

JUNE 2023

POCUS IN THE OFFICE AND NURSING HOME

We would like to acknowledge that we are gathered today on the traditional territories of the Musqueam, Squamish and Tsleil-Waututh peoples.

Source: www.lohomaps.net/na/canada/bc/vancouver/firstnations/firstnations.html



DISCLOSURE

Speaking honorariums from RccBC, UBC, EK Divisions, and Clarius

LEARNING OBJECTIVES

- ▶ A brief overview of the landscape of POCUS in family medicine nationally and internationally
- ▶ Gain an understanding of how POCUS is vital to the democratization of healthcare
- ▶ Review cases which demonstrate the usefulness of POCUS in the office and nursing home: cellulitis vs. abscess, volume assessment, pneumonia, first trimester bleeding, and bladder volume assessment.



AMERICAN ACADEMY OF
FAMILY PHYSICIANS

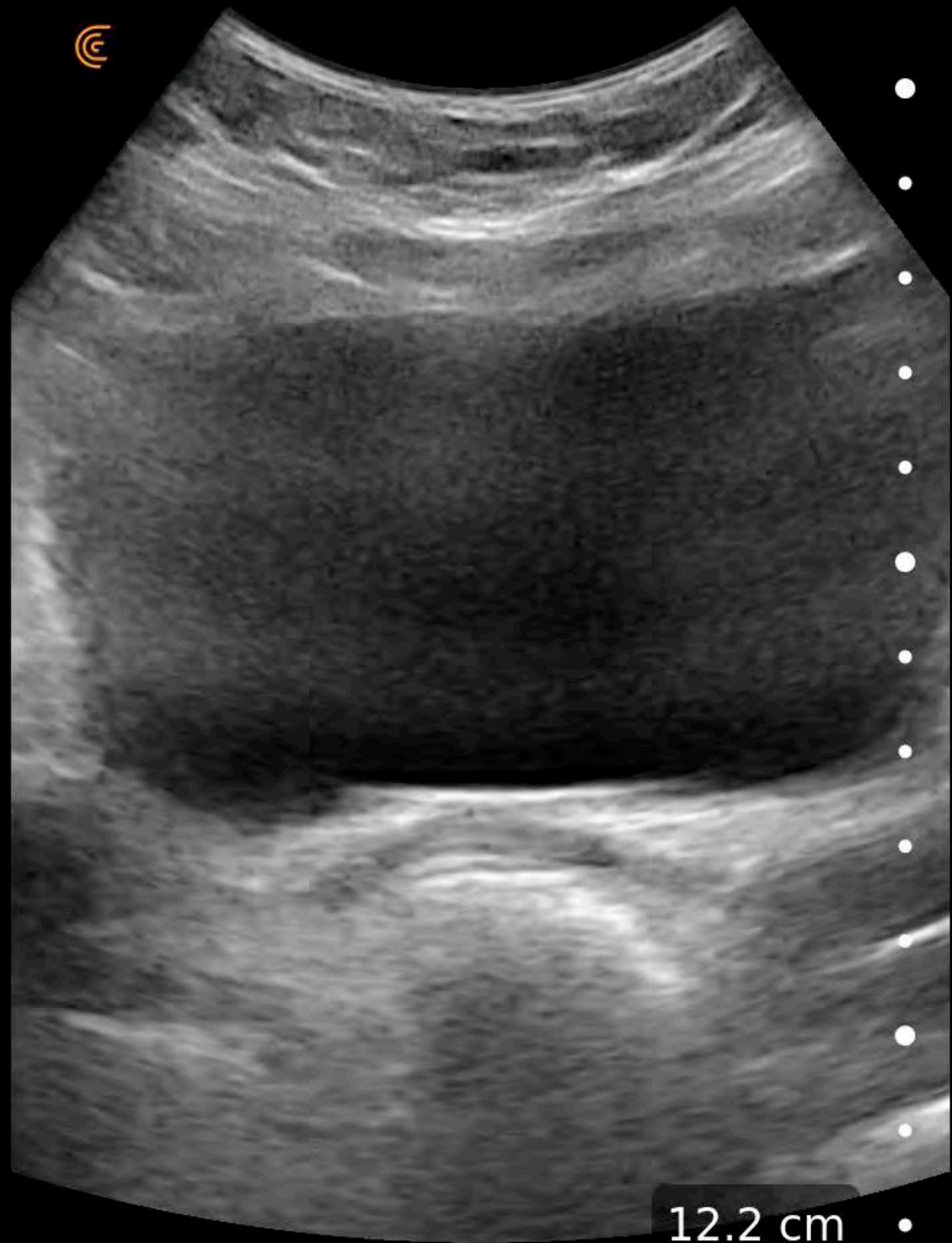
AAFP Reprint No. 290D

Recommended Curriculum Guidelines for Family Medicine Residents

Point of Care Ultrasound

This document is endorsed by the American Academy of Family Physicians (AAFP).





12.2 cm

Use of Point-of-Care Ultrasound in Rural British Columbia: scope, education and barriers.

- POCUS should be embedded within UGME curriculum
- Residency training should have more POCUS exposure

Article

Point-of-Care Ultrasound in Primary Care: Perspectives of Residents and Faculty at a Large, Urban Family Medicine Residency Program.

Published in: Family Doctor: A Journal of the New York State Academy of Family Physicians, Spring2023, Supplemental Index

By: DeFelice, Dominick; Mirabelli, Mark; Smith, Brian; Sanders, Mechelle; [+1 more](#)

78% felt POCUS should be part of the residency

85% did not feel adequately skilled to teach POCUS



CLINICAL

BCMj
BC Medical Journal

Patricia M. Massel, MD, Simran K. Jawanda, MPH, Davedeep Sohi, MD, MSc, Moira H. McMillan, BA,
Denise Jaworsky, MD, PhD

Health care providers' perspectives on medical travel in northwestern British Columbia

If effort is not made to support rural patients who have to travel to receive medical attention, gaps in care between rural and urban patients will widen.

