

# **CIRA CASE OF THE MONTH**

**Case courtesy of Dr. Hilary Coffey**  
**Memorial University**

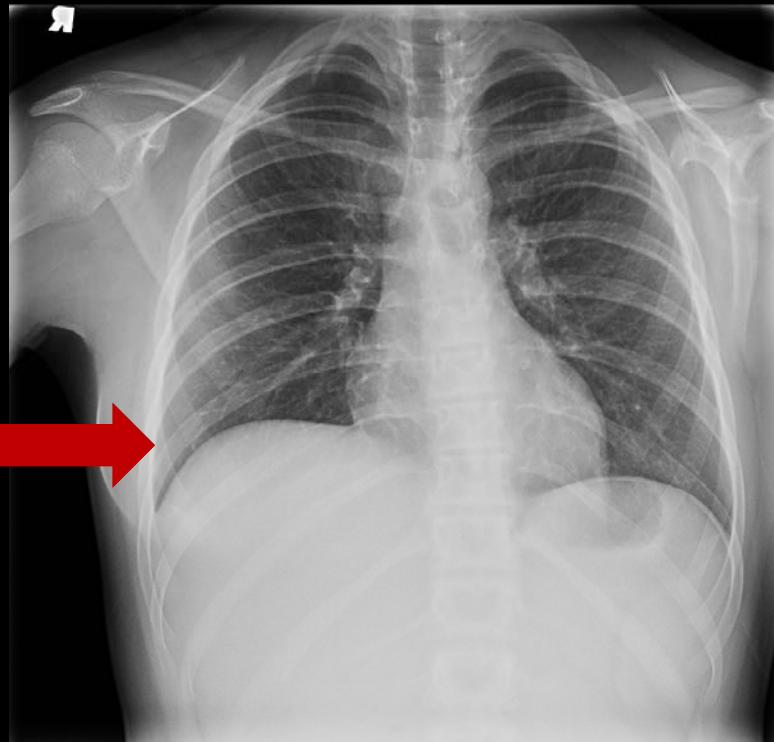


# CASE REPORT

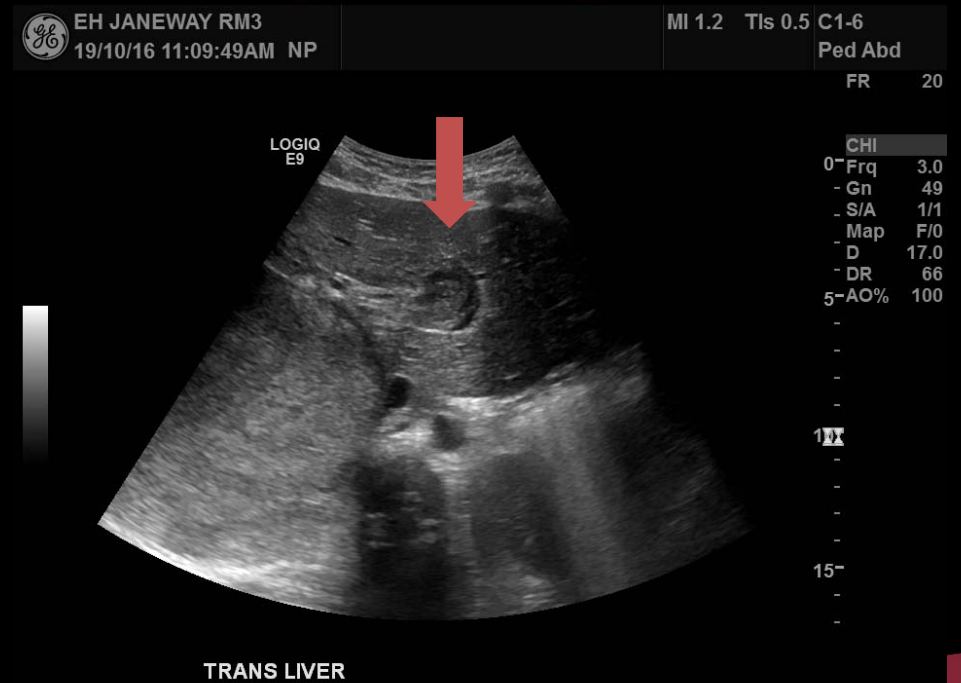
