Tumor Board Conference
April 25th 2016
Baylor McKinney Hospital

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J BARD MRI

History

- 42 year old female with complaints of epigastric pain, two occurrences in past four months
- Gastric Sleeve surgery 6/2014
- Diabetes Type 2 – not taking Metformin
- GFR 107 Creatinine 0.7 Liver function tests not known initially, later reported as normal or mild elevation
- Medication – Singulair, Wellbutrin, no oral contraceptives

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Additional History

- No history of patient taking Oral contraceptives. Four separate information sheets were filled out for the four studies, no mention of oral contraceptives.
- Conversation with the consulting GI the day of biopsy revealed the patient had been taking Oral contraceptives for twenty years, but stopped a few months prior to these studies
- AFP and other tests for HCC were reportedly Negative

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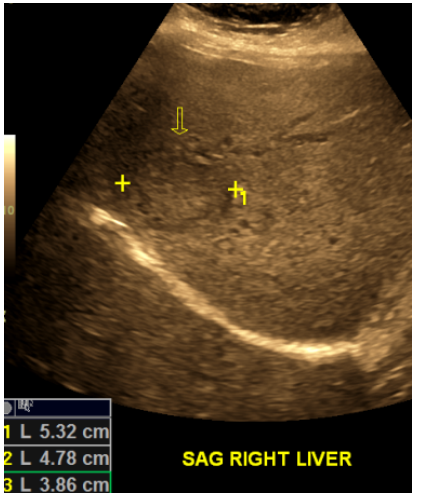
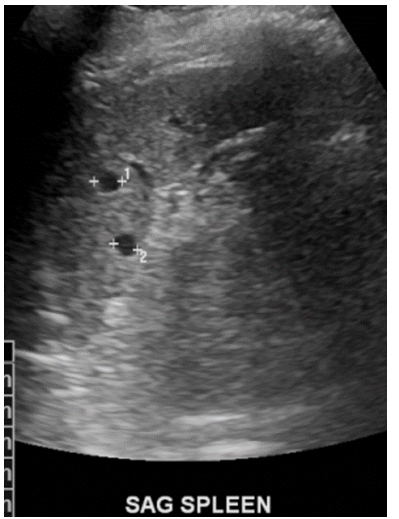
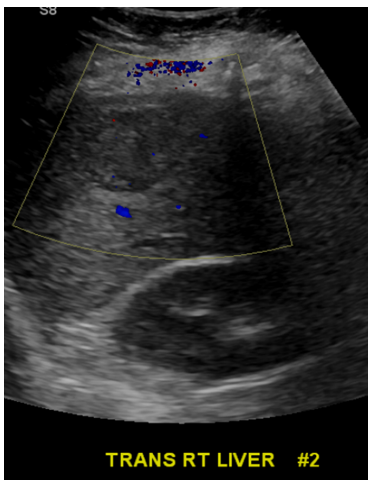
Ultrasound 3/17/16

- **Impression:**
- Two RIGHT hepatic lobe masses measuring up to 5.3 and 4.0 cm each. Differential considerations include, but are not limited to, FNH, adenoma, and more aggressive neoplasms.

- Gallstones
- Splenic cysts







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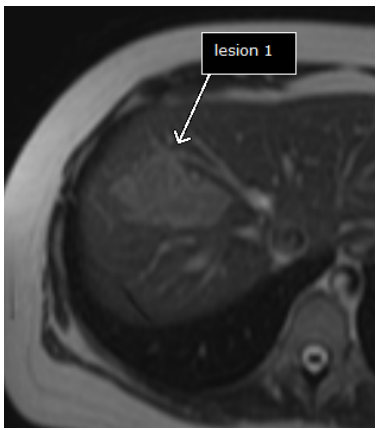
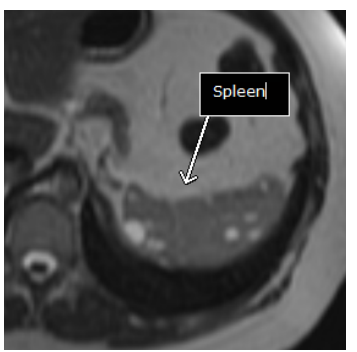
MRI Abdomen wo/w contrast 3/22/16

