

# Puzzling Cases to Learn From Read with the Experts

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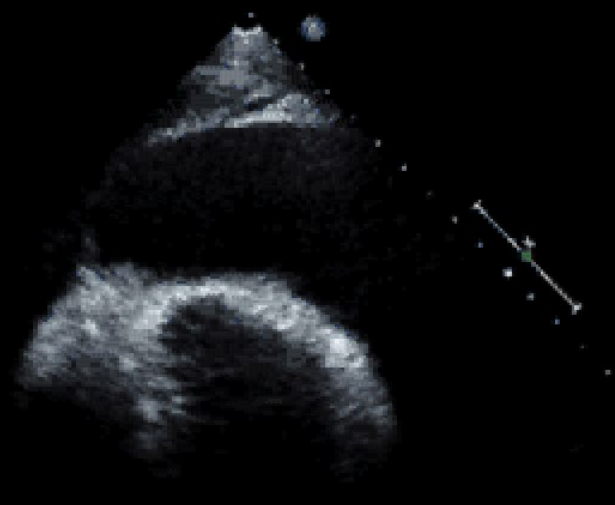


## Case:

- **50 y.o. male**
- **Recent diagnosis of (renal limited) small vessel vasculitis (ANCA GBM positive), renal dysfunction**
- **Crack cocaine use, AUD**
- **4 wks. prior admitted with large pericardial effusion**
- **Pericardiocentesis, no infectious or inflammatory etiology identified.**
- **Extensive work-up. A week later he underwent renal biopsy**



FR 50Hz  
15cm  
2D  
50%  
C 40  
P Low  
HGen

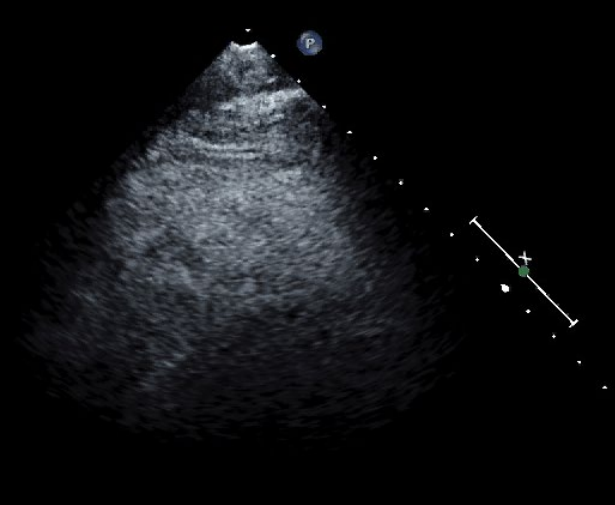


FR 50Hz  
15cm  
2D  
56%  
C 48  
P Low  
HGen



71 bpm

M3



144 bpm

PHILIPS 06/20/2021 09:51:22AM T150.7 MI 35-1/SPH TDpatient

FR 42Hz  
15cm  
2D  
40%  
C 40  
P Low  
HGen



FR 49Hz  
15cm  
2D  
43%  
C 48  
P Low  
HPen



JPEG

PHILIPS 05/20/2021 09:57:19AM T150.6 MI 1.3 S5-1/SPH TDpatient



JPEG

# 4 Weeks later...

**On medical ward: Hypotension, shock**

**'Rule out cardiac tamponade'**

**TTE requested**

**Given status of the patient**

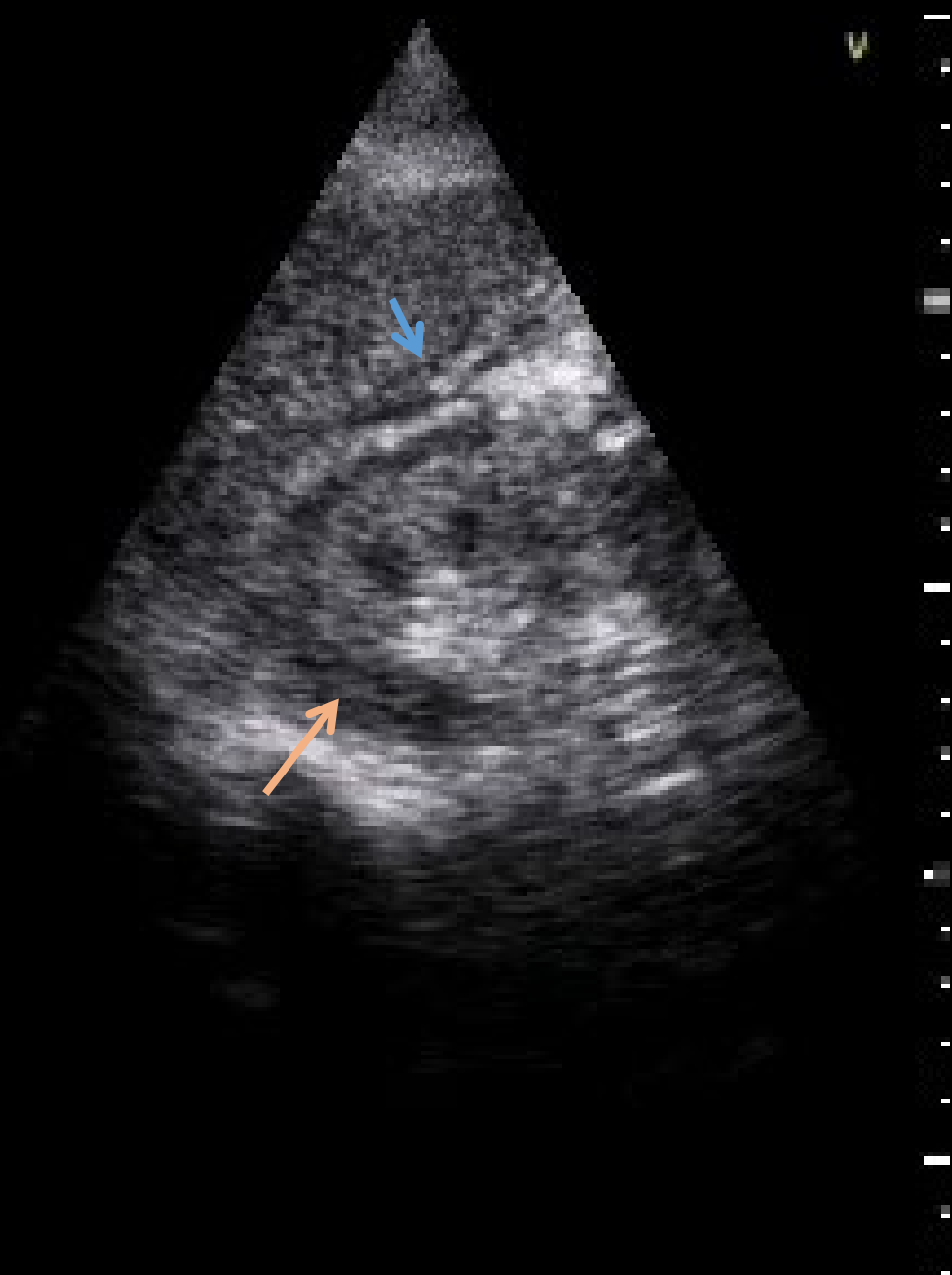
**We decided bedside POCUS would be quicker and better**



 PHILIPS LUMIFY	 SONOSITE IVIZ	 GE VSCAN EXTEND	 CLARIUS	 BUTTERFLY IQ
\$200/month per probe + \$75/month warranty	>\$10,000	Starts at \$2,995	Starts at \$6,900	\$1,999 + \$420/year for cloud user license



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Ordering MD: TOMA, MUSTAFA  
Clinical Indication(s): Shock

**Clinical Summary:**

50M with small vessel vasculitis (ANCA and GBM positive). Admitted May 07 2021 with renal failure and large pericardial effusion. Pericardiocentesis earlier this admission, left renal biopsy 3 weeks ago.

Acutely hypotensive, hemoglobin 40s

Asked for stat echo to evaluate for recurrent pericardial effusion and tamponade. Given the patient's clinical condition, a POCUS was performed on unit 6B.

**Findings Summary**

1. **1. No pericardial effusion.**
2. **2. Normal to hyperdynamic LVEF. Collapsed IVC.**
3. **3. Small bilateral pleural effusions (left greater than right).**
4. **4. Left lung base consolidation.**
5. **5. Trace intra-abdominal free fluid (Morrison's pouch).**
6. **6. Right perinephric free fluid, with heterogenous appearance of perinephric retroperitoneal tissue. Left kidney not well visualized.**
7. **7. In this clinical context the abdominal and retroperitoneal free fluid is concerning for hemorrhage with hypovolemic shock.**
8. **8. Findings were discussed with ICU fellow. Patient sent for stat CT abdomen.**

**Cardiac Findings:**

**Left Ventricle:** Normal systolic function.

**Right Ventricle:** Normal size. Visually RV appears normal size.

**Mitral Valve:** Normal valve leaflets.

**Pericardium/Other:** No pericardial effusion. Pleural effusion.

Sonographer: Cvet Trpkov

**Electronically signed by Robert R Moss MB, BS**

Signature Date/Time: 06-Jun-2021 at 2:11:44 PM; Facility SPH

Exam completed by Cvet Trpkov on 04-Jun-2021 at 11:22:24 AM

R



120kV  
 395mA  
 slice thickness: 2.50mm  
 bit: 0.000000  
 dfov: 419.0 mm  
 contrast: OMNIPAGUE  
 algorithm: STANDARD  
 CT Angio Chest Abdomen Pelvis  
 W 400 - L 40

R



120kV  
 415mA  
 slice thickness: 2.50mm  
 bit: 0.000000  
 dfov: 419.0 mm  
 contrast: OMNIPAGUE  
 algorithm: STANDARD  
 CT Angio Chest Abdomen Pelvis  
 W 500 - L 67

Zoom: 157.6%

Se: 7 13:29:31  
 Im: 70 13:33:25  
 position reference: SN  
 slice location: -269.75  
 Image: 70/215



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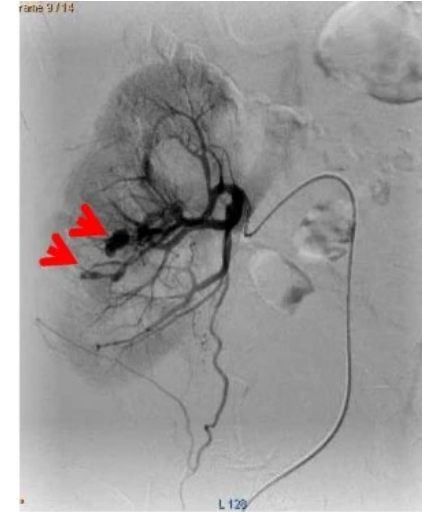


# Outcome...

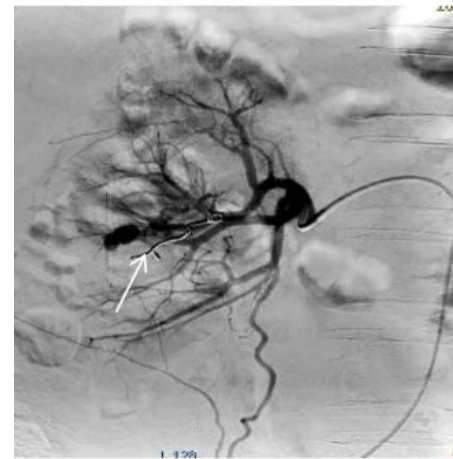
- Urgent referral to IR for intervention
- Renal angiogram showed bleeding arising from left kidney (biopsy site)
- IR Embolization of lower 2/3 of left kidney using coils with good result.