Shift from Cart-based to Mobile Devices

PHILIPS

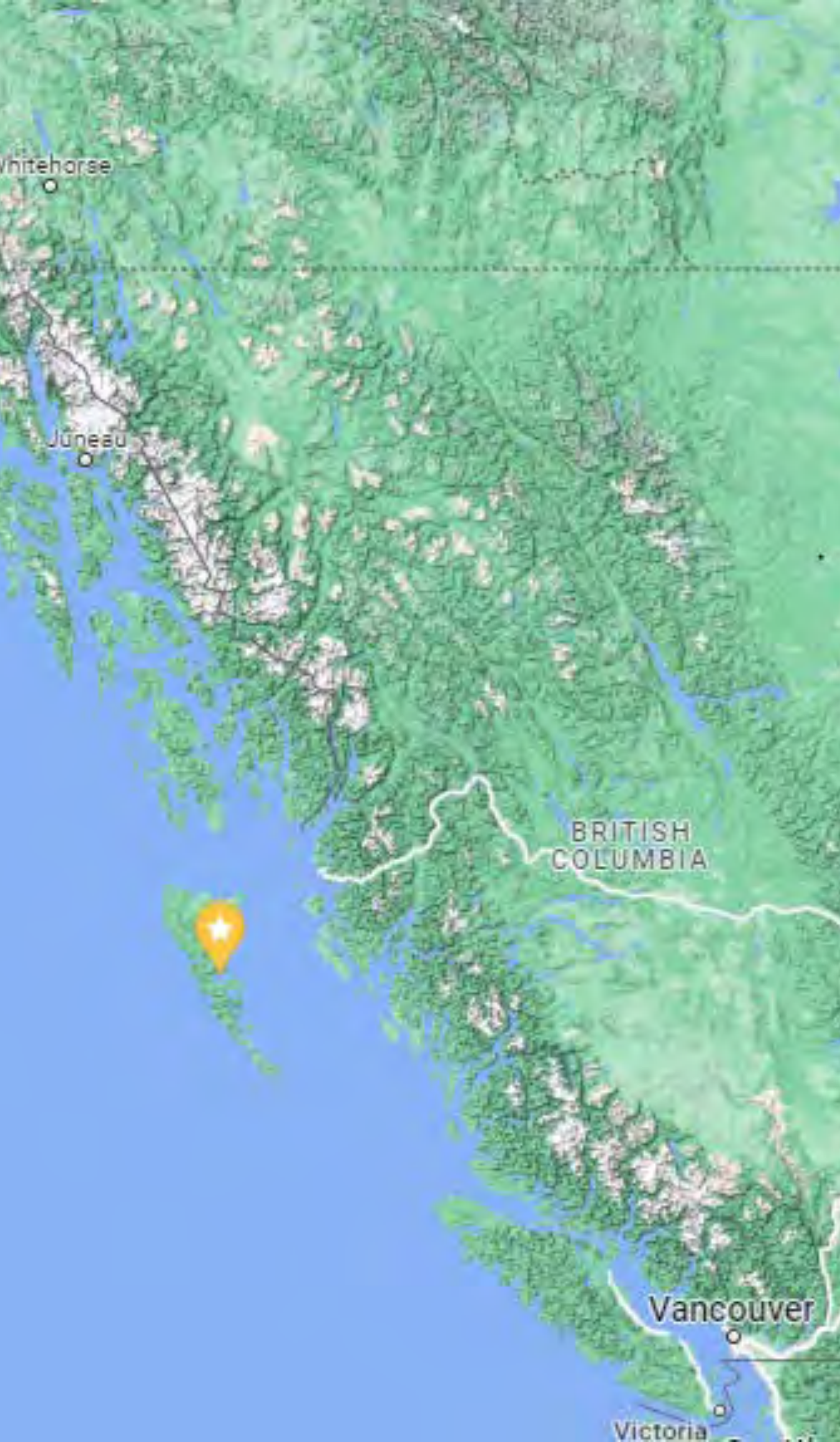


Butterfly



clarius ultrasound anywhere









Real-Time Virtual Support

LEARNING OBJECTIVES

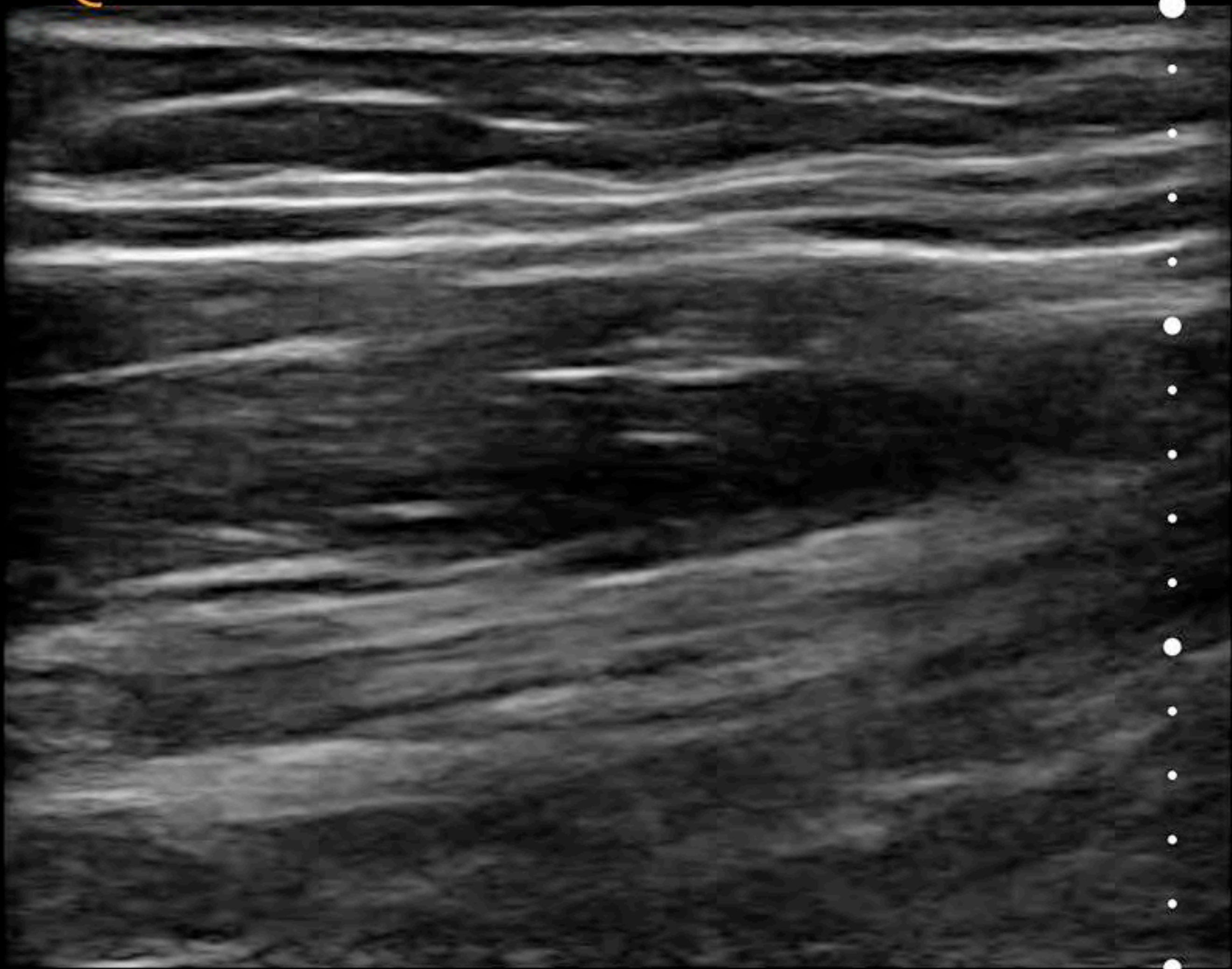
- ☑ Review the landscape of POCUS in family medicine nationally and internationally.
- ☑ Gain an understanding on how POCUS is vital to the democratization of health care.

6 yo

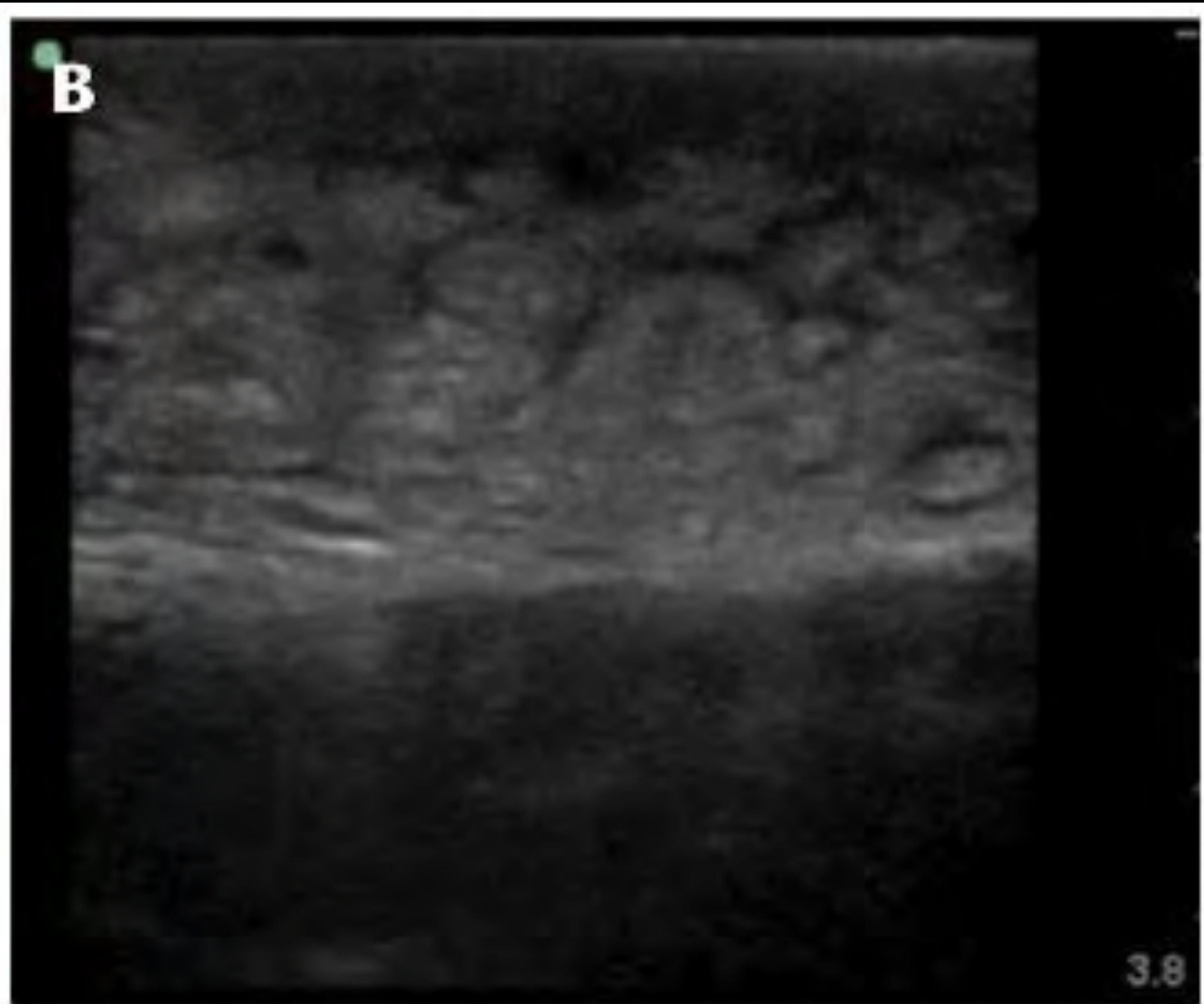
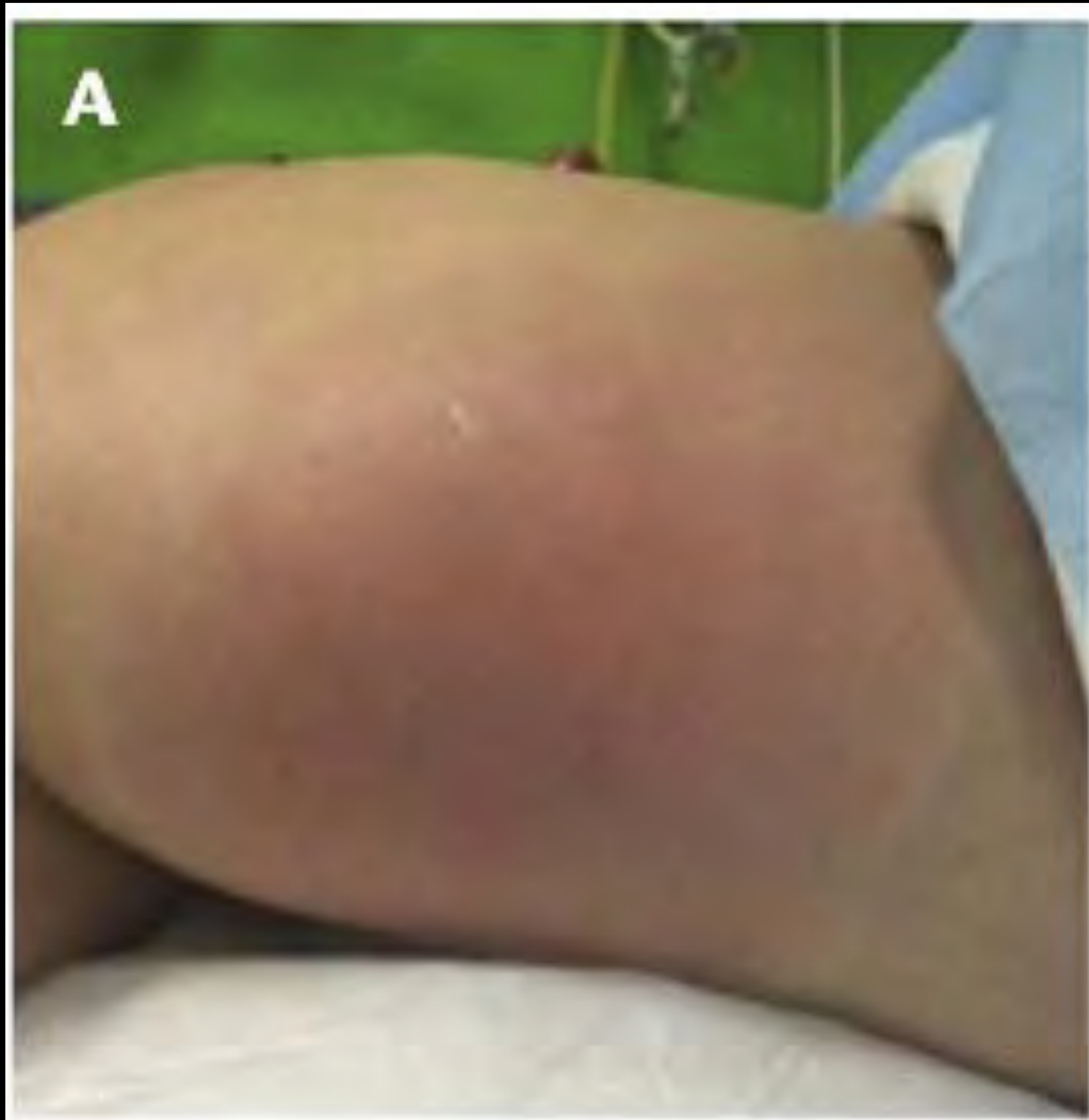
**Painful,
Erythematous,
expanding lesion
under the chin.**

