diagnosis in comments box)	2
manifestation of systemic or extrahepatic disease (please specify in comments box)	1

Original report and further information (if any): Mild to moderate portal and lobular lymphoplasmacytic inflammation with interface activity. In the given clinical context the appearances would be in keeping with drug/infliximab induced autoimmune hepatitis. Minor-mild fibrosis.

Complete answer for 10 marks would include:
Hepatitis pattern with differential that includes DILI (no loss of marks for not specifying the drug) AND no or early fibrosis (less than bridging)

Lose 5 marks :
Bridging fibrosis, no consideration of drug induced injury.

Case Number: L24_A6

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Female 45. Patient from Lithuania, presented with abdominal fullness in RUQ , found to have a liver mass. .

Specimen: Right hepatectomy

Macroscopic: 14cm cyst , multiloculated.

Immunohistochemistry: Nil . PAS highlights parasite

Original Diagnosis: Hydatid cyst. Clinically Hydatid ELISA positive (OD 1.502 cut off 0.25) Western Blot positive E multilocularis, clinical diagnosis of alveolar echinococcus (UCL) Received treatment pre- resection. SVUH laboratory is INAB accredited

Tumour:	**Popularity:**
cyst (non-neoplastic)	68.1%
Other (please specify in Comments)	28.7%
- No tumour/lesion present	10.6%

Tumour 1:	**Tumour 2:**	**Count:**
cyst (non-neoplastic)		55
Other (please specify in Comments)		20

- No tumour/lesion present		7
cyst (non-neoplastic)	Other (please specify in Comments)	6
- No tumour/lesion present	cyst (non-neoplastic)	2
cyst (non-neoplastic)	cyst (non-neoplastic)	1
Other (please specify in Comments)	Other (please specify in Comments)	1
		1
- No tumour/lesion present	- No tumour/lesion present	1

Pattern:	**Popularity:**
within normal limits	58.5%
Other (please specify in Comments)	18.1%
granulomatous	9.6%
not applicable	7.4%

Pattern 1:	**Pattern 2:**	**Count:**
within normal limits		52
Other (please specify in Comments)		15
		8
not applicable		7
granulomatous		6
granulomatous	granulomatous	2
Other (please specify in Comments)	Other (please specify in Comments)	1
within normal limits	Other (please specify in Comments)	1
granulomatous	within normal limits	1
within normal limits	within normal limits	1

Stages:	**Popularity:**
not applicable / no special stains to assess architecture	62.8%
no fibrosis/equivocal fibrosis	24.5%

Diagnostic categories:	**Popularity:**
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	45.2%
Other (please enter alternative diagnosis in comments box)	23.8%
- no evidence of diffuse/background liver disease	17.9%
granulomatous disease NOS (please specify in comments box)	8.3%
- not applicable (insufficient non-lesional tissue)	2.4%
manifestation of systemic or extrahepatic disease (please specify in comments box)	2.4%

Diagnosis Combination:	**Count:**
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	36
Other (please enter alternative diagnosis in comments box)	19
- no evidence of diffuse/background liver disease	14
[No selections made]	12
granulomatous disease NOS (please specify in comments box)	7
- not applicable (insufficient non-lesional tissue)	2
manifestation of systemic or extrahepatic disease (please specify in comments box)	2
- no evidence of diffuse/background liver disease, non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	1
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box), Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Hydatid cyst. Clinically Hydatid ELISA positive (OD 1.502 cut off 0.25) Western Blot positive E multilocularis, clinical diagnosis of alveolar echinococcus (UCL) Received treatment pre- resection. SVUH laboratory is INAB accredited

Complete answer for 10 marks would include: Hydatid cyst/Echinococcus

***Lose 5** – Infective cyst – not specifying Hydatid/Echinococcus (range from fluke, "worm", schistosoma, amoebic, fungal)*
***Lose 10** – No participants*

Case Number: L24_A7

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Female 23. Fontan-associated liver disease. Persistent LFT abnormalities with raised ALT (79) and GGT (77). IgG 16.72. ANA >1:640.

Specimen: Native liver, needle biopsy

Macroscopic: Core

Immunohistochemistry: reticulin, PSR

Original Diagnosis: Fontan-associated liver disease with venous outflow obstruction and abundant bridging fibrosis.