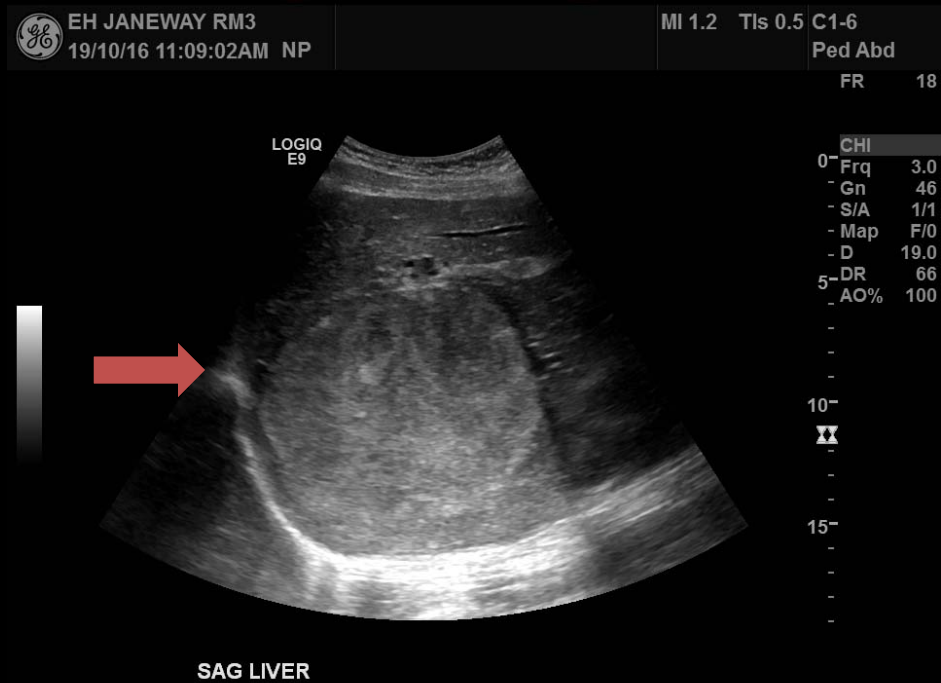
- 11-year-old female presented to the ER department with sudden onset RUQ pain
- Previously healthy
- Lab work
  - WBC 10.5
  - Amylase normal
  - AST 60
  - ALT 64
  - Bilirubin 14