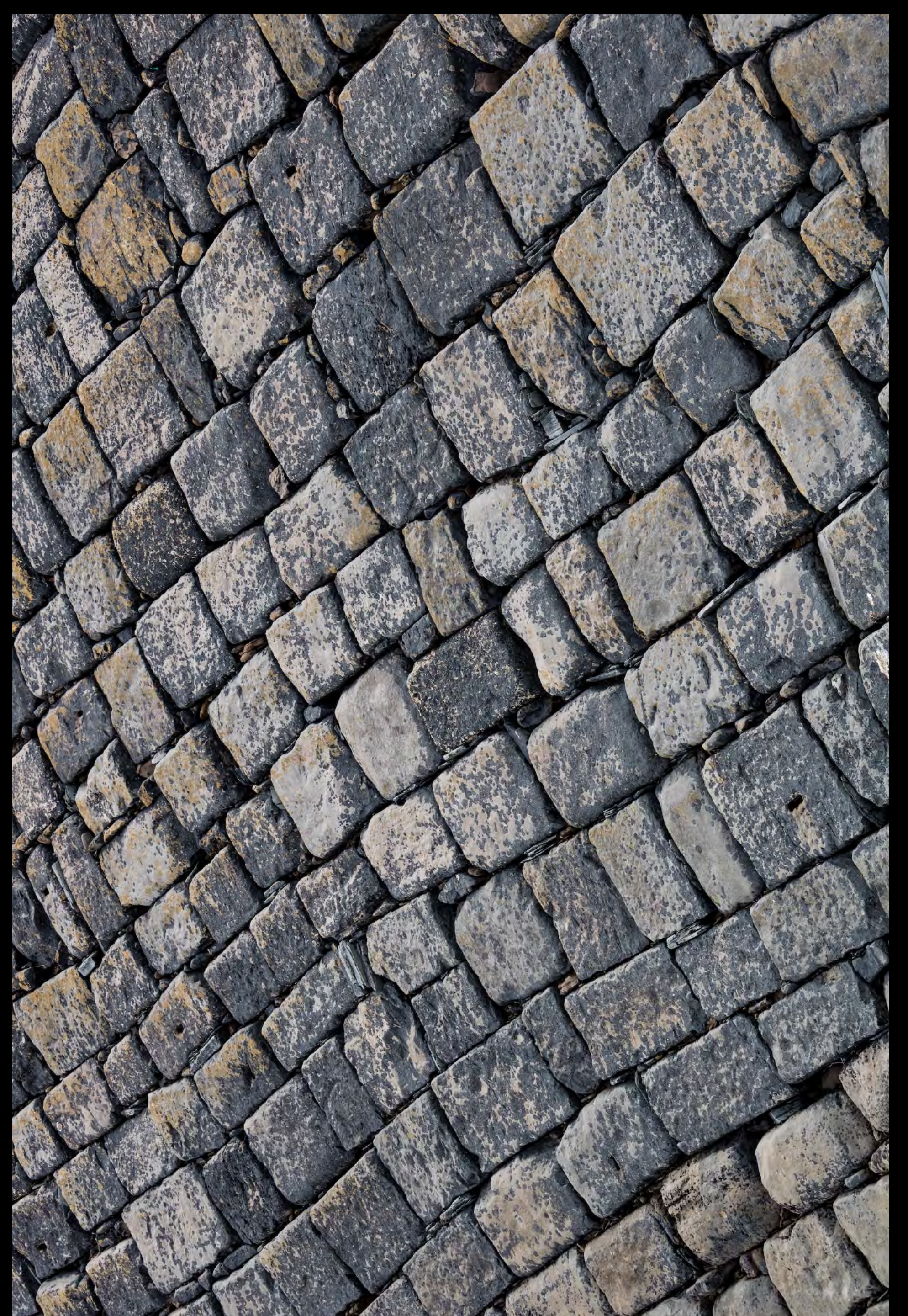
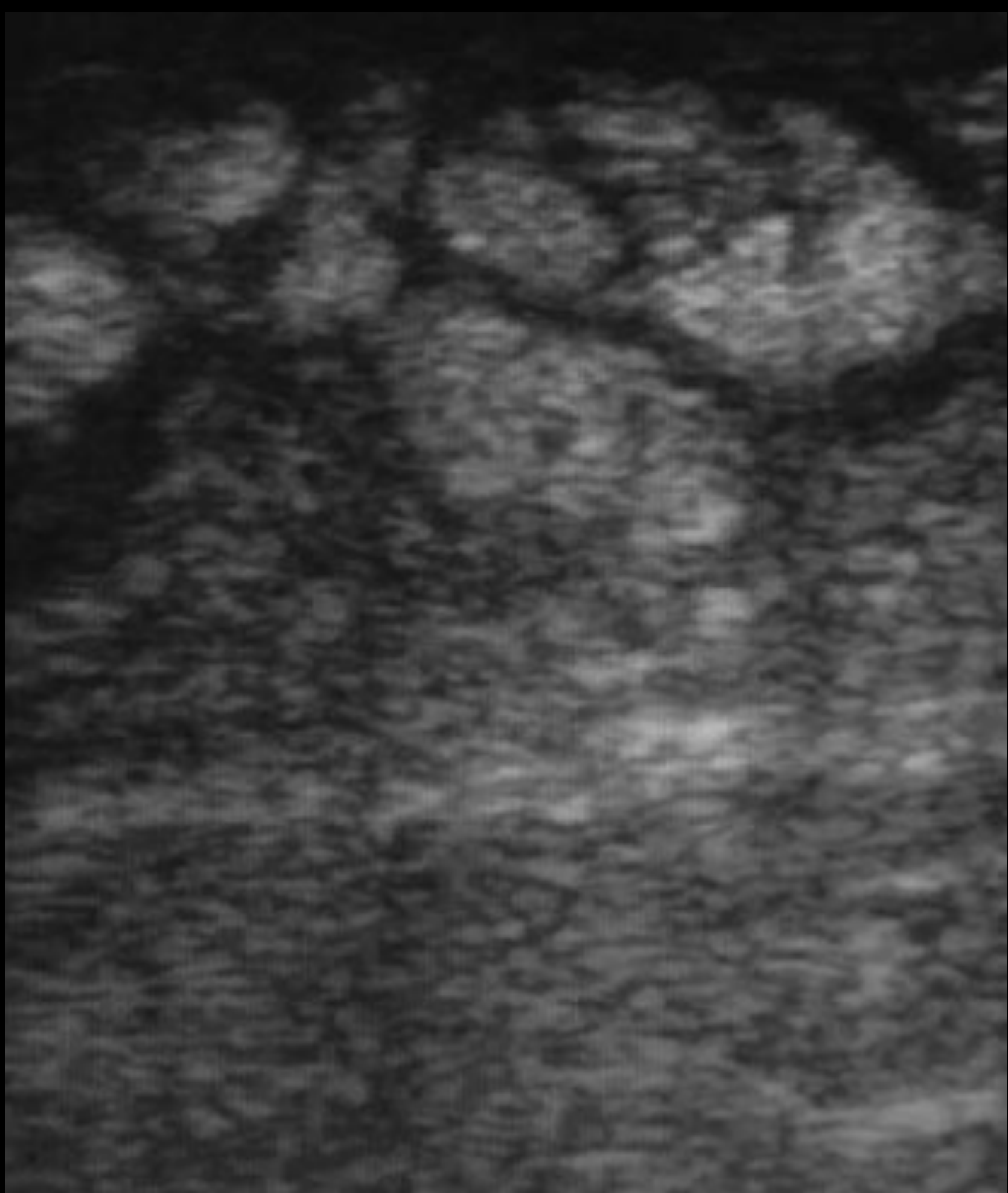
Vitals normal