Tumour:	Popularity:
- No tumour/lesion present	97.9%
Other (please specify in Comments)	1.1%
focal nodular hyperplasia	0.0%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		87
- No tumour/lesion present	- No tumour/lesion present	5
		1
Other (please specify in Comments)		1

Pattern:	Popularity:
vascular disease	77.7%
Other (please specify in Comments)	14.9%
acute venous outflow obstruction	5.3%
not applicable	2.1%
chronic hepatitis	1.1%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
vascular disease		68
Other (please specify in Comments)		12

acute venous outflow obstruction		4
vascular disease	vascular disease	2
chronic hepatitis		1
not applicable		1
		1
abnormal, no pattern discernible		1
vascular disease	acute venous outflow obstruction	1
vascular disease	not applicable	1
Other (please specify in Comments)	Other (please specify in Comments)	1
Other (please specify in Comments)	vascular disease	1

Stages:	**Popularity:**
advanced fibrosis with bridging and nodularity/cirrhosis	72.3%
fibrosis with bridging between vascular structures	23.4%
mild/early fibrosis without bridging	1.1%
hepatocyte loss or bridging - favour collapse not fibrosis	1.1%
subtle architectural abnormalities, vascular disease	1.1%
Other (please specify in Comments)	1.1%

Diagnostic categories:	**Popularity:**
manifestation of systemic or extrahepatic disease (please specify in comments box)	54.7%
Other (please enter alternative diagnosis in comments box)	45.3%

Diagnosis Combination:	**Count:**
manifestation of systemic or extrahepatic disease (please specify in comments box)	51
Other (please enter alternative diagnosis in comments box)	42
manifestation of systemic or extrahepatic disease (please specify in comments box), Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Fontan-associated liver disease with venous outflow obstruction and abundant bridging fibrosis.

Complete answer for 10 marks would include: Fontan / cardiac / chronic outflow obstruction (everyone) AND at least bridging fibrosis.

*If **Bridging fibrosis missing** from response lose 5*

Case Number: L24_A8

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 60. Previous right colectomy for colon cancer and Whipple's resection for duodenal cancer. Severe pruritus and cholestatic LFTs with intrahepatic biliary dilatation but no hep-jej stricture. ? cause

Specimen: Native liver, needle biopsy

Macroscopic: Core

Immunohistochemistry: orcein, PSR

Original Diagnosis: Destructive peripheral cholangiopathy with chronic cholestasis and a pattern indicating large duct obstruction.

Tumour:	Popularity:
- No tumour/lesion present	97.9%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		87
- No tumour/lesion present	- No tumour/lesion present	5
		2

Pattern:	Popularity:
chronic biliary disease	85.1%
cholestasis, bilirubinostasis	29.8%
chronic hepatitis	3.2%
not applicable	3.2%
Other (please specify in Comments)	2.1%
granulomatous	1.1%
abnormal, no pattern discernible	1.1%
vascular disease	1.1%
lobular hepatitis	1.1%

Pattern 1:	Pattern 2:	Count:
chronic biliary disease		57
chronic biliary disease	cholestasis, bilirubinostasis	12
cholestasis, bilirubinostasis	chronic biliary disease	7
cholestasis, bilirubinostasis		4
chronic hepatitis	cholestasis, bilirubinostasis	2
		1
chronic hepatitis		1
not applicable		1
Other (please specify in Comments)		1
vascular disease		1
cholestasis, bilirubinostasis	abnormal, no pattern discernible	1
chronic biliary disease	chronic biliary disease	1
Other (please specify in Comments)	chronic biliary disease	1
chronic biliary disease	granulomatous	1
cholestasis, bilirubinostasis	lobular hepatitis	1
cholestasis, bilirubinostasis	not applicable	1
chronic biliary disease	not applicable	1

Stages:	Popularity:
mild/early fibrosis without bridging	79.8%
no fibrosis/equivocal fibrosis	12.8%
fibrosis with bridging between vascular structures	7.4%