# CXR

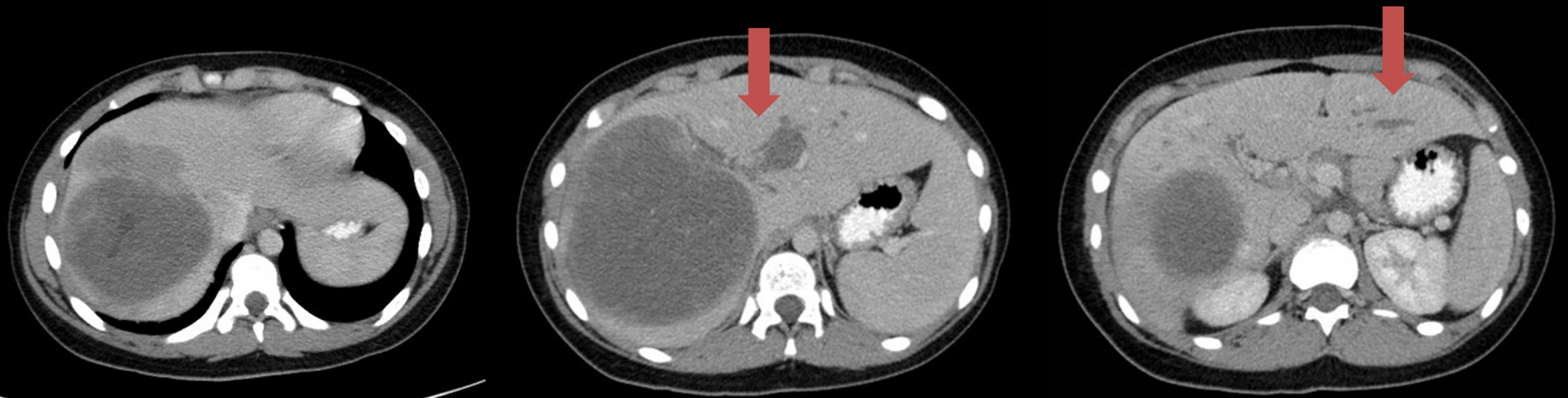
Elevated right hemidiaphragm



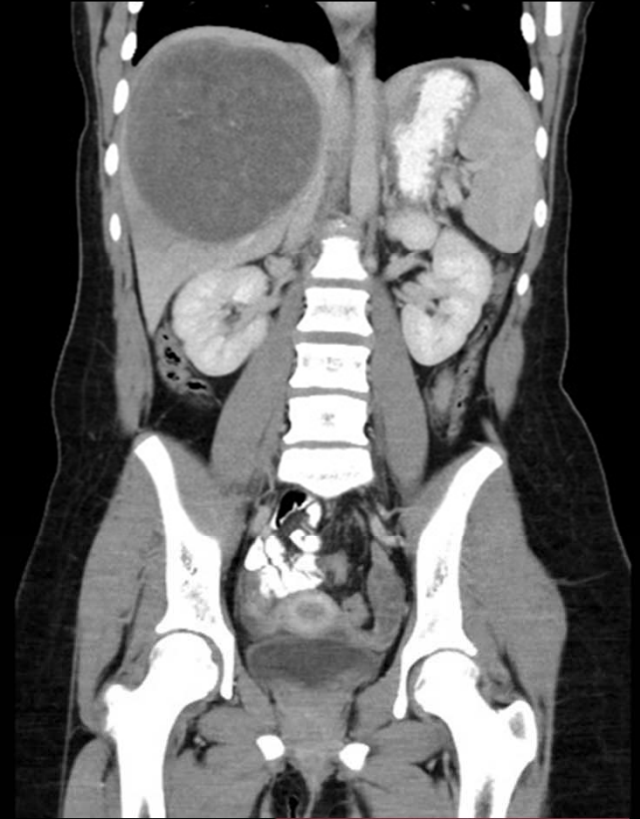
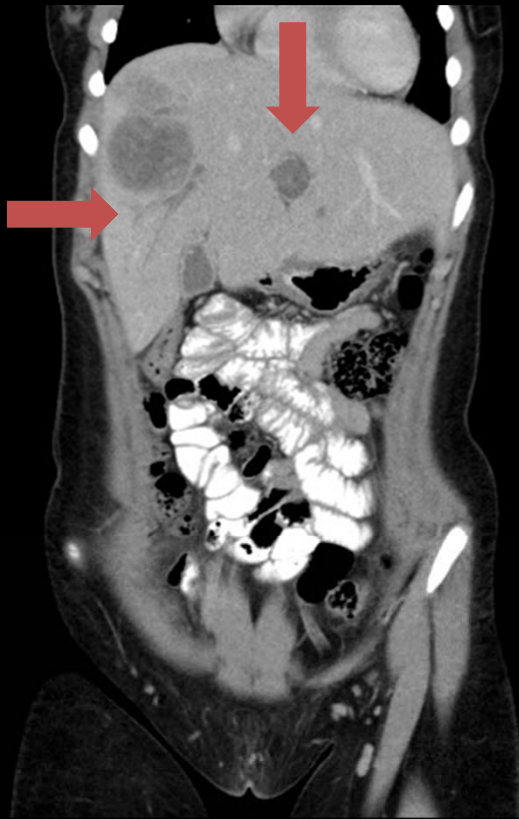
# ULTRASOUND