- **Magnevist** contrast (gadopentetate dimeglumine)
- Adenomas, FNH, Tumors, Hemangiomas all enhance with Magnevist
- Multiple enhancing liver lesions
- Mildly hypo intense on T2 weighted scans (this page)
- 2 largest lesions are compared





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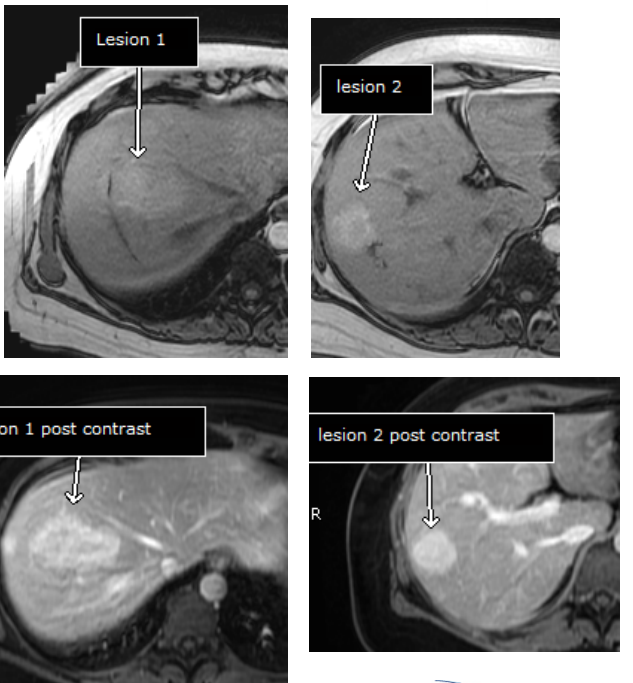
MRI abdomen 3/22/16

- Mildly hyperintense lesions on non contrast T1 weighted scans (top row this page)
- Multiple enhancing liver lesions (bottom row this page)
- Early and delayed enhancement
- No central scar
- No peripheral enhancement pattern



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MRI report 3/22/16

- **Impression:** "Multiple, at least six enhancing liver lesions with irregular, lobular margins and no central scar. These are mildly hyperintense on T1 and mildly hypointense on T2-weighted scans, however. The ultrasound showed echogenic areas centrally with a peripheral hypoechoic rim."
- "Differential for these lesions includes multiple areas of focal nodular hyperplasia, metastatic disease, multiple somewhat atypical adenomas."
- Cystic Splenic lesions. Peliosis? Evaluate immune status
- Gallstones

J BARD MRI

CT Chest 3/28/16

- Thickening of the distal esophagus. Prior gastric surgery likely gastric sleeve.
- Enhancing liver lesions. Multiple splenic cystic lesions.
- No evidence of any spiculated mass, consolidation or effusion. No lymphadenopathy.

J BARD MRI

MRI Liver with Eovist contrast 3/28/16

- Eovist® (gadoxetic acid disodium)
- Specifically taken up by hepatocytes, excreted by bile ducts
- Improved contrast between lesions and liver
- On Arterial and portal venous phase, acts like Magnevist
- On delayed images, lesions that have hepatocytes will enhance. Normal liver, HCC, and FNH will enhance.
- Other lesions, such as Hemangiomas, Adenomas, Metastases, will not enhance, and be dark on delayed Eovist MRI.
- Can also be used for a contrast MRCP for Bile duct enhancement