Diagnostic categories:	Popularity:
large bile duct obstruction	36.4%
chronic cholangiopathy NOS	31.8%
primary sclerosing cholangitis	13.1%
ascending cholangitis	5.6%
drug induced liver injury (please specify in comments box)	5.6%
Other (please enter alternative diagnosis in comments box)	3.7%
primary biliary cholangitis	1.9%
acute / subacute hepatitis - autoimmune / drug / viral	0.9%
manifestation of systemic or extrahepatic disease (please specify in comments box)	0.9%

Diagnosis Combination:	Count:
large bile duct obstruction	33
chronic cholangiopathy NOS	26
primary sclerosing cholangitis	11
ascending cholangitis	3
chronic cholangiopathy NOS, large bile duct obstruction	3
drug induced liver injury (please specify in comments box)	3
Other (please enter alternative diagnosis in comments box)	3
chronic cholangiopathy NOS, drug induced liver injury (please specify in comments box)	2
chronic cholangiopathy NOS, primary sclerosing cholangitis	2
primary biliary cholangitis	2
acute / subacute hepatitis - autoimmune / drug / viral, manifestation of systemic or extrahepatic disease (please specify in comments box)	1
ascending cholangitis, chronic cholangiopathy NOS	1
ascending cholangitis, large bile duct obstruction	1
ascending cholangitis, primary sclerosing cholangitis	1
drug induced liver injury (please specify in comments box), large bile duct obstruction	1
large bile duct obstruction, Other (please enter alternative diagnosis in comments box)	1

Original report and further information (if any): Destructive peripheral cholangiopathy with chronic cholestasis and a pattern indicating large duct obstruction.

Complete answer for 10 marks would include: chronic biliary disease , including PSC (although it is secondary really) and PBC recognising chronic biliary pattern AND no or mild fibrosis

If bridging or advanced fibrosis lose 5

If no biliary diagnosis anywhere in the response lose 10 (vascular, hepatitis, drug)

Case Number: L24_A9

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 74. Suspected cholangiocarcinoma

Specimen: Liver segmentectomy, segments 2 and left lateral segment 3

Macroscopic: 3 cm cystic 'tumour' with brown haemorrhagic contents.

Immunohistochemistry: Nil

Original Diagnosis: Encysted haematoma. No lining, CK7/ CD34 negative. Very abnormal adjacent vessels, arteries and veins, in keeping with an AV malformation. SVUH laboratory is INAB accredited.

Tumour:	Popularity:
cyst (non-neoplastic)	55.3%
Other (please specify in Comments)	33.0%
haemangioma NOS	9.6%
- No tumour/lesion present	8.5%
biliary intra-epithelial neoplasia (BilIN)	1.1%
cholangiocarcinoma	0.0%
biliary hamartoma / von Meyenberg complex	0.0%

Tumour 1:	Tumour 2:	Count:
cyst (non-neoplastic)		45
Other (please specify in Comments)		26
haemangioma NOS		8
- No tumour/lesion present		6
cyst (non-neoplastic)	Other (please specify in Comments)	3
haemangioma NOS	Other (please specify in Comments)	1
- No tumour/lesion present	- No tumour/lesion present	1
cyst (non-neoplastic)	- No tumour/lesion present	1
cyst (non-neoplastic)	biliary intra-epithelial neoplasia (BilIN)	1
cyst (non-neoplastic)	cyst (non-neoplastic)	1
Other (please specify in Comments)	cyst (non-neoplastic)	1

Pattern:	Popularity:
within normal limits	57.4%
not applicable	17.0%
vascular disease	9.6%
Other (please specify in Comments)	5.3%
lobular hepatitis	1.1%
steatosis	1.1%
acute venous outflow obstruction	1.1%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
within normal limits		53
not applicable		14
		8
vascular disease		8
Other (please specify in Comments)		4
not applicable	not applicable	2
Other (please specify in Comments)	Other (please specify in Comments)	1
within normal limits	steatosis	1
acute venous outflow obstruction	vascular disease	1

abnormal, no pattern discernible	1
lobular hepatitis	1

Stages:	**Popularity:**
not applicable / no special stains to assess architecture	64.9%
no fibrosis/equivocal fibrosis	17.0%
Other (please specify in Comments)	2.1%
mild/early fibrosis without bridging	1.1%
subtle architectural abnormalities, vascular disease	1.1%