CT



CT



CT



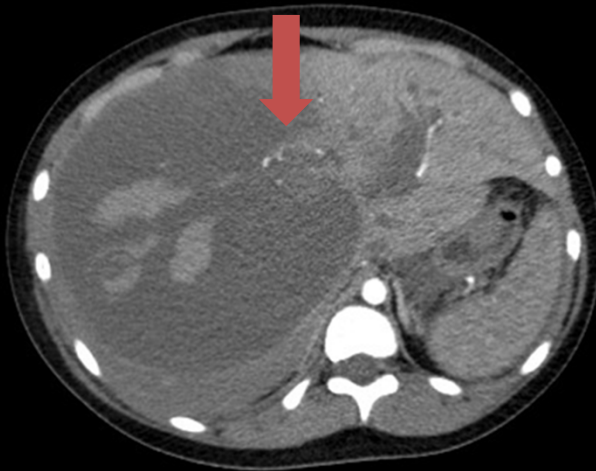
# IMAGING FINDINGS & DIAGNOSIS

- Large mass lesion within the right hepatic lobe
- Tumour thrombus within the right and left portal veins extending into the main portal vein (MPV)
- Extensive biliary dilatation
- Abdominal MRI performed
- Ultrasound guided biopsy of the liver mass
- Pathology: Hepatic embryonal rhabdomyosarcoma

# CLINICAL COURSE

- Patient admitted for further work up and management
- PAD #11 – Patient became hypotensive and tachycardic with Hgb drop from 110 g/L to 80 g/L in 13 hours
- Significant resuscitation was performed and the patient was transferred to PICU
- CT repeated

CT



CT



CT



# CT FINDINGS

- Interval enlargement of the mass from 12 x 11 x 12 cm to 19 x 16 x 16 cm
- Active hemorrhage and significant hemoperitoneum
- Persistent tumor thrombus within the right and left portal veins
- Extensive biliary dilation

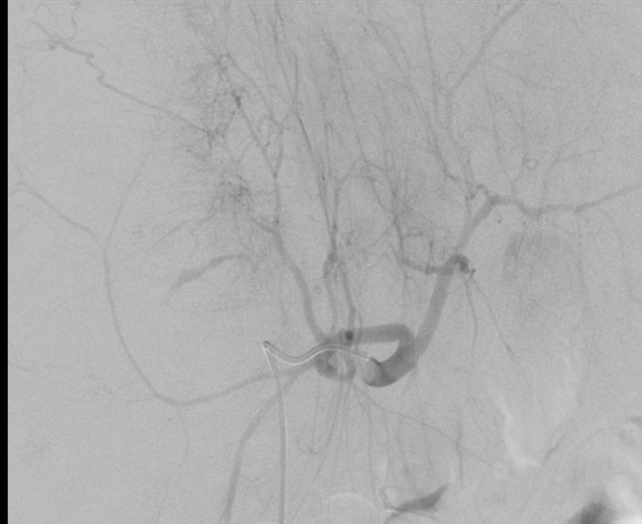
# CLINICAL COURSE

- General surgery consulted
- Patient stabilized and closely monitored in PICU overnight
- Surgeons wanted to avoid surgery as these tumours typically respond well to chemotherapy
- Hgb continued to decline the next day and repeat CT performed, which confirmed persistent active hemorrhage and an increase in the volume of hemoperitoneum
- Interventional radiology consulted

# PROCEDURE

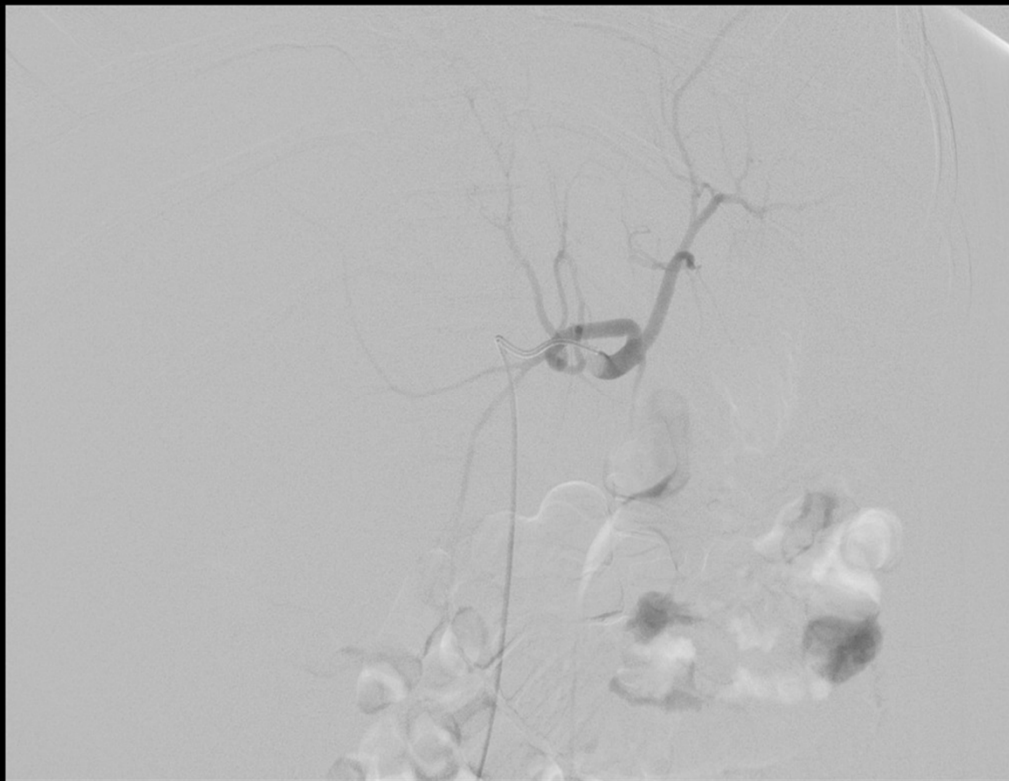
- Hepatic transarterial embolization with portal vein thrombosis
- Informed consent obtained including risk of hepatic infarction or worsening liver dysfunction
- Conscious sedation by anesthesia

# PROCEDURE – ALTERED ANATOMY

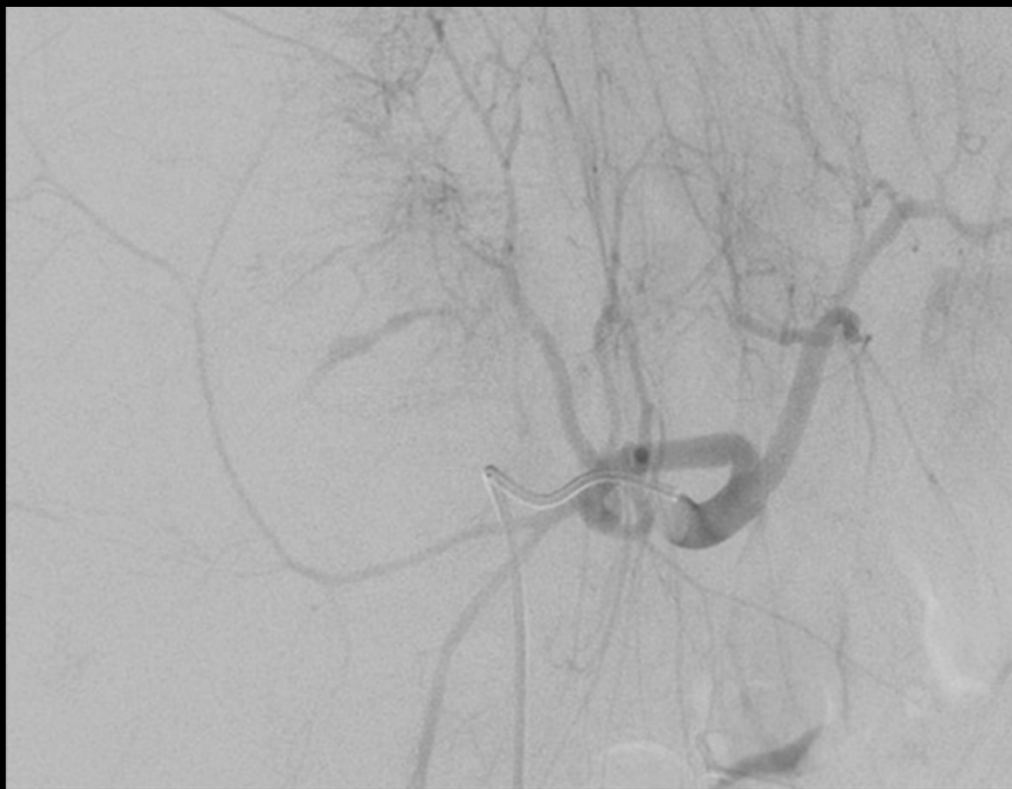


- Essentially normal branching anatomy but marked deviation secondary to the hepatic tumour