(a)



(b)

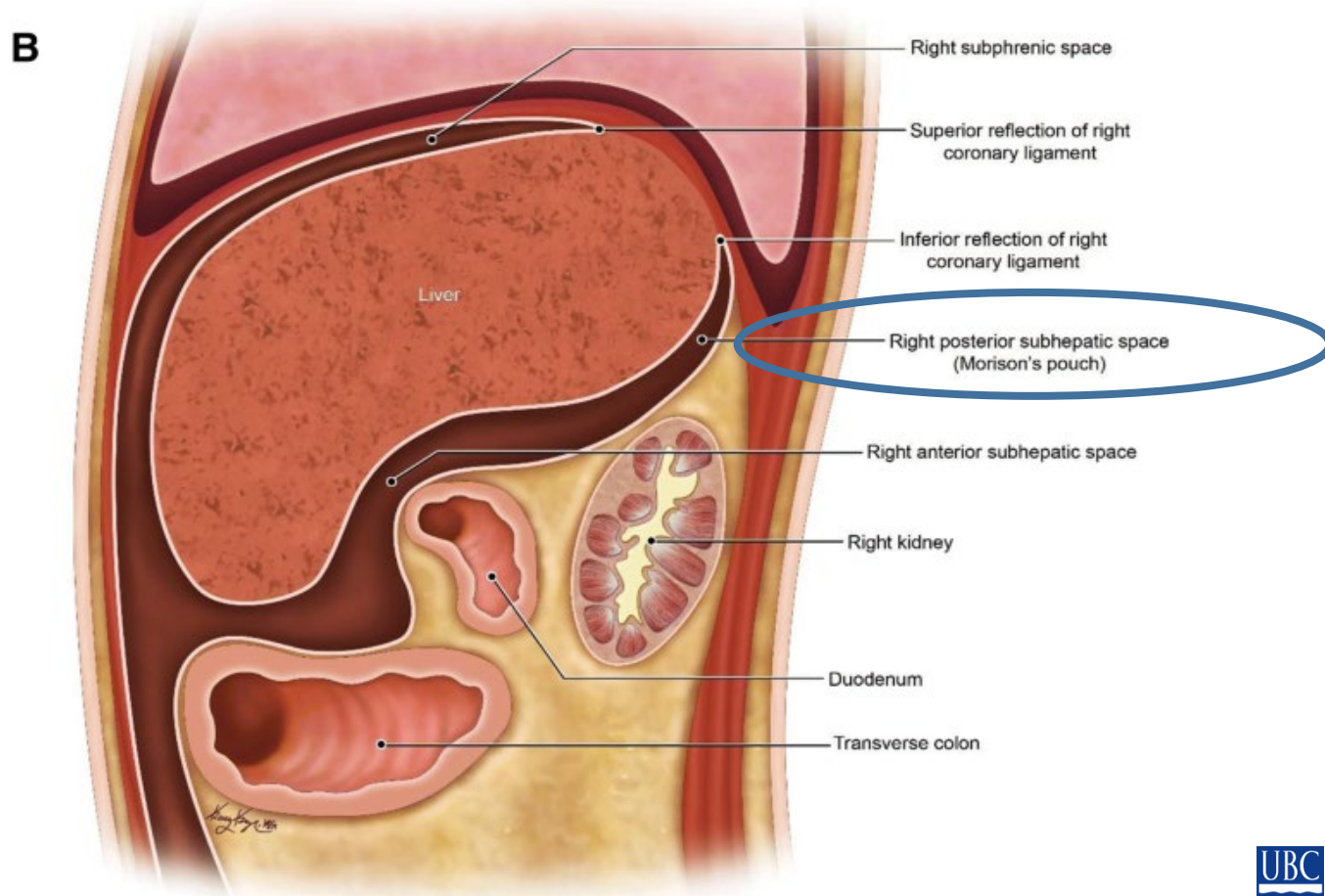


(c)



(d)

# CODA: And what exactly is Morrison's pouch I hear you ask...



# Take-homes:

**POCUS is nimble and versatile, and potentially lifesaving**

**We had the diagnosis before the CT, before even the hemoglobin**

**Some knowledge of extra-cardiac ultrasound is very helpful in POCUS  
but more generally also...**

**If in doubt, ask a sonographer**