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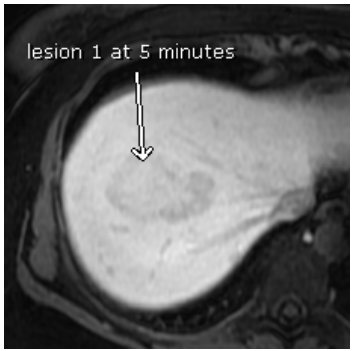
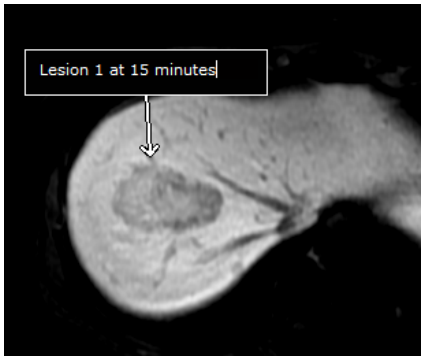
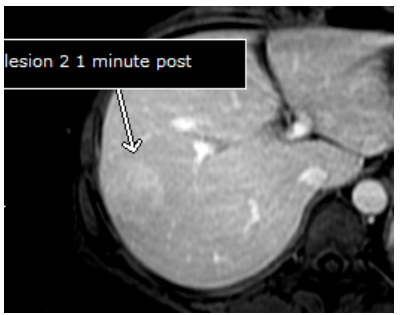
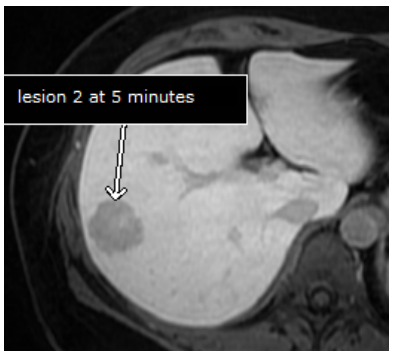
MRI with Eovist 3/28/16









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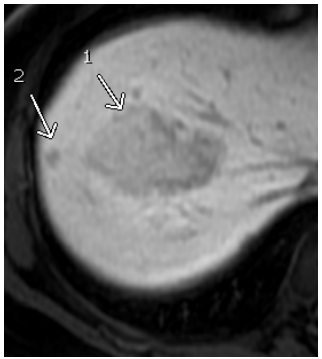
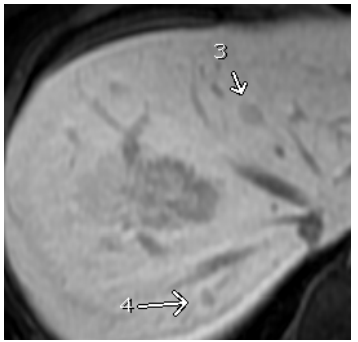
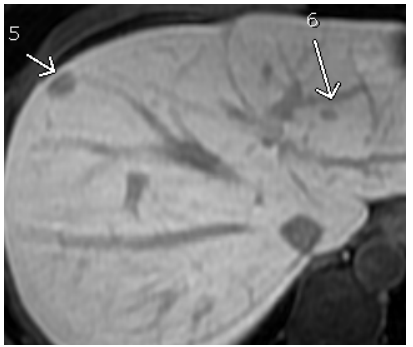
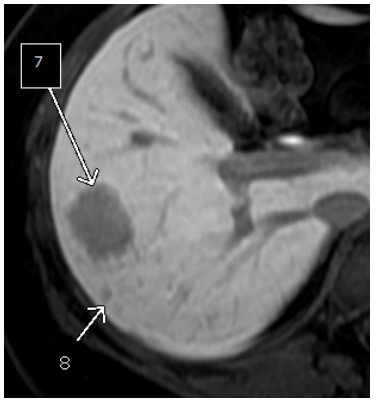
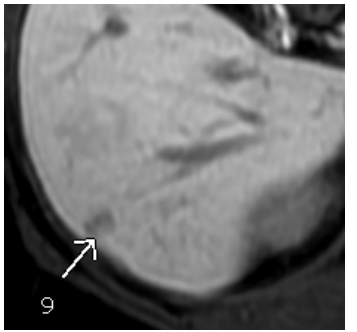
14 liver lesions on Eovist