# PROCEDURE – CELIAC ARTERY



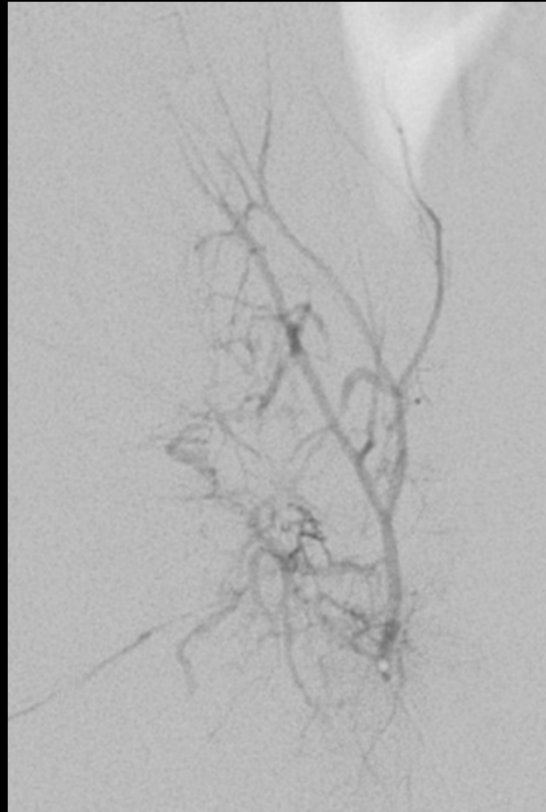
# PROCEDURE – CELIAC ARTERY



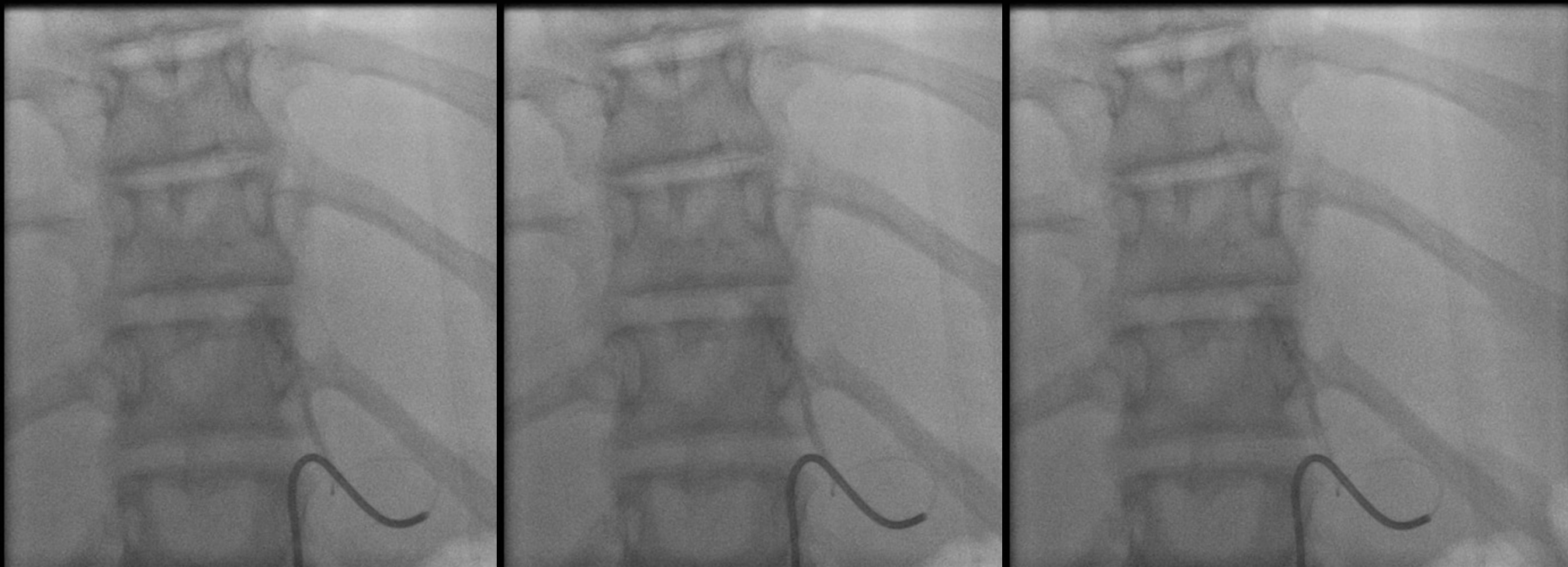
# PROCEDURE - BLEED



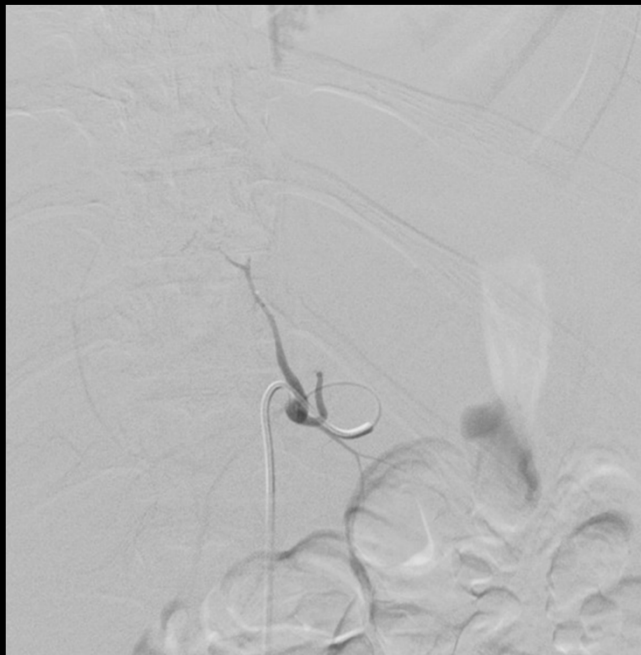
# PROCEDURE – SEGMENTAL ARTERY OF RIGHT HEPATIC



# PROCEDURE – EMBOLIZATION



# PROCEDURE – POST-EMBOLIZATION



# PROCEDURE

- Embolization