3 cm





Gen



Abscess

- Vas
L38

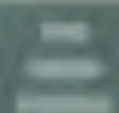


.86

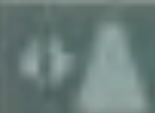
MI
0.5

3.9 Δ σ^2

2D



Gen



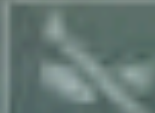
L/R



U/D



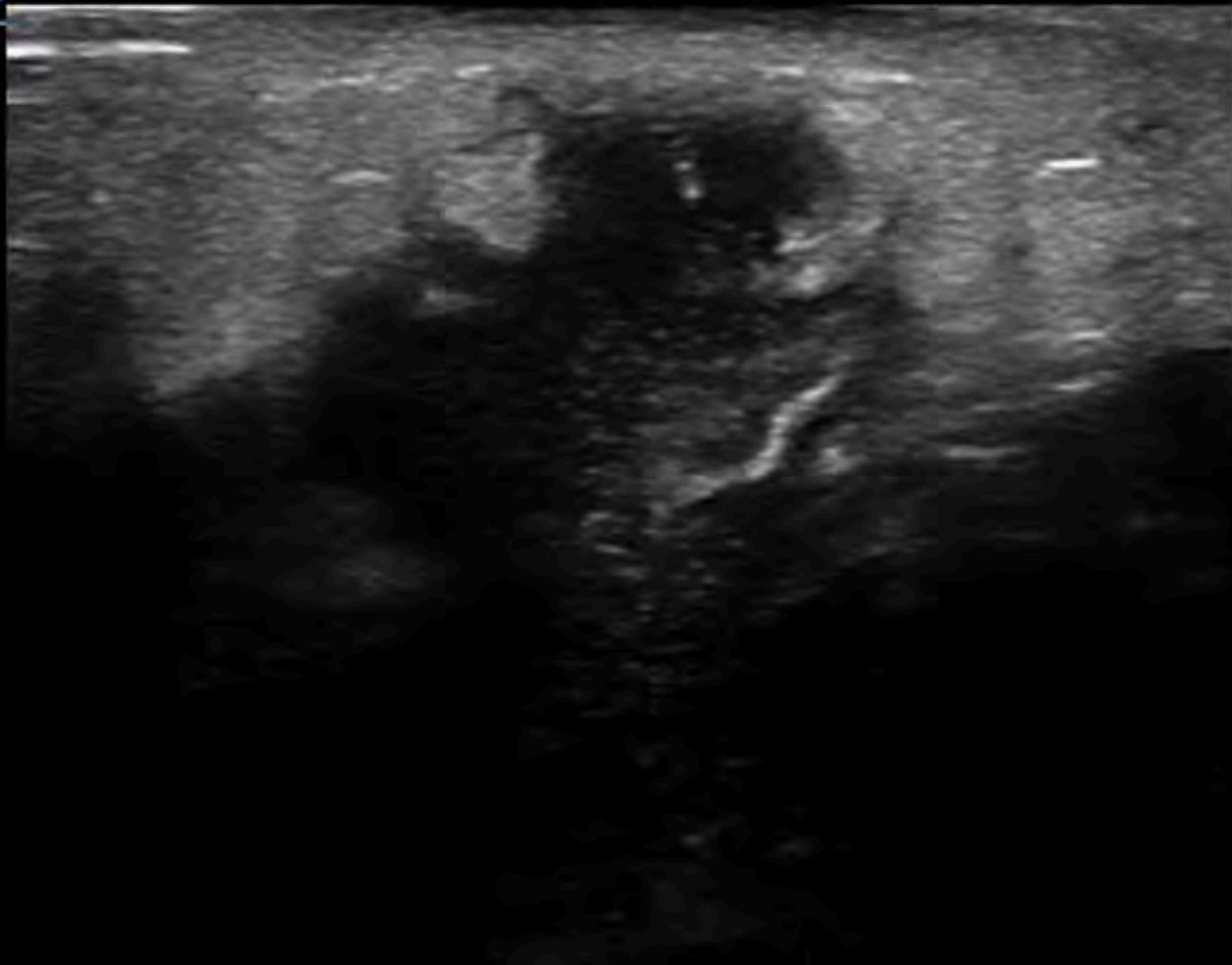
10



Biopsy



Dual

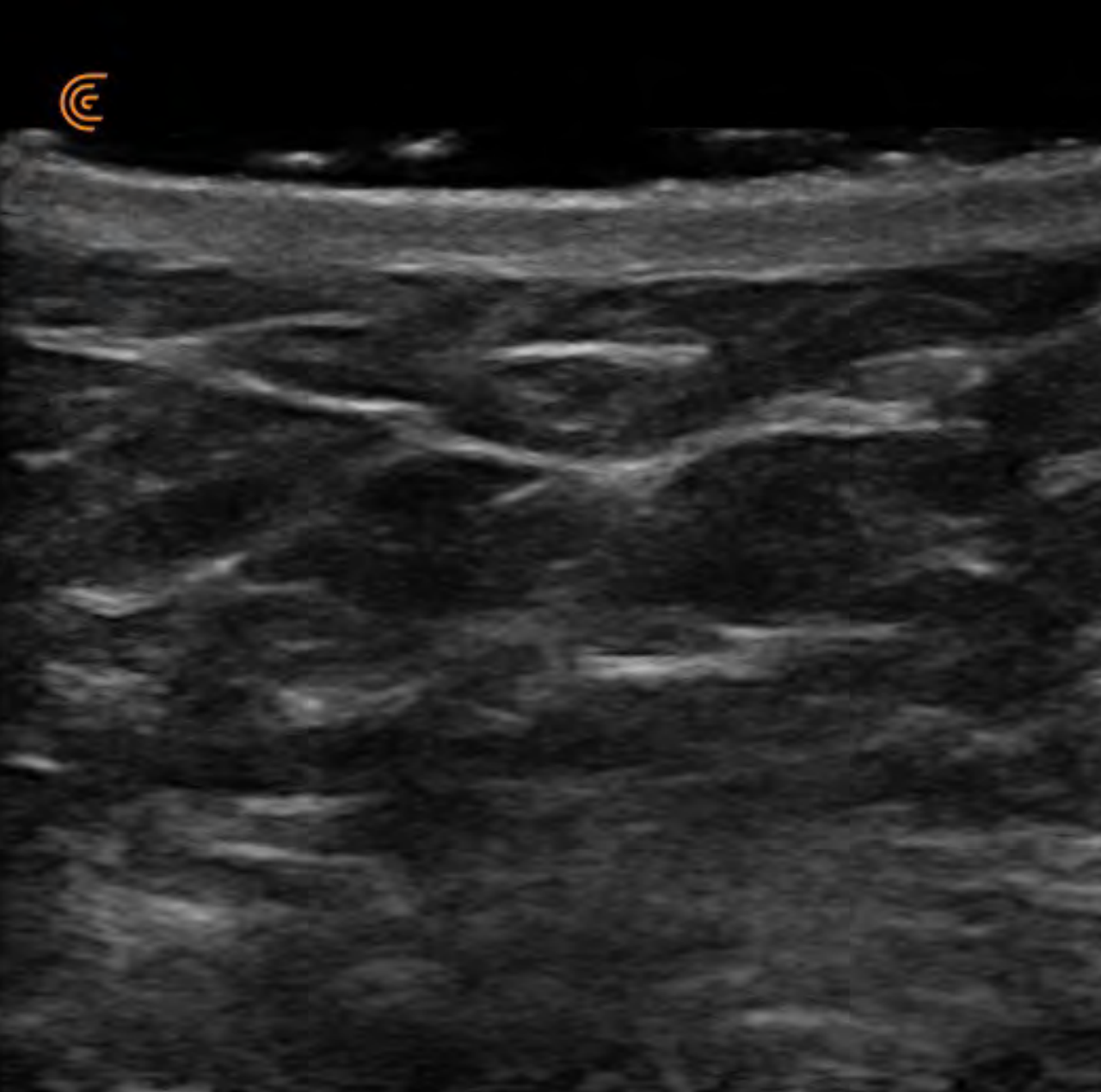


VASCULAR ACCESS
L10-5/CSH8
DR70/M2/P2
G70/E2/100%
MI1.1 TIs0.2
4.0 cm
18/18 Hz
ZSI 0
Image

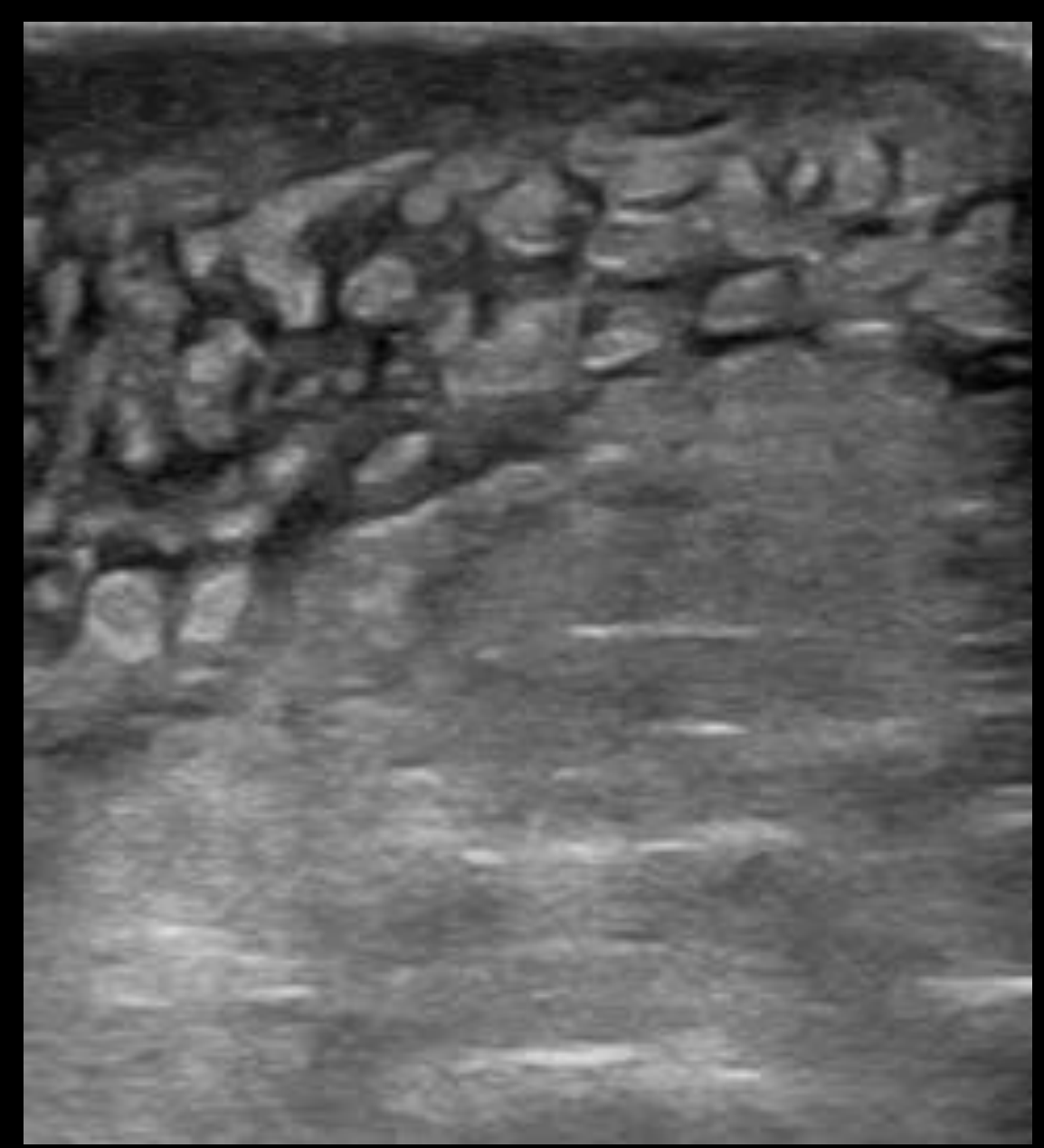
-1

-2

-3



3 cm



American Journal of Emergency Medicine (2012) 30, 1347–1351



The
American Journal of
Emergency Medicine

www.elsevier.com/locate/ajem

Original Contribution

The effect of bedside ultrasound on diagnosis and management of soft tissue infections in a pediatric ED ☆,☆☆