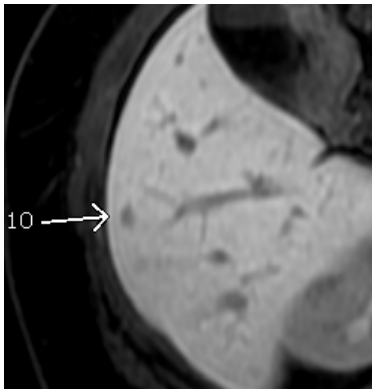


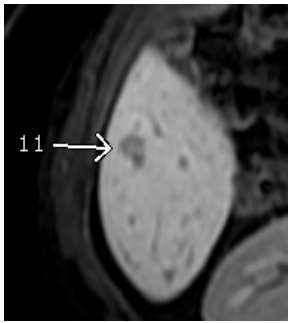


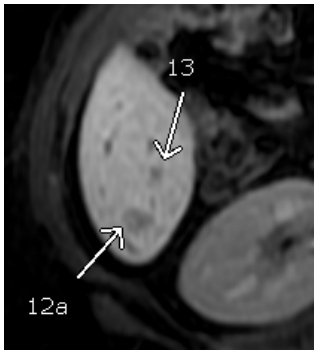


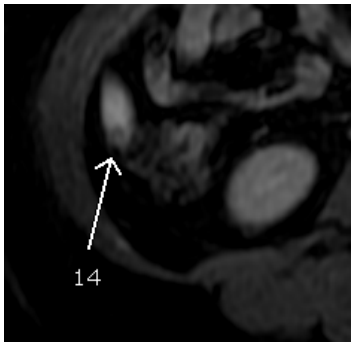












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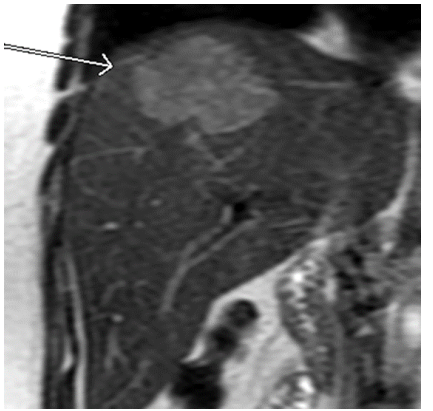
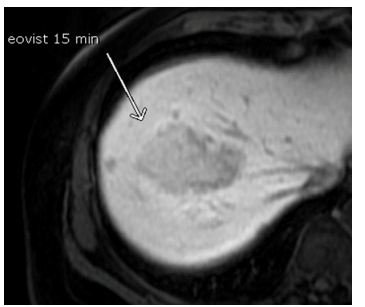
MRI Report 3/28/16 from Impression

- "1. Multiple hypervascular early enhancing liver lesions which do not show any activity or enhancement on delayed images with Eovist. Metastatic disease is considered less likely possibility." (this is a typo).
- "The largest mass in the hepatic dome does have some hepatocellular uptake. It does not have a characteristic appearance for focal nodular hyperplasia however"… "The etiology of this lesion is not certain. It is not a classic FNH.
  It is more likely primary hepatocellular carcinoma with mixed characteristics and hepatocellular uptake, or metastatic disease rather than FNH given the overall pattern."
- Gallstones, Peliosis of the Spleen?
- History of chronic Oral contraceptives would have influenced reports





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Pathology –Hepatic Adenomatosis

- 14 lesions suggest Hepatic Adenomatosis.
- This corresponds to all the lesions on Eovist MRI
- Peliosis form of Hepatic Adenomatosis, With Splenic Peliosis?
- EXCEPTION IS THE LARGEST LESION IN THE HEPATIC DOME.
- Malignant degeneration in the largest lesion is possible. AFP is often negative in these tumors
  - **Liver cell adenoma and liver cell Adenomatosis**
  - Ludger Barthelmes and Iain S. Tait HPB (Oxford). 2005; 7(3): 186–196.
  - http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2023950/

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Malignant Transformation of Adenomas

- Adenomas with malignant degeneration in general do not have markers for AFP, beta-catenin, and p53 immunostains and no beta-catenin mutations
- This patient tested negative for AFP and other markers
- **Malignant transformation of hepatic adenomas**
  - Mod Pathol. 2008 Apr;21(4):491-7. doi: 10.1038/modpathol.2008.8. Epub 2008 Feb 1.
  - .Micchelli ST[1], Vivekanandan P, Boitnott JK, Pawlik TM, Choti MA, Torbenson M.
- **Molecular pathogenesis of hepatic adenomas and its implications for surgical management**
  - J Gastrointest Surg. 2013 Oct;17(10):1869-82. doi: 10.1007/s11605-013-2274-6. Epub 2013 Jul 9.

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Thank you

Images and reports available from Envision Imaging McKinney

469-420-9077 phone, 469-420-9098 fax

PowerPoint presentation and PDF of slides available online at: