An Unusual Case of Biliary Hamartoma

Morgyn Sneddon
Lecturer Diagnostic Imaging & Medical Ultrasound,
Glasgow Caledonian University

Karolyn McPherson
Sonographer, NHS Forth Valley

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Biliary Hamartoma (von Meyenburg complexes (VMC))

- First defined in 1918 by Swiss pathologist Hanns von Meyenburg[1]
- Rare genetic abnormality
- Collections of dilated small ducts throughout liver (may or may not contain bile within), embedded in fibrous tissue. These are not contiguous with the duct
- Alteration of normal intrahepatic bile duct embryologic development (ductal plate malformation such as Caroli's & polycystic liver)[2]

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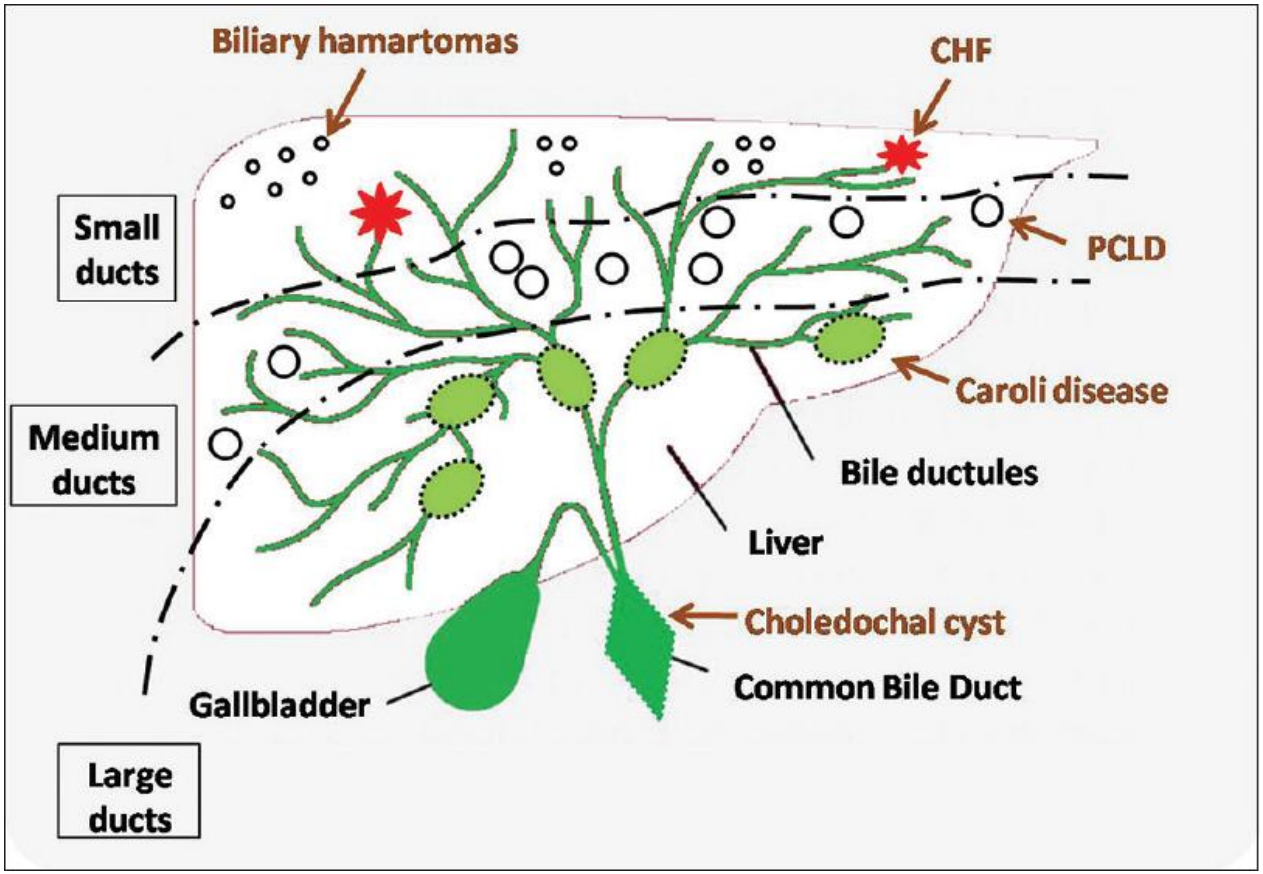
Spectrum of congenital fibrocystic liver disease[3]



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Biliary Hamartoma (von Meyenburg Complex)

- Commonly asymptomatic[4]
- Historically these were detected at autopsy, but with more sophisticated imaging these are now incidental findings[5]
- Thought a generally benign process, however there is potential to develop to intrahepatic cholangiocarcinoma[6]
- Ultrasound & CT not specific for VMC – MRI gold standard[4]

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Typical Ultrasound Appearances – Difficult!

Size & Shape

- Generally multiple
- Small (<1.5cm); rounded

Echogenicity

- Echogenic to surrounding parenchyma

Artefacts

- Ring down artefact posterior to the mass[4]

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Case Background

- 71 year old female – GP referral
- epigastric pain, normal LFTS, bloating

- Known diverticular disease, cholecystectomy
- Previous CT 2011: no liver abnormality

- <u>Imaging protocol</u>
    - Curvilinear transducer with frequency range1-5Mhz
    - Standard abdomen protocol