**Katrina Iverson MD^{a,*}, Demetris Haritos MD^b, Ronald Thomas PhD^c,
Nirupama Kannikeswaran MD^d**

45 yo Male



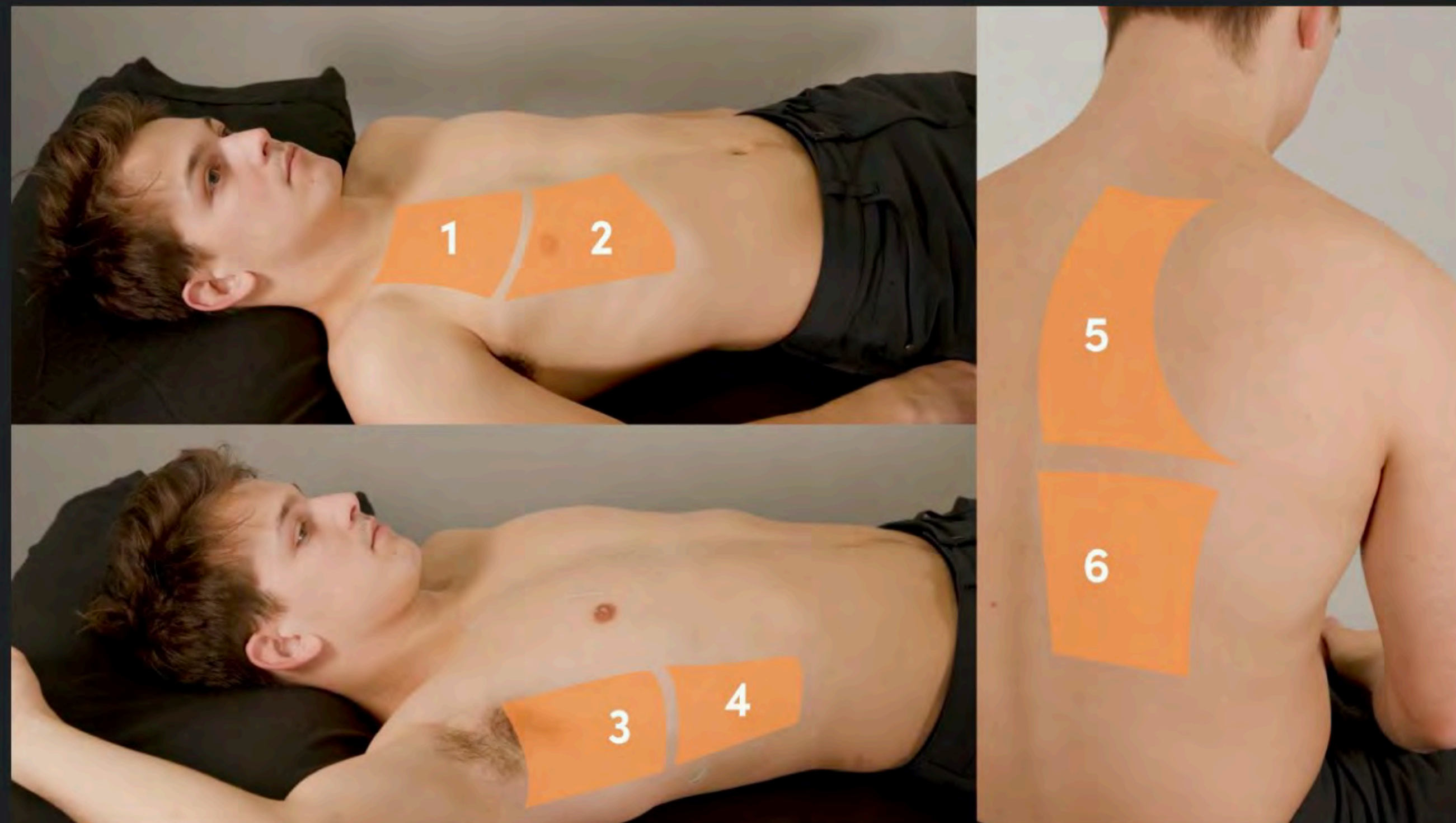
COUGH, FEVER, SOB

T:37.3,

P:95, BP:140/80,

O2: 96%

PULMONARY EXAM



ID_20230401_182445

ELK VALLEY HOSPITAL

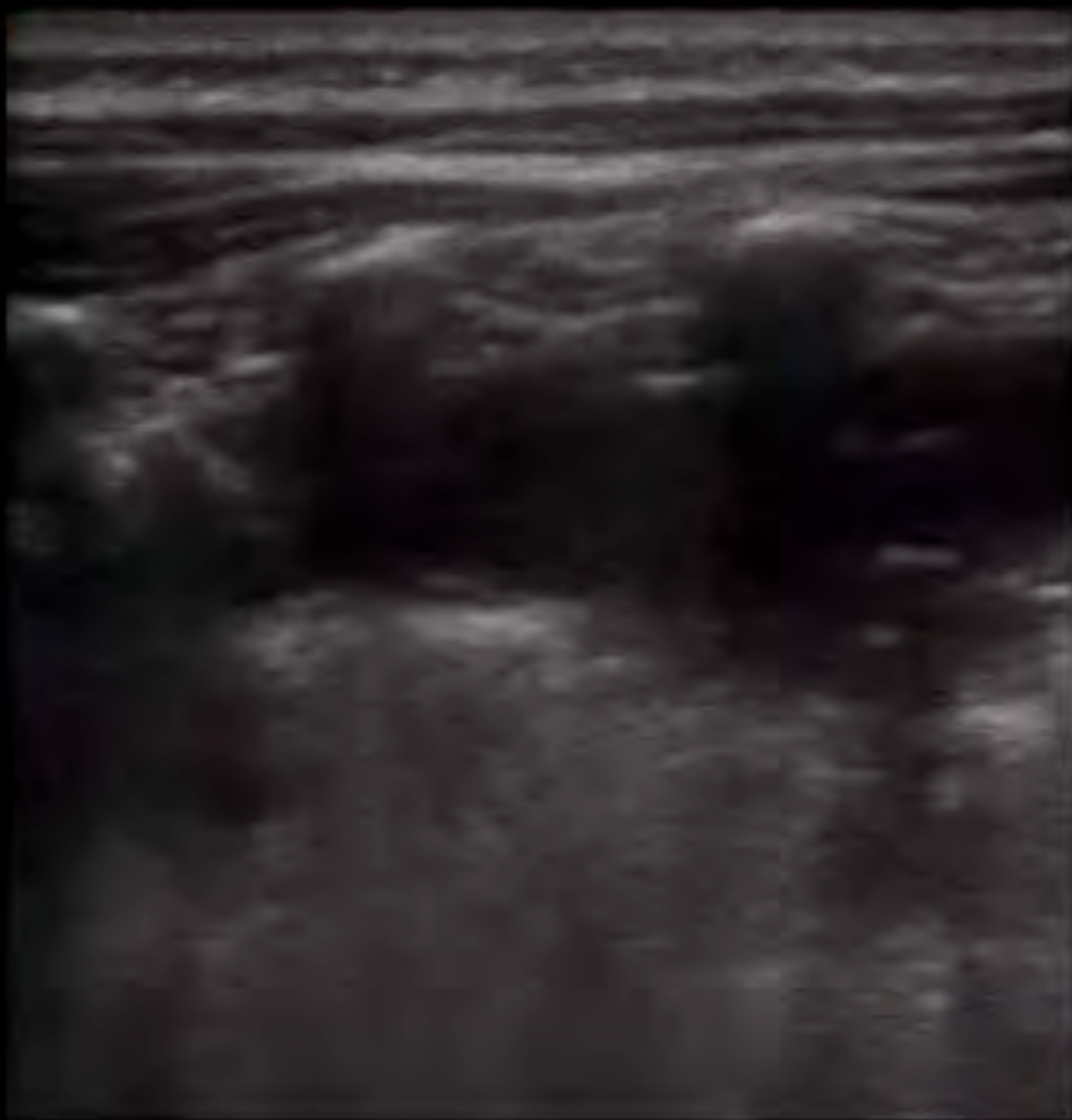
Z



7.2 cm



Abd/General
_C4-1/CH4MHz
DR60/M3/P2
-G70/E1/100%
MI1.1 TIs0.4
- 12.0 cm
- 13 Hz
- ZSI 0
- **Image**



m

Gen THI
S MB



Abd
C60



33%

MI

0.6

TIS

0.1

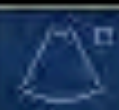
A

B

18



10



U/L

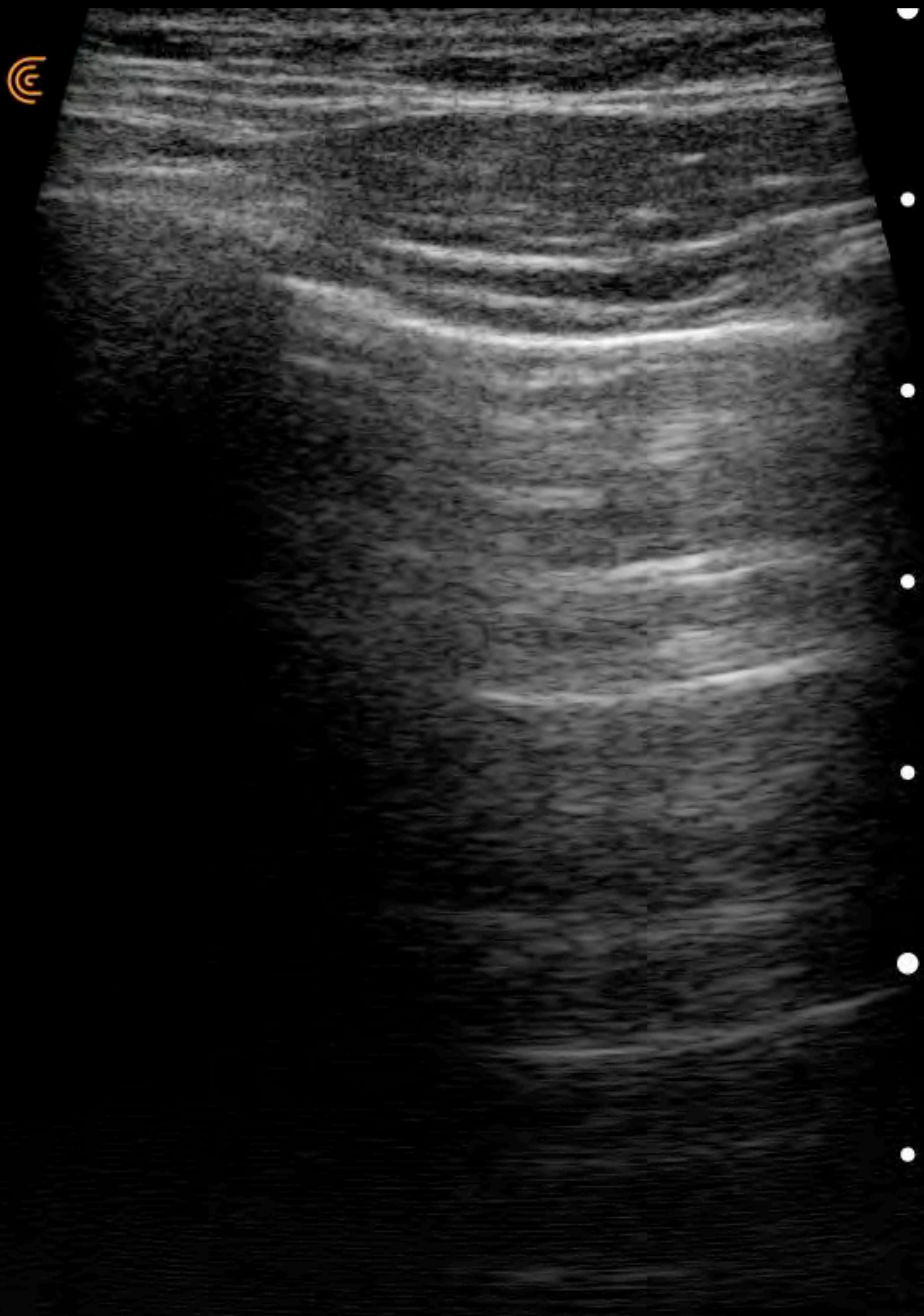
Clips...