Diagnostic categories:	**Popularity:**
Other (please enter alternative diagnosis in comments box)	49.2%
- no evidence of diffuse/background liver disease	27.7%
- not applicable (insufficient non-lesional tissue)	9.2%
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	7.7%
- histologically indeterminate for cause	4.6%
prothrombotic disorder (please specify in comments box)	1.5%

Diagnosis Combination:	**Count:**
Other (please enter alternative diagnosis in comments box)	32
[No selections made]	29
- no evidence of diffuse/background liver disease	18
- not applicable (insufficient non-lesional tissue)	6
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	5
- histologically indeterminate for cause	3
prothrombotic disorder (please specify in comments box)	1

Original report and further information (if any): Encysted haematoma. No lining, CK7/ CD34 negative. Very abnormal adjacent vessels, arteries and veins, in keeping with an AV malformation. SVUH laboratory is INAB accredited.

Diagnosis: consensus for non neoplastic cyst but not the 'correct' diagnosis?
No consensus for AV malformation

Questions to members :

Should we score on the basis of ; any kind of benign mass forming lesion is acceptable including benign neoplasm and infectious cases?

Yes or exclude from scoring?

Members voted to ACCEPT scoring on this basis (meeting 27.6.24)

If yes

BILIN? 1 response (also have non neoplastic cyst) score 5 or 0? Members vote to score 0 (meeting 27.6.24).

:

Case Number: L24_A10

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 61. Immunosuppressed. Multiple lung nodules and deranged LFTs.

Specimen: Liver biopsy (H&E and ZN stain)

Macroscopic: Cores of tissue

Immunohistochemistry: ZN,

Original Diagnosis: Numerous epithelioid granulomas containing acid fast bacilli consistent with mycobacterial infection. patient already on treatment for TB hence less caseous necrosis than typically expect however abundant bacilli seen on ZN stain.

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

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		88
- No tumour/lesion present	- No tumour/lesion present	5
		1

Pattern:	Popularity:
granulomatous	96.8%
iron overload	4.3%
not applicable	2.1%
cholestasis, bilirubinostasis	1.1%
chronic hepatitis	1.1%
Other (please specify in Comments)	1.1%

Pattern 1:	Pattern 2:	Count:
granulomatous		80
granulomatous	granulomatous	3
granulomatous	iron overload	3
granulomatous	not applicable	2
		2
granulomatous	Other (please specify in Comments)	1
iron overload		1
granulomatous	cholestasis, bilirubinostasis	1
granulomatous	chronic hepatitis	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	70.2%
no fibrosis/equivocal fibrosis	20.2%
mild/early fibrosis without bridging	6.4%
Other (please specify in Comments)	1.1%

Diagnostic categories:	Popularity:
granulomatous disease NOS (please specify in comments box)	69.3%
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	16.8%
manifestation of systemic or extrahepatic disease (please specify in comments box)	6.9%
Other (please enter alternative diagnosis in comments box)	5.0%
sarcoidosis	1.0%
- histologically indeterminate for cause	1.0%

Diagnosis Combination:	Count:
granulomatous disease NOS (please specify in comments box)	66
non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	11
manifestation of systemic or extrahepatic disease (please specify in comments box)	4
Other (please enter alternative diagnosis in comments box)	4
granulomatous disease NOS (please specify in comments box), non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	3
manifestation of systemic or extrahepatic disease (please specify in comments box), non-hepatotrophic - viral, bacterial, parasitic (please specify in comment box)	3
- histologically indeterminate for cause	1
granulomatous disease NOS (please specify in comments box), Other (please enter alternative diagnosis in comments box)	1
sarcoidosis	1

Original report and further information (if any): Numerous epithelioid granulomas containing acid fast bacilli consistent with mycobacterial infection. patient already on treatment for TB hence less caseous necrosis than typically expect however abundant bacilli seen on ZN stain.

Complete answer for 10 marks would include: Granulomatous disease.

(ZN was not great digitally, so these are differentials given by particpants) favouring TB doesn't reach consensus.

One person hasn't used the word granulomatous in any of the sections, they do say inflammatory areas and suggest TB, lose 5

Case Number: L24_A11

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 74. Imaging â€“ mildly irregular liver. 11cm large liver lesion right lobe with PVT. ?HCC. ?Background cirrhosis.

Specimen: Liver biopsy

Macroscopic: Four cores of cream tissue which measure 9mm, 13mm, 15mm, 10mm in 1A.

Immunohistochemistry: CK7, CK19, Arginase, HepPar1 and ABDPAS stains provided

Original Diagnosis: The morphological features in this biopsy favour a combined hepatocellular-cholangiocarcinoma.

Tumour:	Popularity:
combined hepatocellular and cholangiocarcinoma	89.4%
cholangiocarcinoma	4.3%
hepatocellular carcinoma variant (specify in Comments)	3.2%
- No tumour/lesion present	3.2%
metastasis (further comment in Comments)	2.1%
Other (please specify in Comments)	1.1%
hepatocellular carcinoma	1.1%

Tumour 1:	Tumour 2:	Count:
combined hepatocellular and cholangiocarcinoma		77
cholangiocarcinoma		4
combined hepatocellular and cholangiocarcinoma	- No tumour/lesion present	3
combined hepatocellular and cholangiocarcinoma	combined hepatocellular and cholangiocarcinoma	3
hepatocellular carcinoma variant (specify in Comments)		3
metastasis (further comment in Comments)		2
Other (please specify in Comments)		1
hepatocellular carcinoma	combined hepatocellular and cholangiocarcinoma	1

Pattern:	Popularity:
not applicable	83.0%
Other (please specify in Comments)	9.6%
chronic hepatitis	1.1%

Pattern 1:	Pattern 2:	Count:
not applicable		73
		8
Other (please specify in Comments)		7
not applicable	not applicable	3
not applicable	Other (please specify in Comments)	2
chronic hepatitis	chronic hepatitis	1

Stages:	Popularity:
not applicable / no special stains to assess architecture	75.5%
advanced fibrosis with bridging and nodularity/cirrhosis	6.4%
fibrosis with bridging between vascular structures	2.1%
mild/early fibrosis without bridging	1.1%

Diagnostic categories:	Popularity:
- not applicable (insufficient non-lesional tissue)	89.7%
Other (please enter alternative diagnosis in comments box)	7.7%
- no evidence of diffuse/background liver disease	2.6%

Diagnosis Combination:	Count:
[No selections made]	55
- not applicable (insufficient non-lesional tissue)	35
Other (please enter alternative diagnosis in comments box)	3
- no evidence of diffuse/background liver disease	1

Original report and further information (if any): The morphological features in this biopsy favour a combined hepatocellular-cholangiocarcinoma.

Complete answer for 10 marks would include: Combined hepatocellular-cholangiocarcinoma

If either component is missing from response lose 5
If diagnosis of metastasis – lose 10

Case Number: L24_A12

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Female 27. On request form; ?HCC segment II/III NAR. From e patient record; incidental finding in patient with known congenital heart disease.

Specimen: Liver resection, section of lesion and of background liver.

Macroscopic: 21g liver wedge with 20mm subcapsular lesion clear of the margin, vague nodularity background liver.

Immunohistochemistry: Lesion; Glutamine synthetase provided. Preserved reticulin, no nuclear B catenin, negative CRP and serum amyloid A, low proliferation fraction Ki67. Background; HVG and reticulin provided.

Original Diagnosis: Focal nodular hyperplasia FNH. Chronic vascular pattern of injury in background liver, atrophy and perisinusoidal fibrosis - presumed secondary to heart disease, known association FNH.

Tumour:	Popularity:
focal nodular hyperplasia	93.6%
hepatocellular adenoma NOS	4.3%
hepatocellular adenoma beta catenin activated	2.1%
Other (please specify in Comments)	2.1%
- No tumour/lesion present	2.1%
hepatocellular adenoma inflammatory	0.0%

Tumour 1:	Tumour 2:	Count:
focal nodular hyperplasia		82
hepatocellular adenoma NOS		3

focal nodular hyperplasia	focal nodular hyperplasia	3
focal nodular hyperplasia	- No tumour/lesion present	2
hepatocellular adenoma beta catenin activated	hepatocellular adenoma NOS	1
focal nodular hyperplasia	Other (please specify in Comments)	1
Other (please specify in Comments)		1
hepatocellular adenoma beta catenin activated		1

Pattern:	**Popularity:**
vascular disease	52.1%
Other (please specify in Comments)	21.3%
within normal limits	18.1%
not applicable	4.3%

Pattern 1:	**Pattern 2:**	**Count:**
vascular disease		49
Other (please specify in Comments)		19
within normal limits		17
		4
not applicable		3
not applicable	not applicable	1
Other (please specify in Comments)	Other (please specify in Comments)	1

Stages:	**Popularity:**
mild/early fibrosis without bridging	35.1%
no fibrosis/equivocal fibrosis	31.9%
subtle architectural abnormalities, vascular disease	19.1%
Other (please specify in Comments)	5.3%
not applicable / no special stains to assess architecture	3.2%
fibrosis with bridging between vascular structures	2.1%

Diagnostic categories:	**Popularity:**
Other (please enter alternative diagnosis in comments box)	52.7%
manifestation of systemic or extrahepatic disease (please specify in comments box)	31.1%
- no evidence of diffuse/background liver disease	14.9%
- not applicable (insufficient non-lesional tissue)	1.4%

Diagnosis Combination:	**Count:**
Other (please enter alternative diagnosis in comments box)	39
manifestation of systemic or extrahepatic disease (please specify in comments box)	23
[No selections made]	20
- no evidence of diffuse/background liver disease	11
- not applicable (insufficient non-lesional tissue)	1

Original report and further information (if any): Focal nodular hyperplasia FNH. Chronic vascular pattern of injury in background liver, atrophy and perisinusoidal fibrosis - presumed secondary to heart disease, known association FNH.

Complete answer for 10 marks would include: Focal Nodular Hyperplasia

No consensus for vascular pattern injury in background liver

If calling it adenoma lose 5 marks

Case Number: L24_A13

Number of responses: 94. Date of analysis: 15 May 2024

Clinical: Male 10. Arginosuccinic acidaemia, global developmental delay. USS: hepatomegaly+hyper reflective liver. No biliary dilatation. No splenomegaly. No PTHTN signs on OGD. Chronic diarrhoea and GORD. Gastrostomy dependent.

Specimen: Liver biopsy

Macroscopic: one tan core 1.2cm.

Immunohistochemistry: HVG PAS PASD

Original Diagnosis: Arginosuccinic aciduria mimicking glycogen storage disease. Mild to moderate fibrosis.

Tumour:	Popularity:
- No tumour/lesion present	79.8%

Tumour 1:	Tumour 2:	Count:
- No tumour/lesion present		71
		19
- No tumour/lesion present	- No tumour/lesion present	4

Pattern:	Popularity:
Other (please specify in Comments)	73.4%
not applicable	2.1%
within normal limits	1.1%
abnormal, no pattern discernible	1.1%

Pattern 1:	Pattern 2:	Count:
Other (please specify in Comments)		67
		21
Other (please specify in Comments)	Other (please specify in Comments)	2
abnormal, no pattern discernible		1
not applicable		1
within normal limits		1
not applicable	not applicable	1

Stages:	Popularity:
no fibrosis/equivocal fibrosis	47.9%
mild/early fibrosis without bridging	20.2%

not applicable / no special stains to assess architecture	4.3%
fibrosis with bridging between vascular structures	3.2%

Diagnostic categories:	**Popularity:**
storage disorder (please specify in comments box)	65.8%
Other (please enter alternative diagnosis in comments box)	20.5%
manifestation of systemic or extrahepatic disease (please specify in comments box)	12.3%
- no evidence of diffuse/background liver disease	1.4%

Diagnosis Combination:	**Count:**
storage disorder (please specify in comments box)	48
[No selections made]	21
Other (please enter alternative diagnosis in comments box)	15
manifestation of systemic or extrahepatic disease (please specify in comments box)	9
- no evidence of diffuse/background liver disease	1

Original report and further information (if any): Arginosuccinic aciduria mimicking glycogen storage disease. Mild to moderate fibrosis.

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