of a segmental artery of the right hepatic artery with PVA
- Completion angiogram showed no filling of the abnormal tumour vessels/extravasation

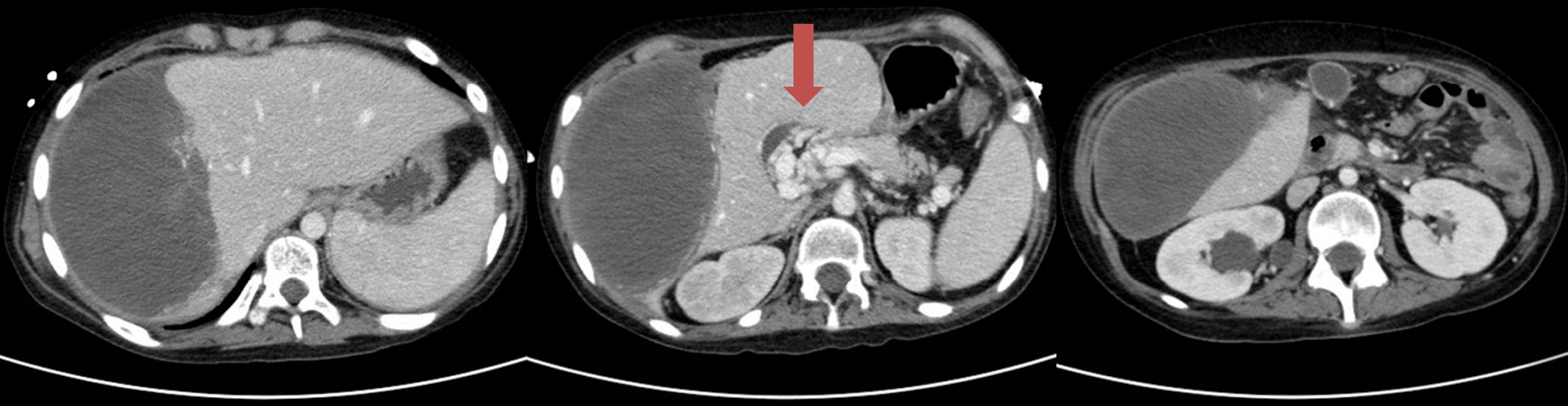
# POST-PROCEDURE

- Patient stabilized
- No additional IR or surgical intervention needed for bleeding
- Patient started chemotherapy the following day

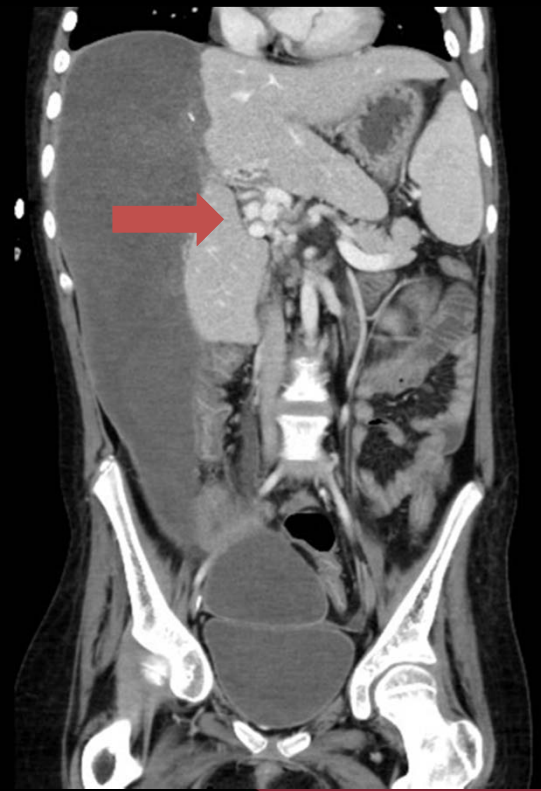
# LIVER FUNCTION

DATE	BILIRUBIN (3-18.5)	AST (10-40)	ALT (5.9-37)
On Admission	14	60	64
Before TAE	11	355	172
After TAE	20	2237	854
Now	8	63	36

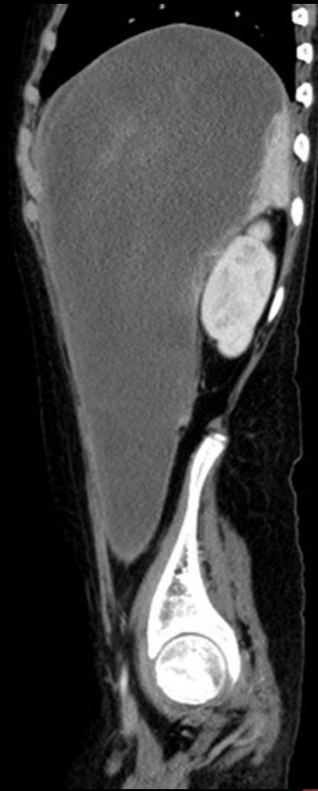
# FOLLOW-UP CT



# FOLLOW-UP CT



# FOLLOW-UP CT



# CT FINDINGS

- Massive fluid collection replacing the majority of the right hepatic lobe – suspected hematoma/biloma secondary to prior hepatic rupture
- Residual portal vein thrombosis with cavernous transformation

# DISCUSSION

- In the setting of portal vein thrombosis - normal liver relies on arterial flow
- TAE/TACE has the potential for inducing hepatic infarction and worsening liver dysfunction
- Majority of research has been performed in patients with advanced HCC and PVT
- PVT obstruction in patients with HCC has been reported to be an important predisposing factor for acute hepatic failure after TACE

# DISCUSSION

- TAE/TACE has traditionally been considered contraindicated in cases of PVT
- Procedure possible if the patient has good hepatic function and/or collateral circulation around the MPV
- Identification and superselective catheterization of tumor feeding vessels with a microcatheter

# CONCLUSIONS

- Hepatic TAE may be performed in patients with PVT without worsening liver function
- PVT may not be an absolute contraindication to hepatic embolization
- Superselective catheterization of tumor feeding vessels can be performed in patients with good hepatic function

# REFERENCES

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