Clinical History

- 69 year old female with cirrhosis due to NASH
- 1/07 – CT reveals a 2.6 cm mass c/w HCC
- 4/07 – CT scan reveals increase to 3.6 cm
- 5/07 – transarterial chemoembolization (TACE)
  - Serum AFP = 53 ng/mL
  - Doxorubicin, Cisplatin, Mitomycin with LC beads
  - Loss of arterial enhancement
- 7/07 – CT scan reveals mass now 2.8 cm with focal enhancement and ? 1.1 cm satellite lesion
- 7/07 – repeat TACE
  - Doxorubicin, Cisplatin, Mitomycin with PVA particles
  - Loss of arterial enhancement
- 9/07 – MRI reveals mass now 2.2 cm
  - No arterial enhancement
  - Serum AFP = 110 ng/mL
1/07 CT scan – arterial phase

2.6 x 2.5 cm mass

4/07 CT scan – arterial phase

3.6 x 3.2 cm mass
Status post TACE

Partial loss of arterial enhancement (lipiodol present)
Possible 1.1 cm satellite lesion
MRI from 9/19/07 following 2\textsuperscript{nd} TACE

2.2 cm non-enhancing mass
Serum AFP rising (100 ng/mL)
University of Chicago TACE Experience

- **22 patients s/p TACE for “HCC”:**
  - Multiple treatments
  - Additional modalities (RFA, ethanol injection)
- **6 combined HCC/Cholangiocarcinoma**
  - HCV (n = 2), HCV / EtOH (1), EtOH / HH (1), NASH (2)
  - Extensive necrosis & scattered areas of viable tumor
  - Re-review of radiographic studies c/w pure HCC
  - Elevated serum AFP in 5 of 6
  - Mean number of days post-TACE to OLT = 341 (versus 102)
  - ? Stimulation of stem cell proliferation by treatment
Transarterial Radioembolization (TARE)

- HCC receives 90% of blood supply from arterial system
- Lobar or segmental arterial infusion
- Yttrium-90 impregnated embolization spheres:
  - Resin spheres (20-60 um); dose of 1.2 million = 3GBq
  - Glass spheres (20-30 um); dose of 40-80 million = 3GBq
90Y-TheraSpheres
The New Look of Yttrium-90

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Am J Surg Pathol 2019

90Y-TheraSphere
glass spheres

90Y-SIRSphere
resin spheres
Post-Surgical Outcomes

- Recurrence
- EASL Response
  - Non-Responders
  - Responders
- Pathologic Necrosis
  - ≤ 50%
  - > 50%
- Overall Survival

J Vasc Intervent Radiol 2018; 29:1502-10.e1
Summary

• Evolving understanding of HCC/CholangioCa with stem cell features (immunostains & NGS)

• Hepatoid adenocarcinoma should always be considered in a non-cirrhotic liver

• Our clinical colleagues are constantly developing new modalities for treatment of HCC
Clinical History

- 45 y.o F with Hx of alcohol abuse presents with abdominal pain
- 6.5 cm mass in segment 6 with infiltration into mesentery and portal vein invasion
- Serum AFP > 50,000
- Liver biopsy: moderately differentiated HCC; marked steatosis of surrounding parenchyma
Clinical Follow-up

- Phase III Randomized, Open-Label Study Comparing Pexa-Vec (Vaccinia GM-CSF / Thymidine Kinase-Deactivated Virus) Followed by Sorafenib
- Live attenuated cow pox vaccine created for vaccination against small pox
- Three injections followed by sorafenib
Radiographic studies confirm shrinkage of the tumor with apparent resolution of soft tissue extension.
Clinical Follow-up

- Developed emphysematous cholecystitis three years later
- Taken to OR for cholecystectomy and liver resection