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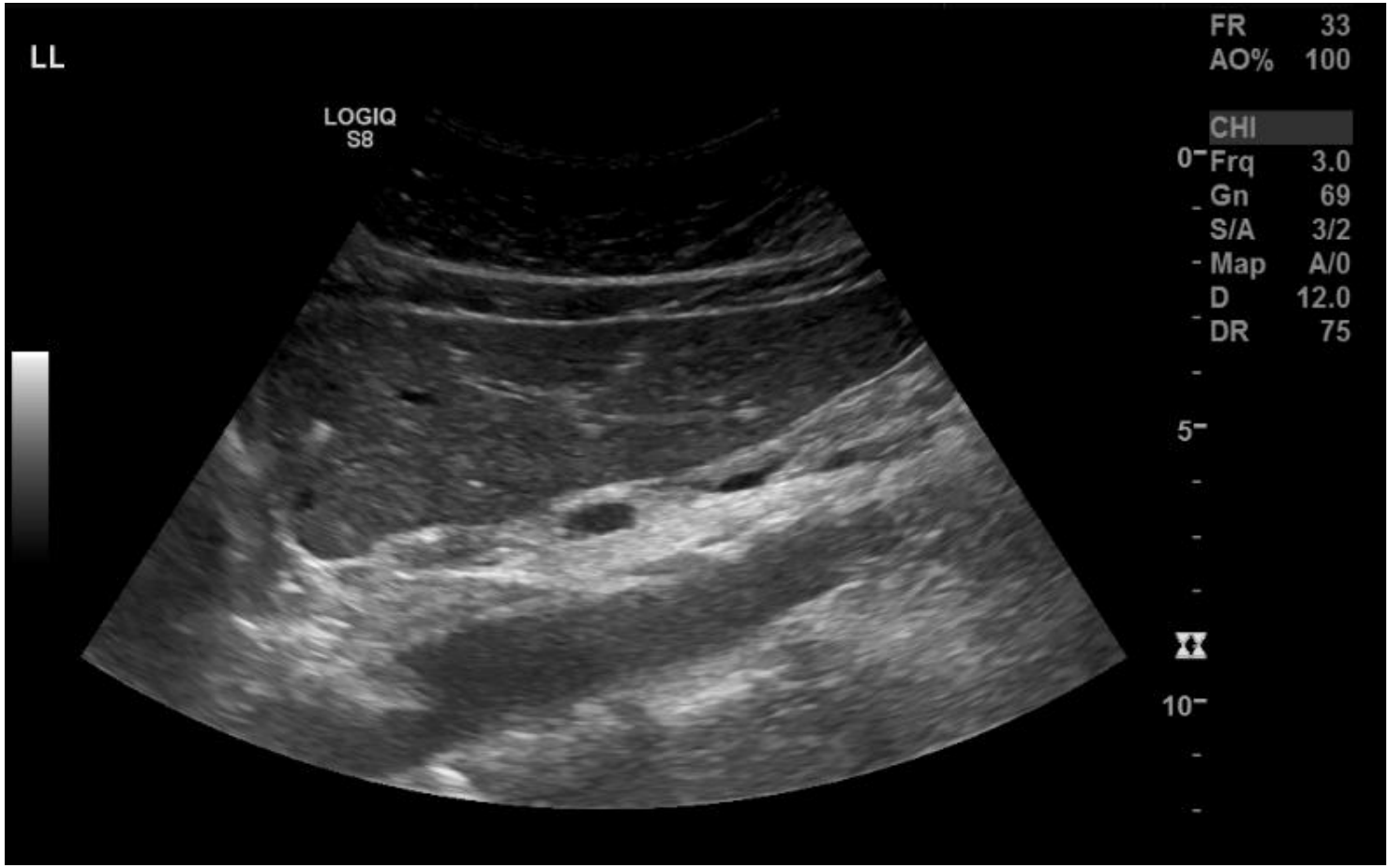
Ultrasound Imaging



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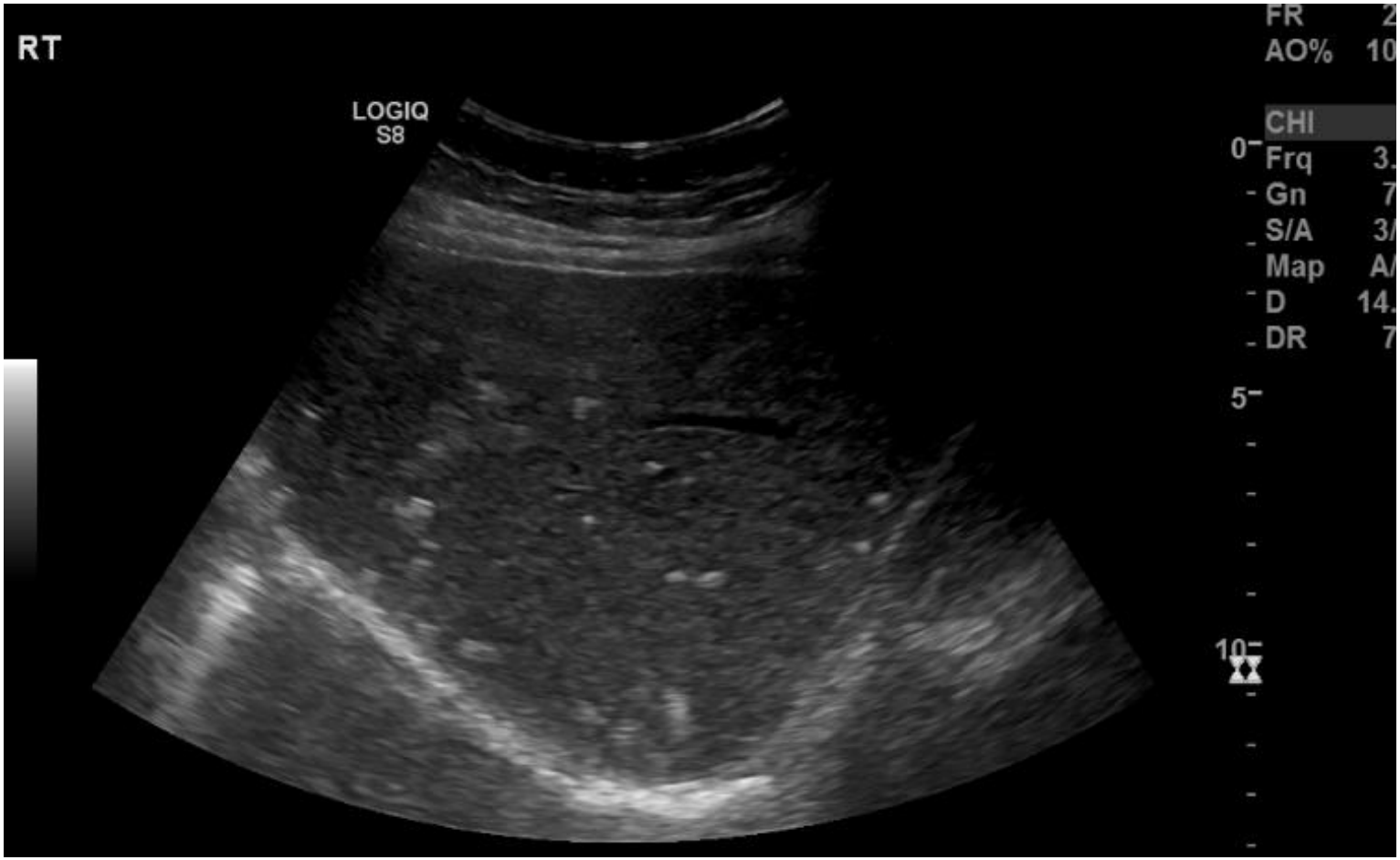
Ultrasound Imaging



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Ultrasound Imaging

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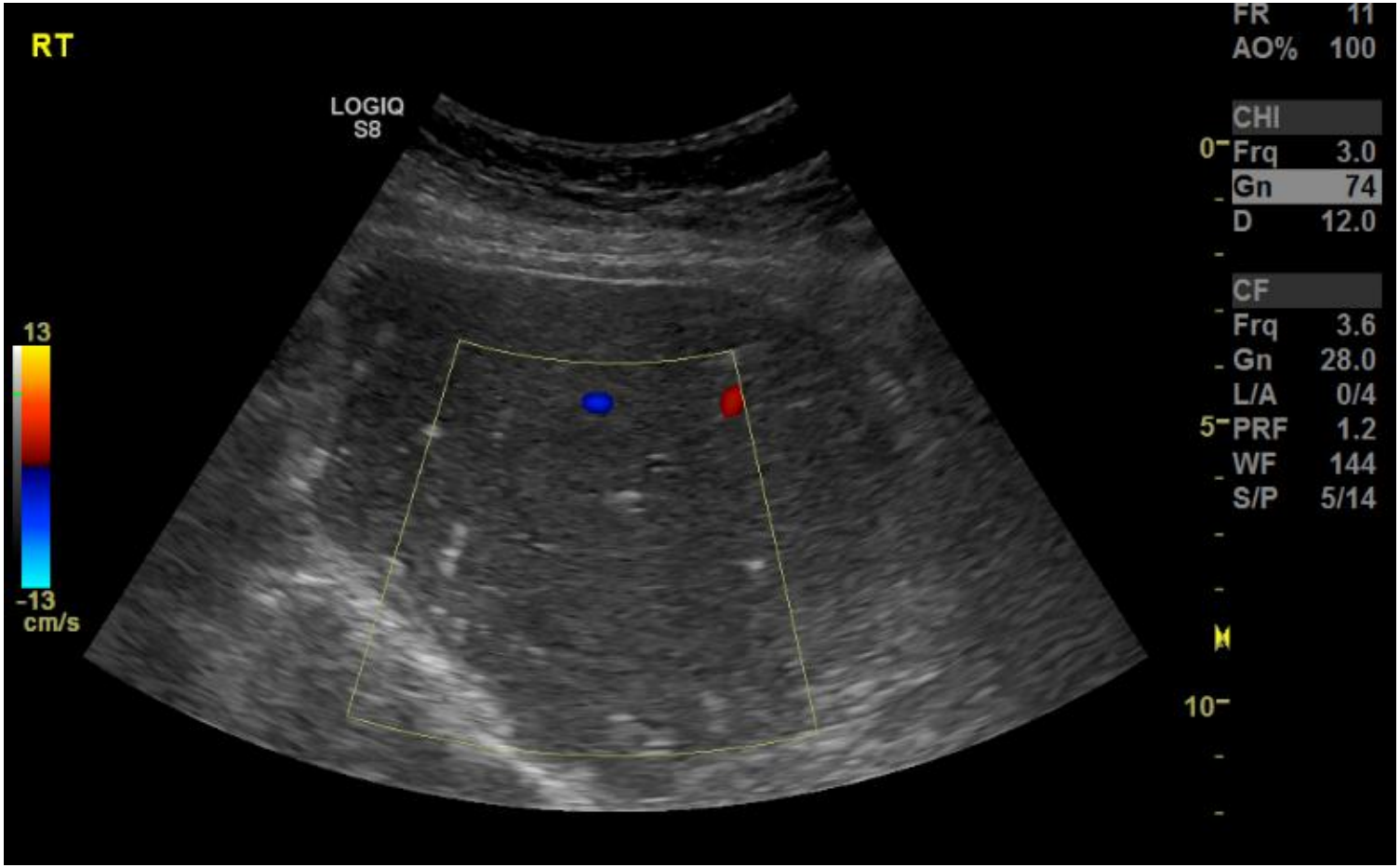

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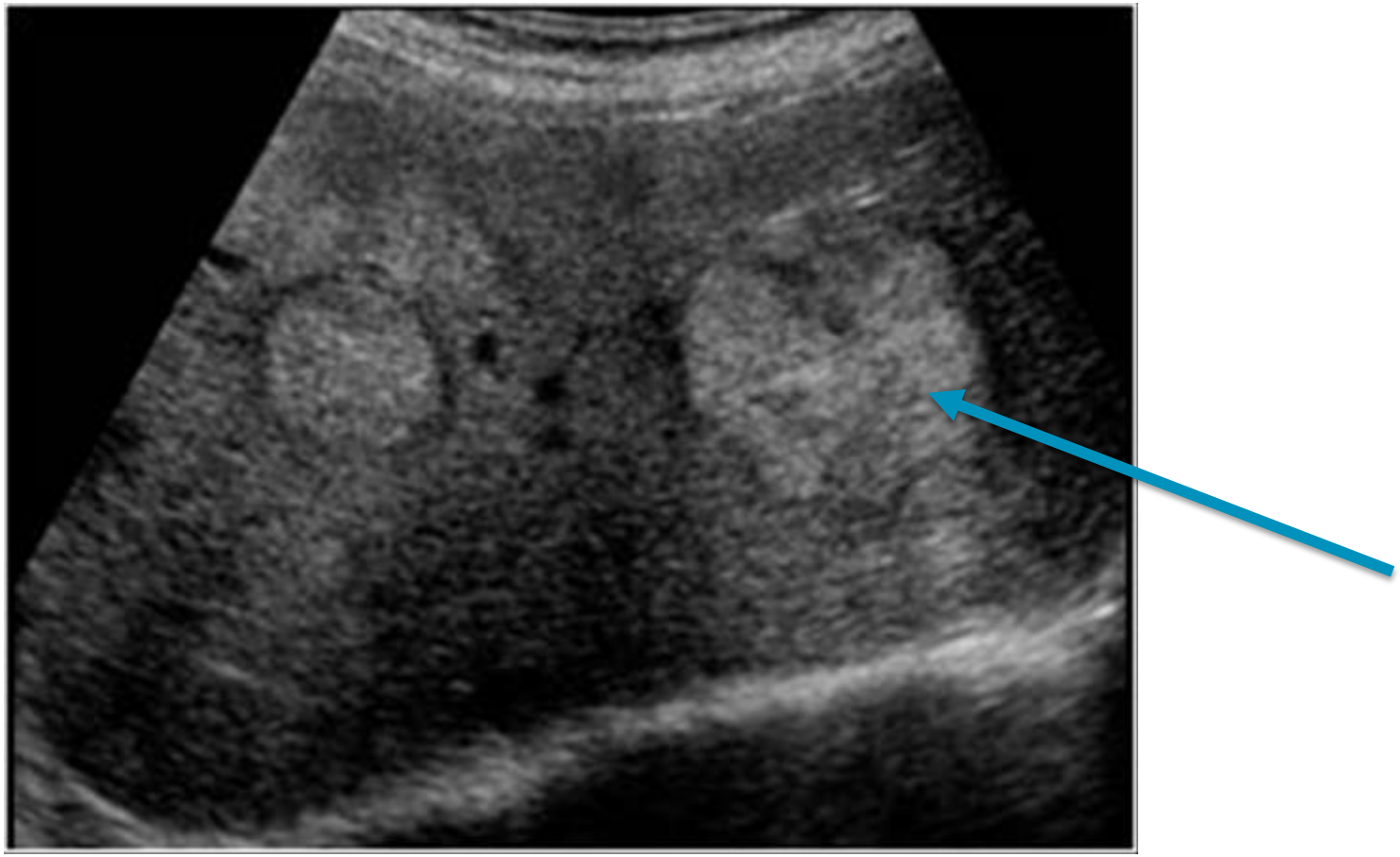
Ultrasound Findings

Report : hyperechoic foci with ring down artefact throughout the liver. No mass effect , no increased vascularity.

Differentials?

Hepatic Metastasis



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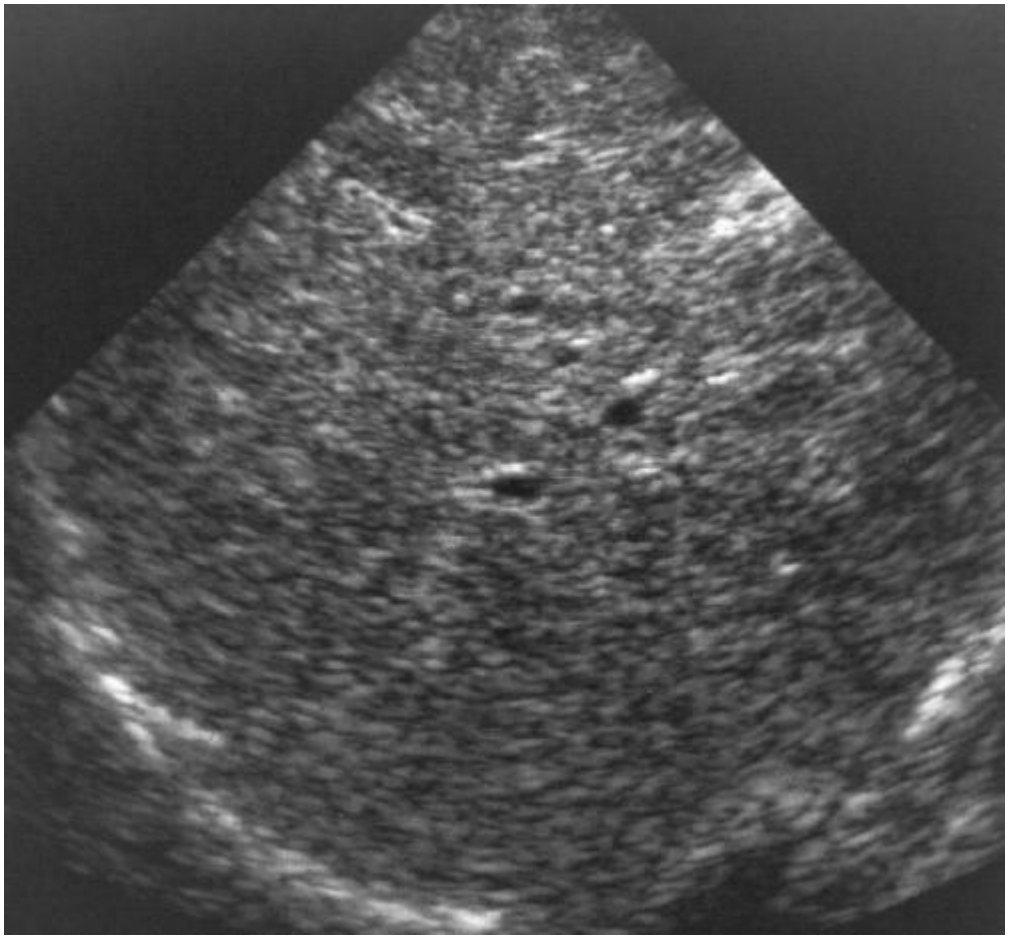
Coarsened Liver Echotexture



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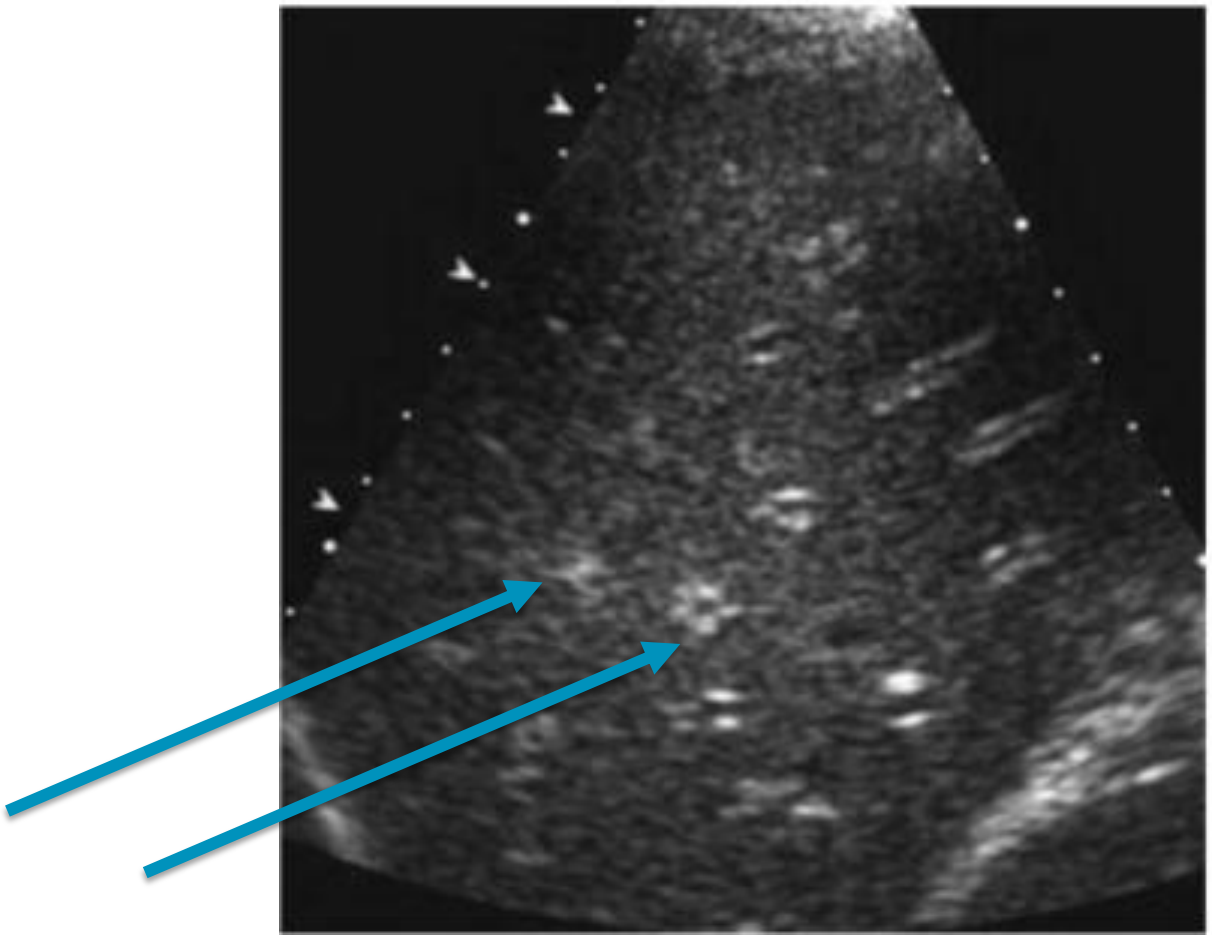
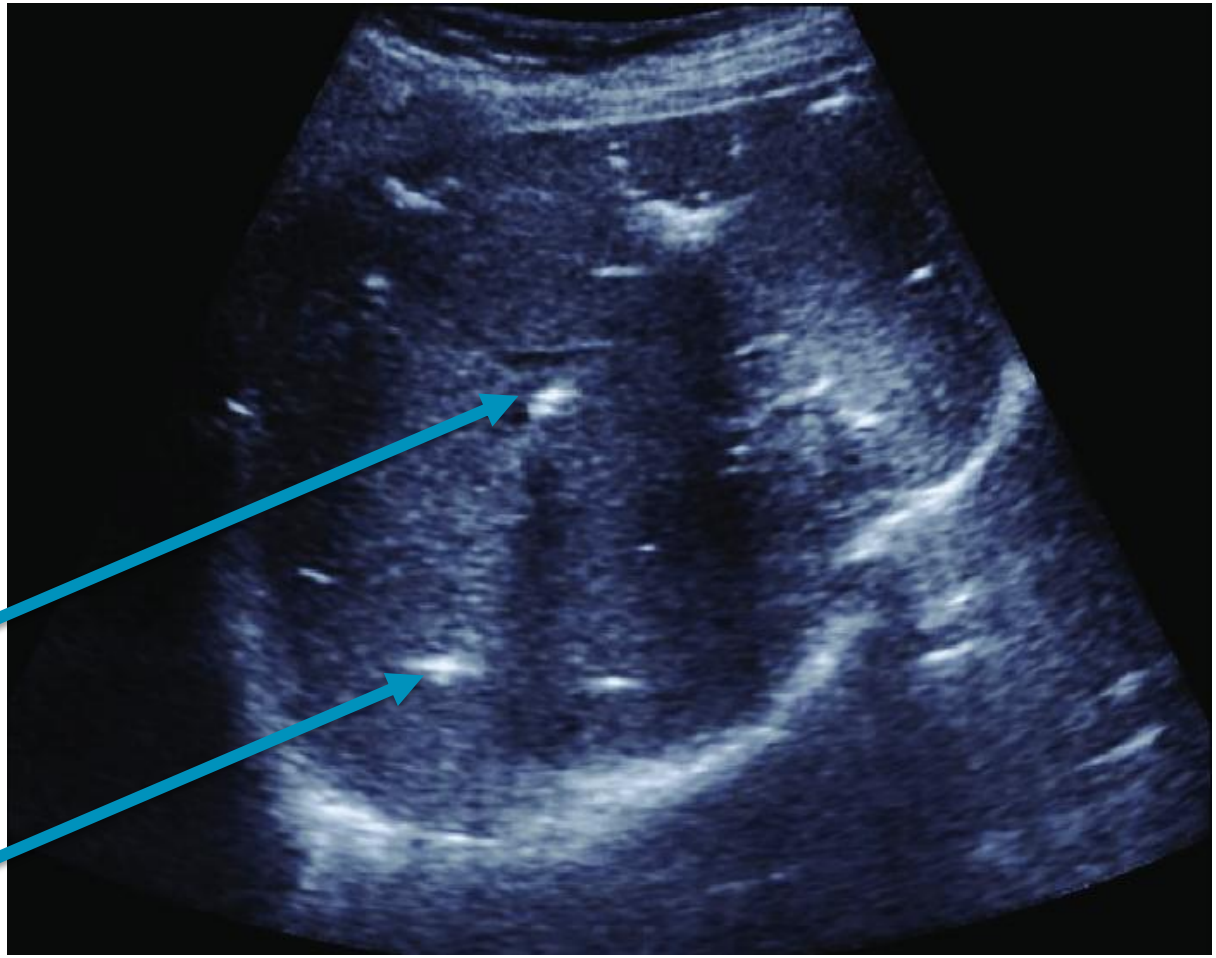
Acute Hepatitis



Pneumobilia



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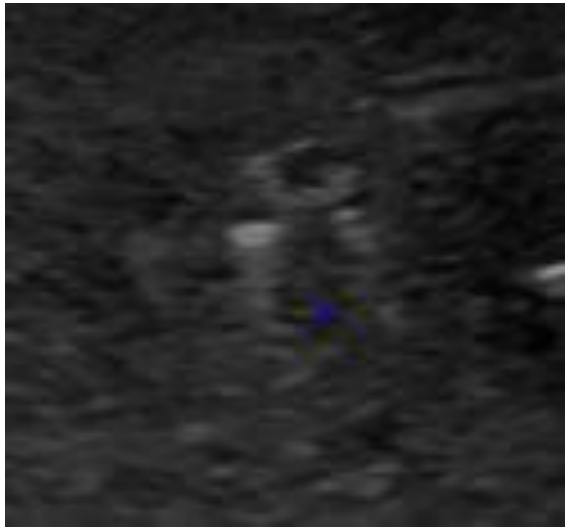
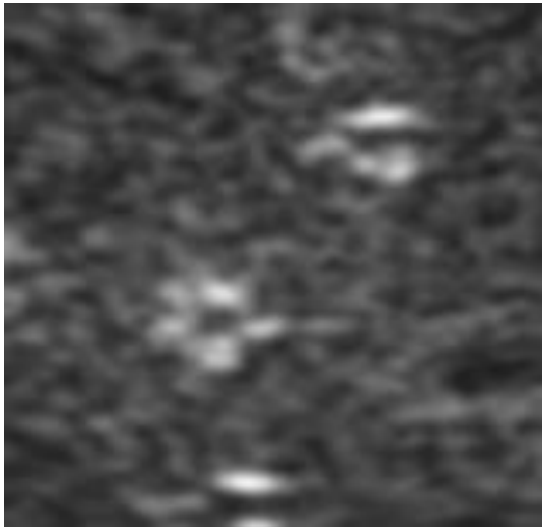
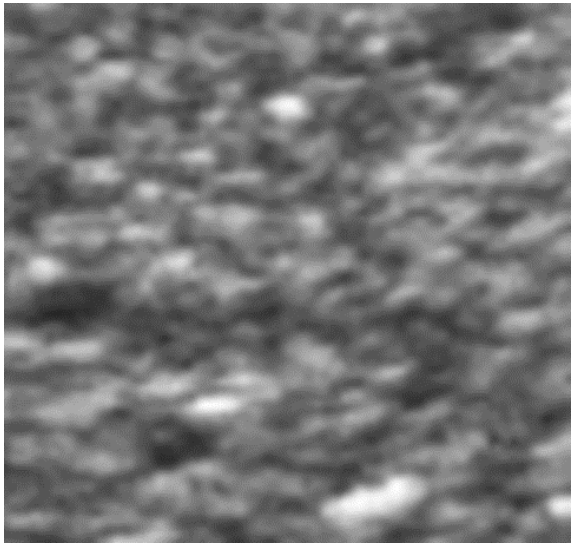
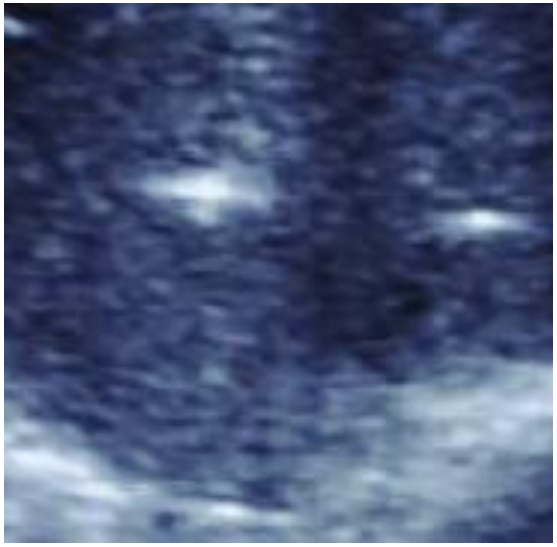
Comparisons









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Further Investigation

- On the basis of the ultrasound report the patient was referred for CT abdomen/pelvis with contrast

- The CT reported

    - ***No significant hepatic abnormality***

- N.B – MRI reference investigation.

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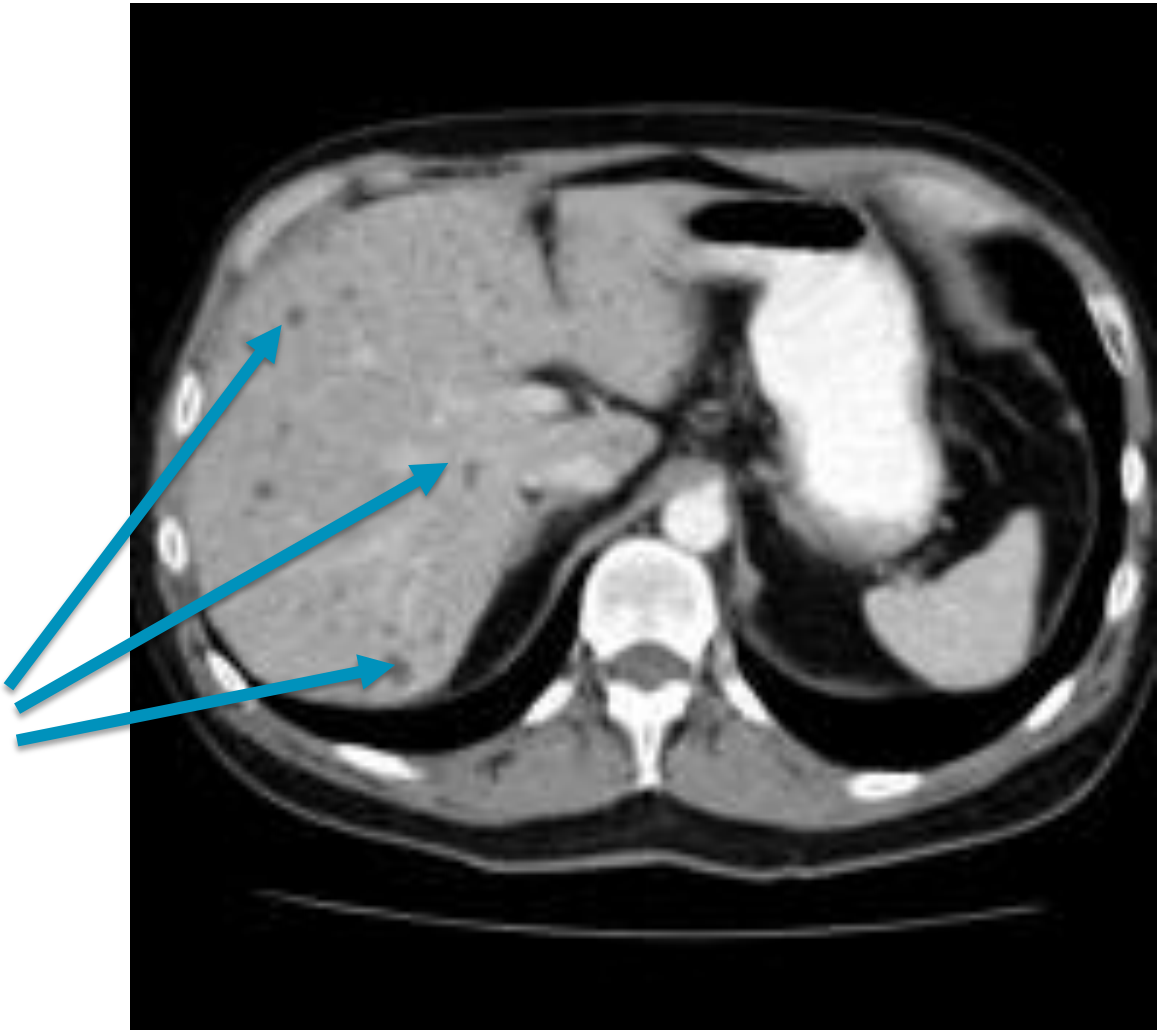
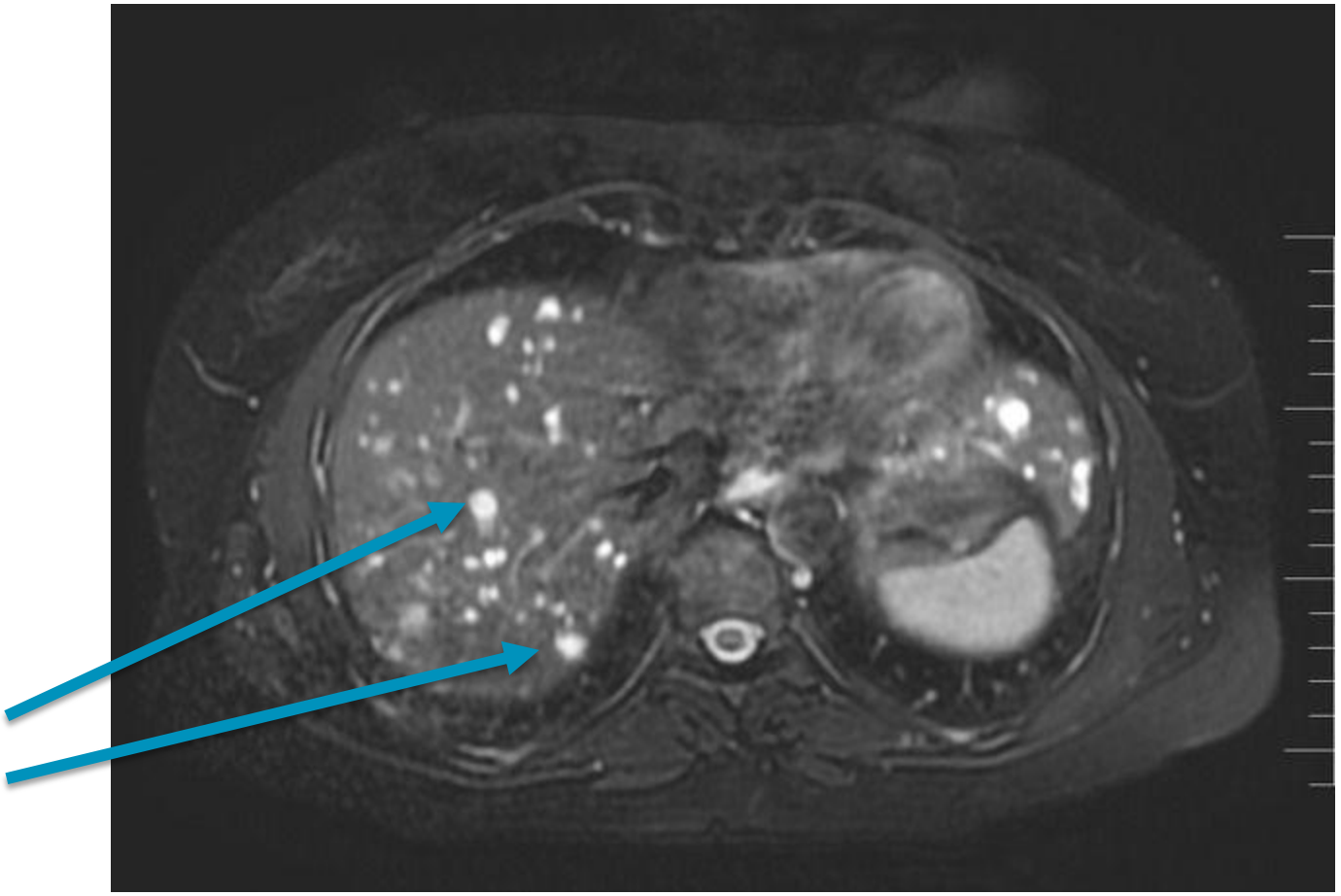
CT from Case

CT – positive for biliary hamartoma



MRI – positive for biliary hamartoma



Clinical Implications/ Management

- A further abdominal ultrasound was organised for 6 months after the initial scan for assessment of interval change and/or growth

- The ultrasound showed essentially static appearances.
- Consultant radiologist review of second scan.
    - Agreement
    - In the absence of change, a diagnosis of biliary hamartoma was accepted and the patient discharged form radiological follow up
    - 1 Year later further epigastric pain CT: no liver abnormality detected

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Summary

- Common things are common…….except when they are not!
- Be aware of artefacts and use to guide judgement

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References

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2 – Teng SL, Shin JS, Huang JC. An unusual polynodular liver disease: Multiple biliary hamartoma. *Advances in Digestive Medicine*. 2014;2(1): 37-40. Available from: https://www.sciencedirect.com/science/article/pii/S2351979714001170#bib4

3 – Sureka S, Rastogi A, Bihari C, Bharathy KGS, Sood V, Alam S. Imaging in ductal plate malformations. Abdominal Imaging. 2017;27(1): 6-12. Available from: http://www.ijri.org/article.asp?issn=0971-3026;year=2017;volume=27;issue=1;spage=6;epage=12;aulast=Sureka

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5 – Sinakos E, Papalavrentios L, Chourmouzi D, Dimopoulou D, Drevelegas A, Akriviadis E. The clinical presentation of Von Meyenburg complexes. *Hippokratia*. 2011;15(2): 170-173. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3209683/

6 – Bhalla A, Mann S, Chen S, Cummings O, Lin J. Histopathological evidence of neoplastic progression of von Menyenburg complex to intrahepatic cholangiocarcinoma. *Human Pathology*. 2017;67: 217-224. Available from: https://www-sciencedirect-com.gcu.idm.oclc.org/science/article/pii/S0046817717302757

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