Dual

Page 2/2



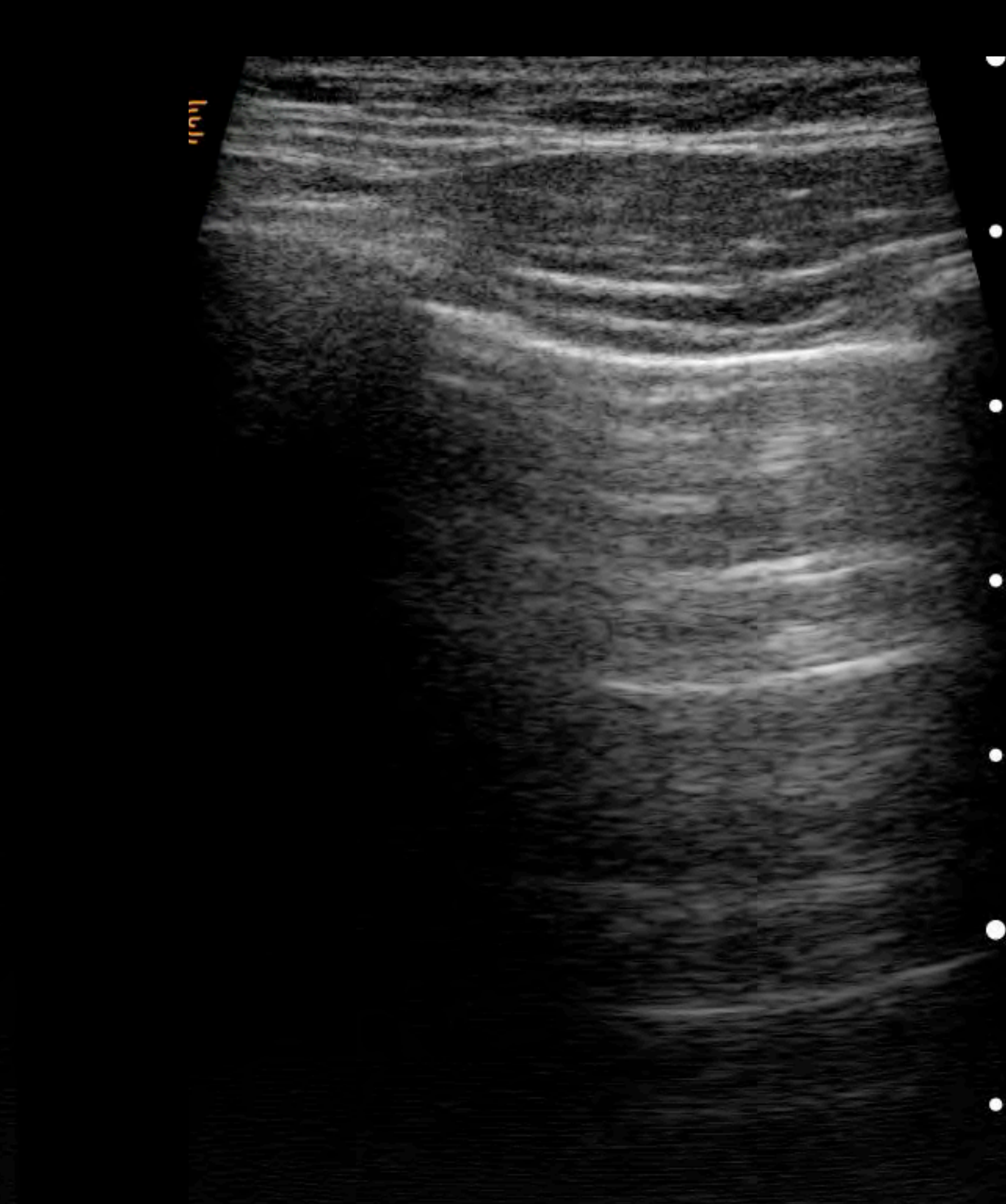


7.2 cm •



7.2 cm •

huh



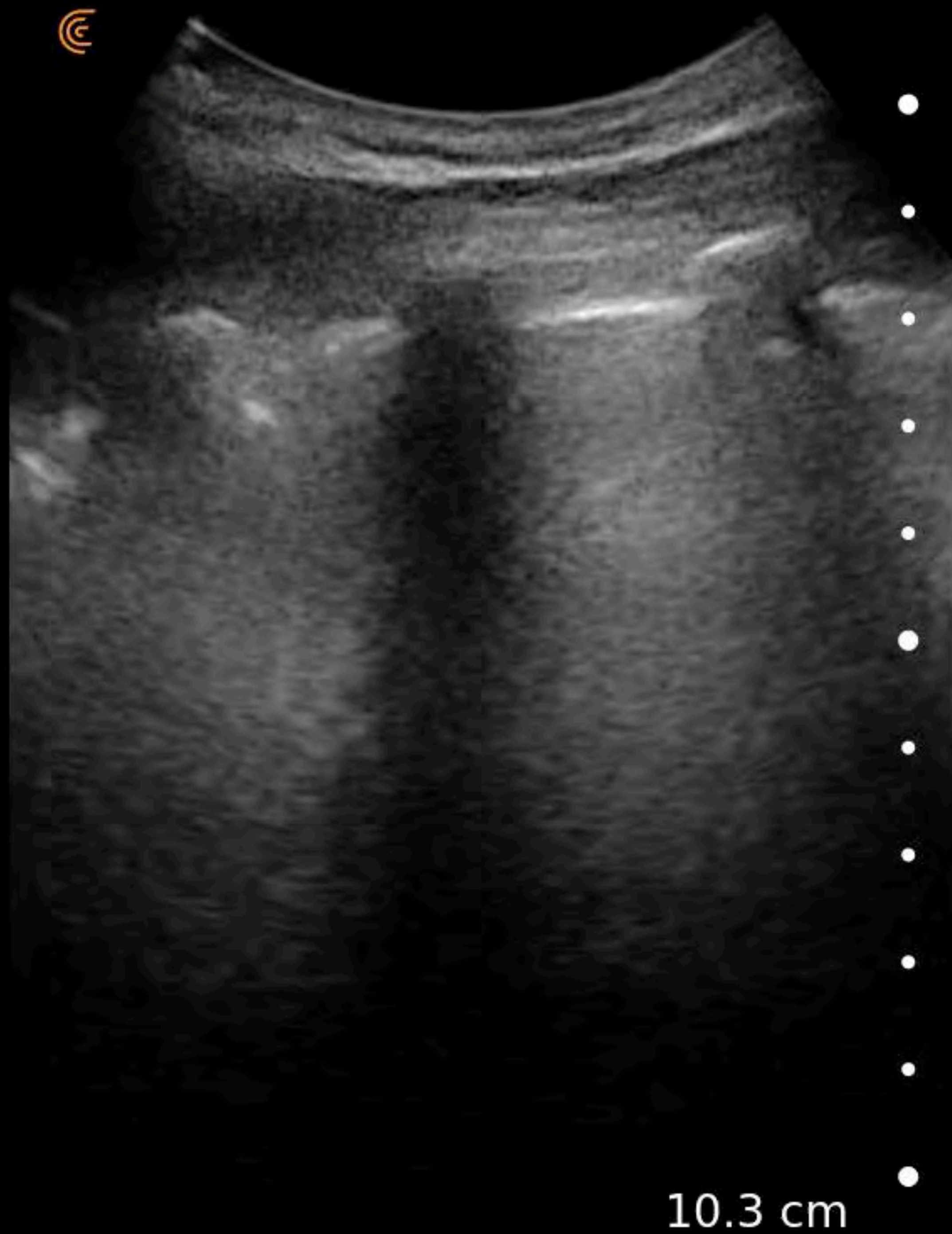
7.2 cm •

67 YO MALE



COUGH, FEVER, SOB

BP: 110/60



10.3 cm

Z



Abd/CHEST
C4-1/CH4MHz
DR65/M3/P2
G70/E1/100%
MI1.3 TIs0.4
10.0 cm
14 Hz
ZSI 0
Image



100357740

2015Jun11 11:10

Gen THI
S MB

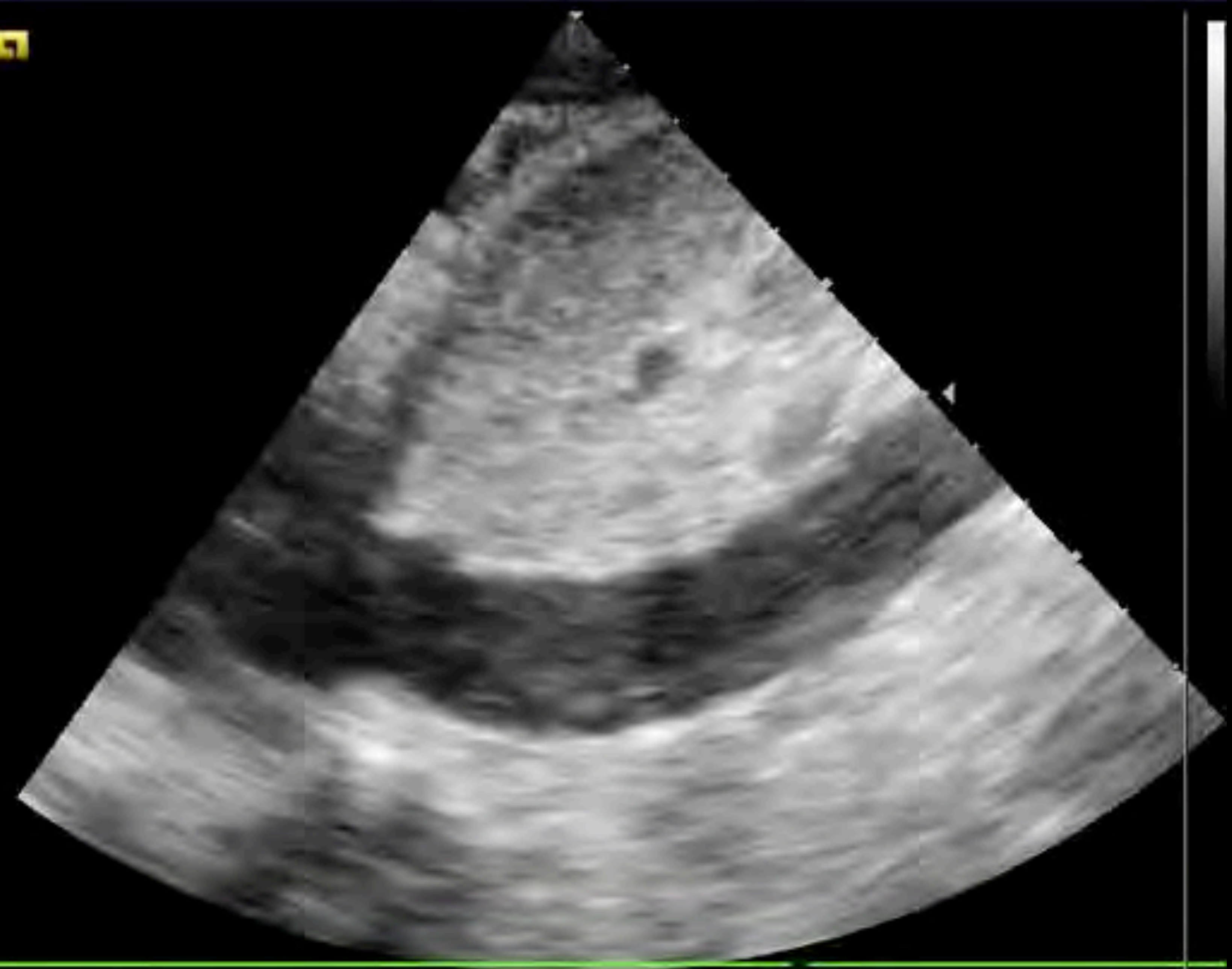


Abd
- C60
· 56%
· MI 0.7
· TIS 0.1

· A
· B
·

15

P5-1
Cardiac
45 dB
THI 1.7 MHz
DR 65 dB
Edge 1
Persist 1
R/S 1
Map E
Tint 2
45 fps



13 cm

P 100% MI 1.06

Gen THI
S



— Crd
· P21
· 
· 
· 11%
■ MI
· 0.8
· TIS
· 0.7

A 

B 


 



21

Gen THI
S



— Crd
· P21
· 
· 
· 11%
■ MI
· 0.8
· TIS
· 0.7

· A 
· B 
· 
· 
· 
· 



VSS

Dry Mucous membranes

Rising Creatinine

**HARDLY EATING, HARDLY
DRINKING, AND “NOT GOING
TO THE HOSPITAL”**

THI
MB



Abd
- C60
82%
MI
1.5
TIS
0.4
A
B

11

Gen 0 Guide MB On THI On Page 1/2

TIS: 0.01, MI: 0.52, Lung

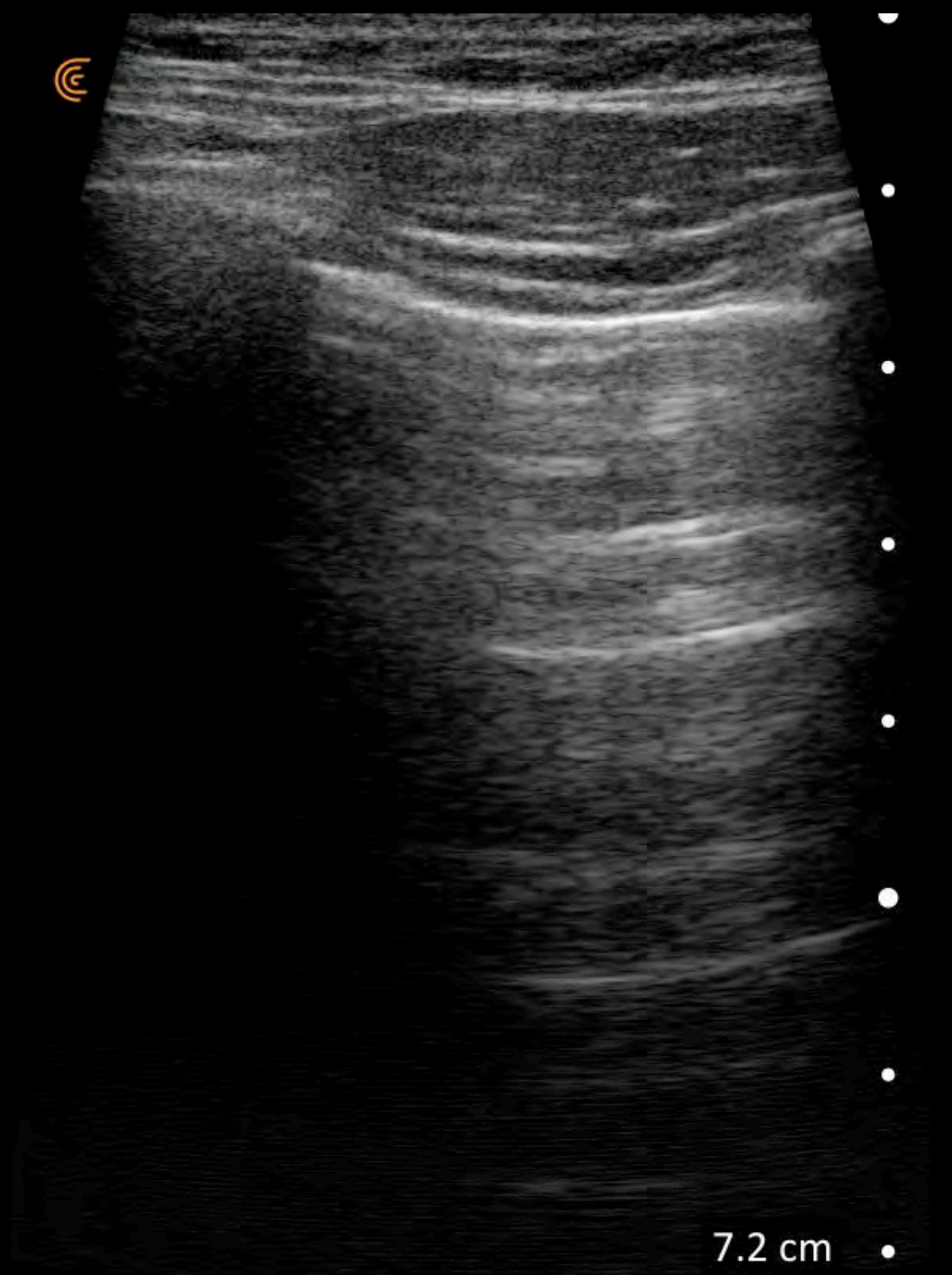
B



1
2
3
4
5
6
7
8
9
10
11
12
13



Captured with Butterfly iQ

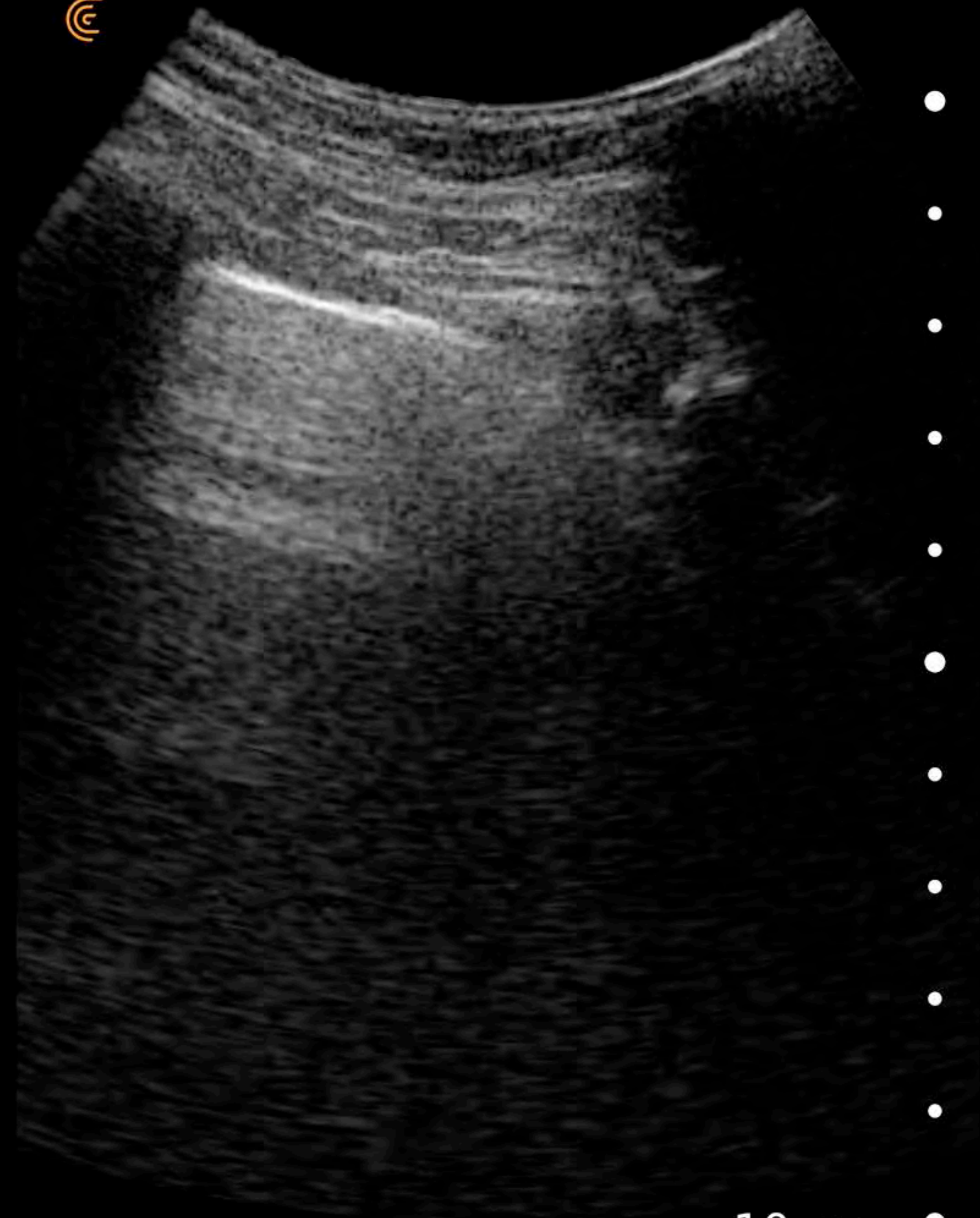


7.2 cm

RML

LUL

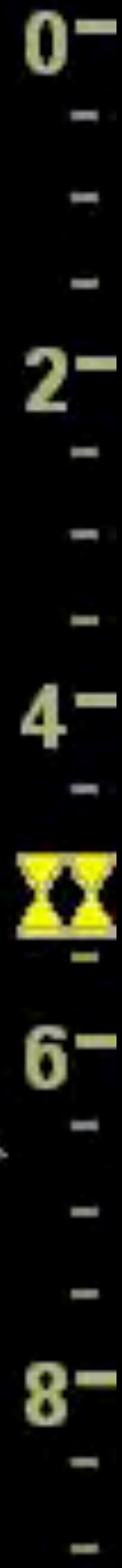
LLL

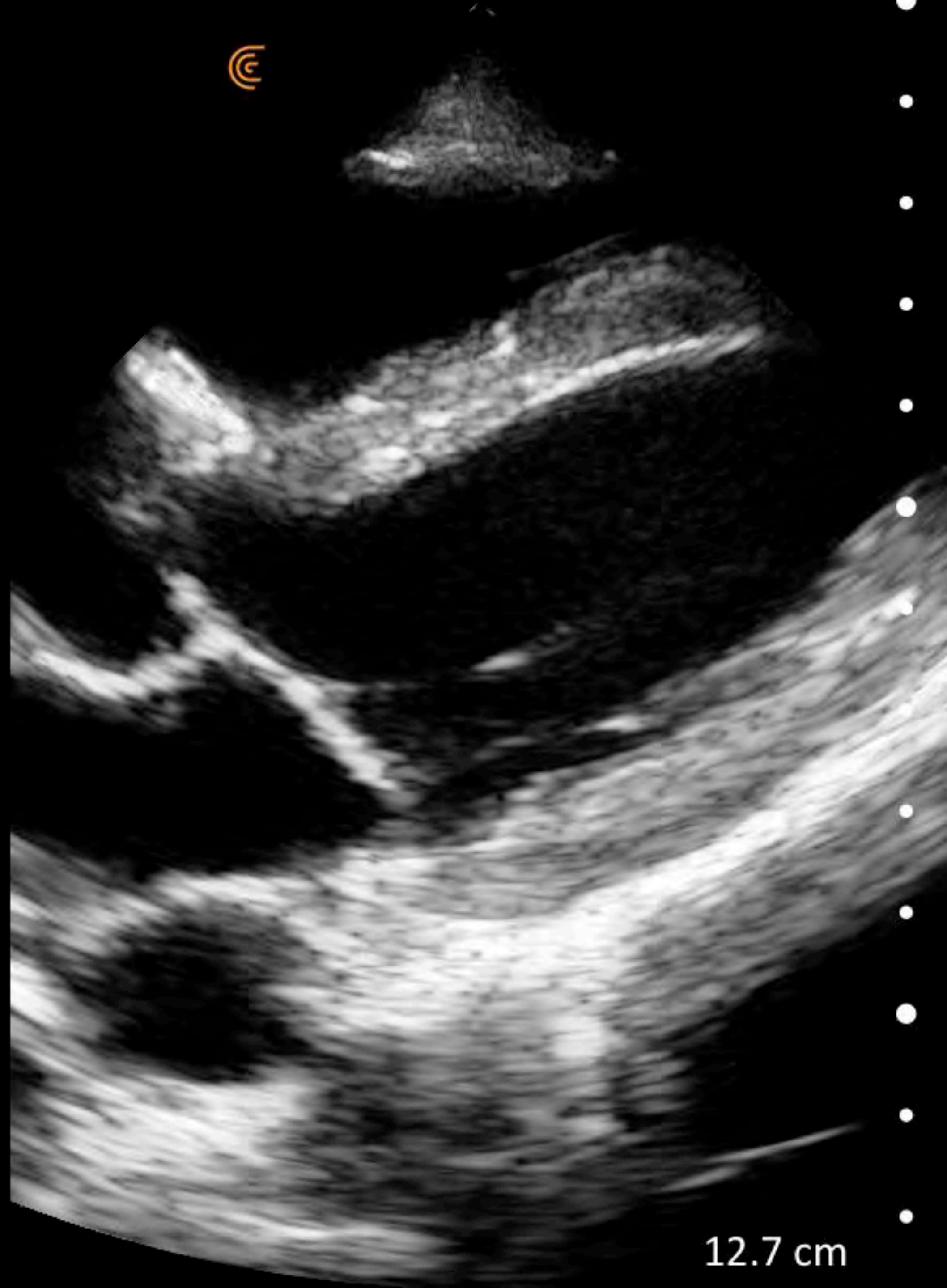


RLL

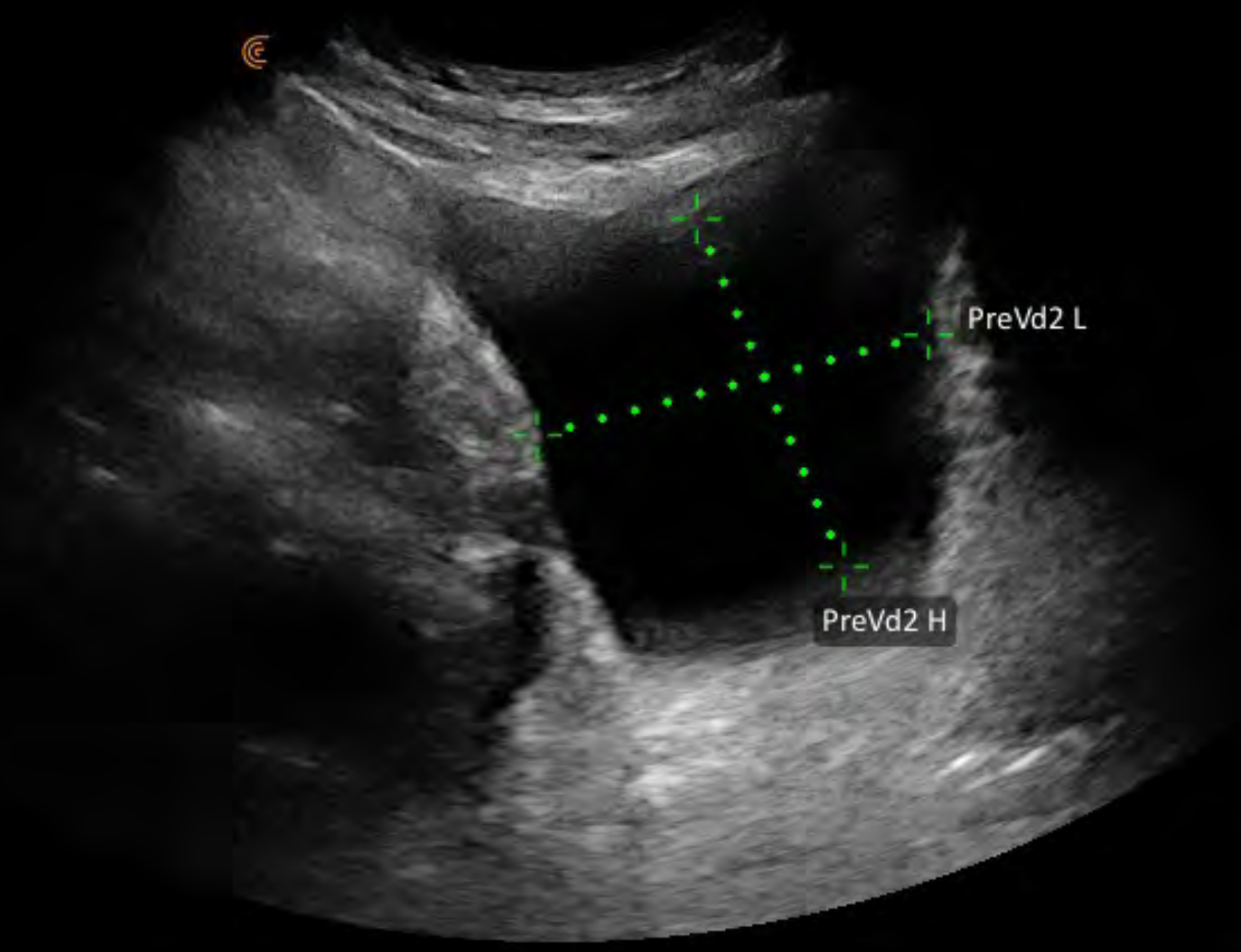
10 cm

LOGIQ
S8



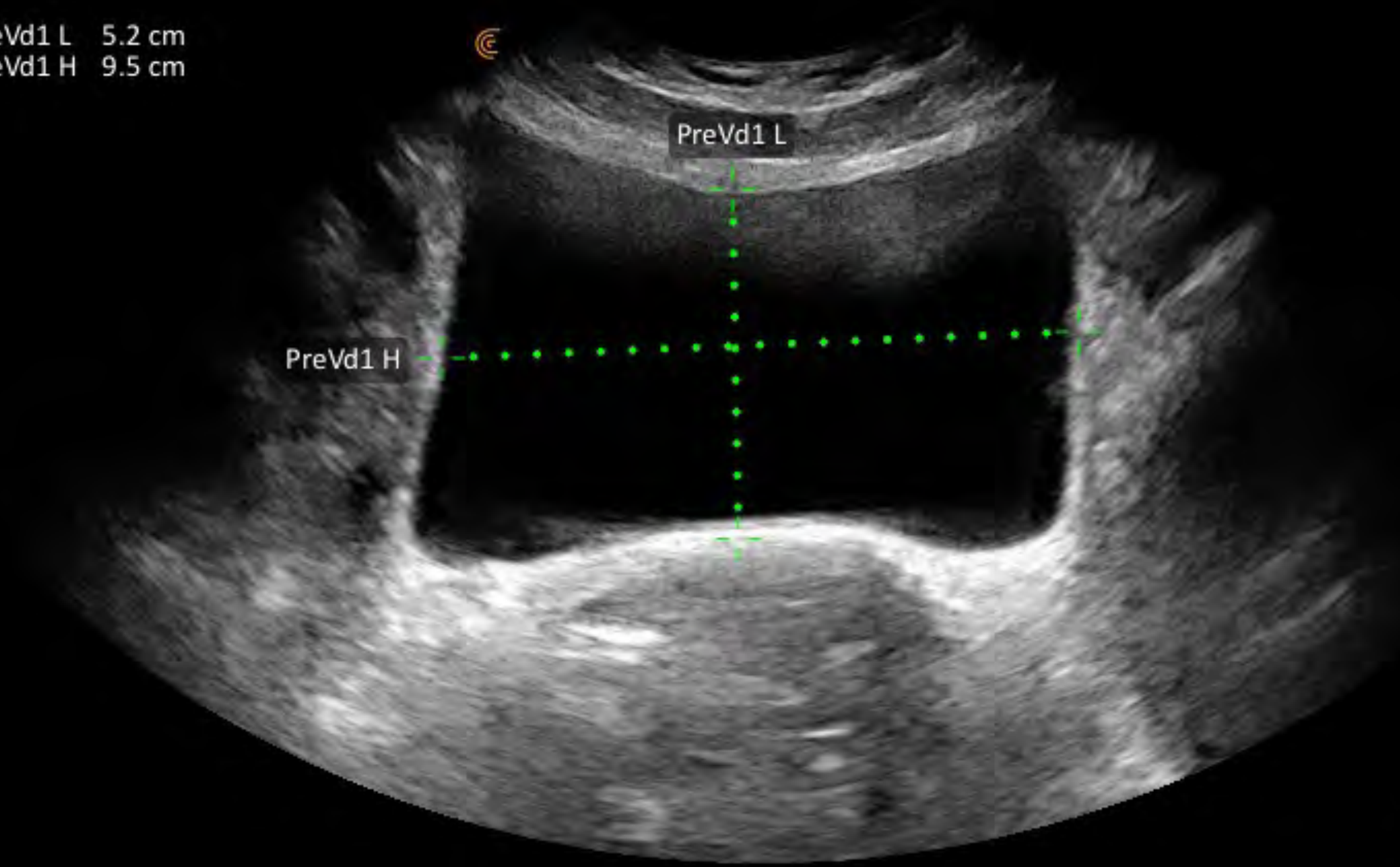


PreVd2 L 5.5 cm
PreVd2 H 5.2 cm

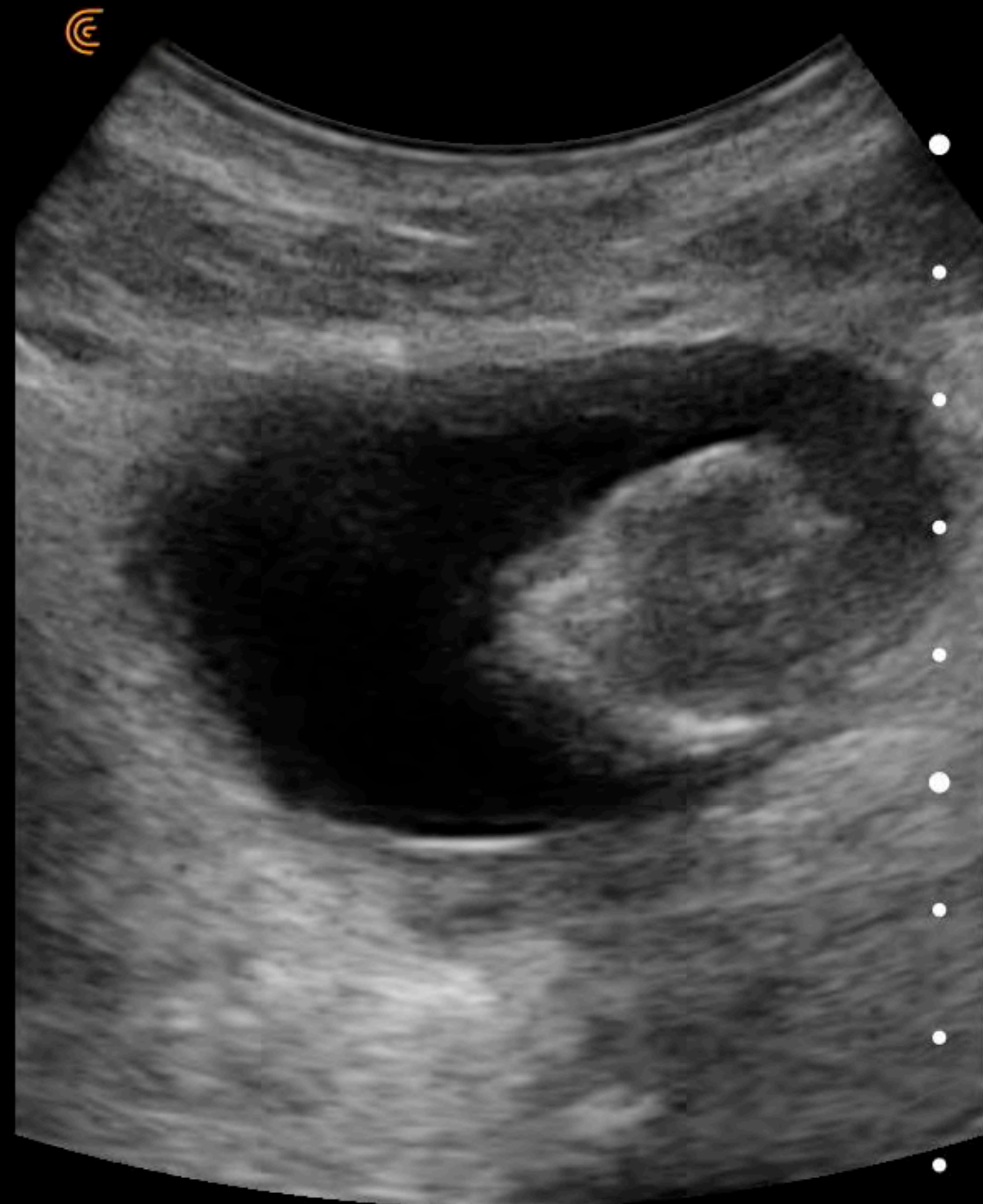


12 cm

PreVd1 L 5.2 cm
PreVd1 H 9.5 cm

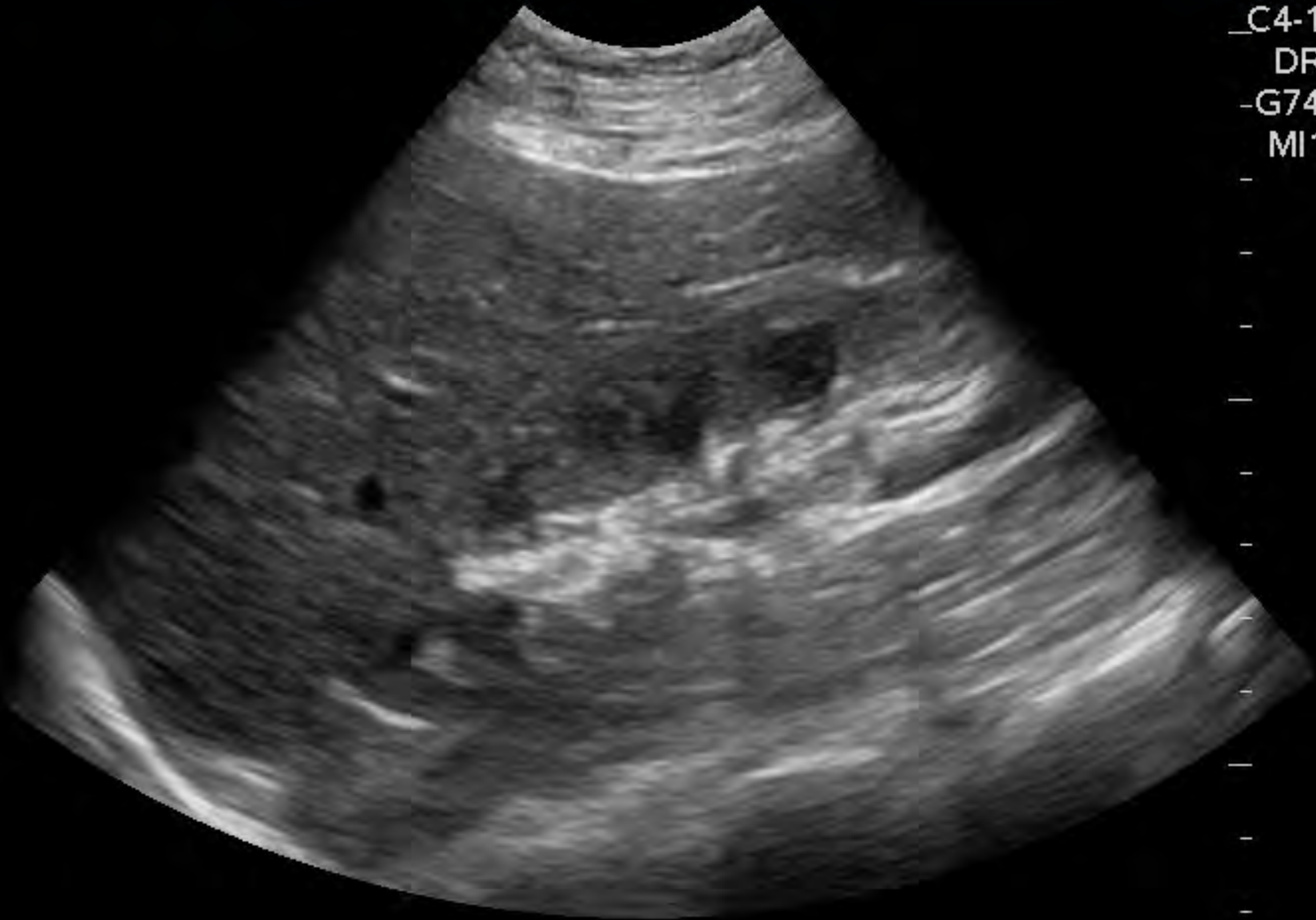


12 cm

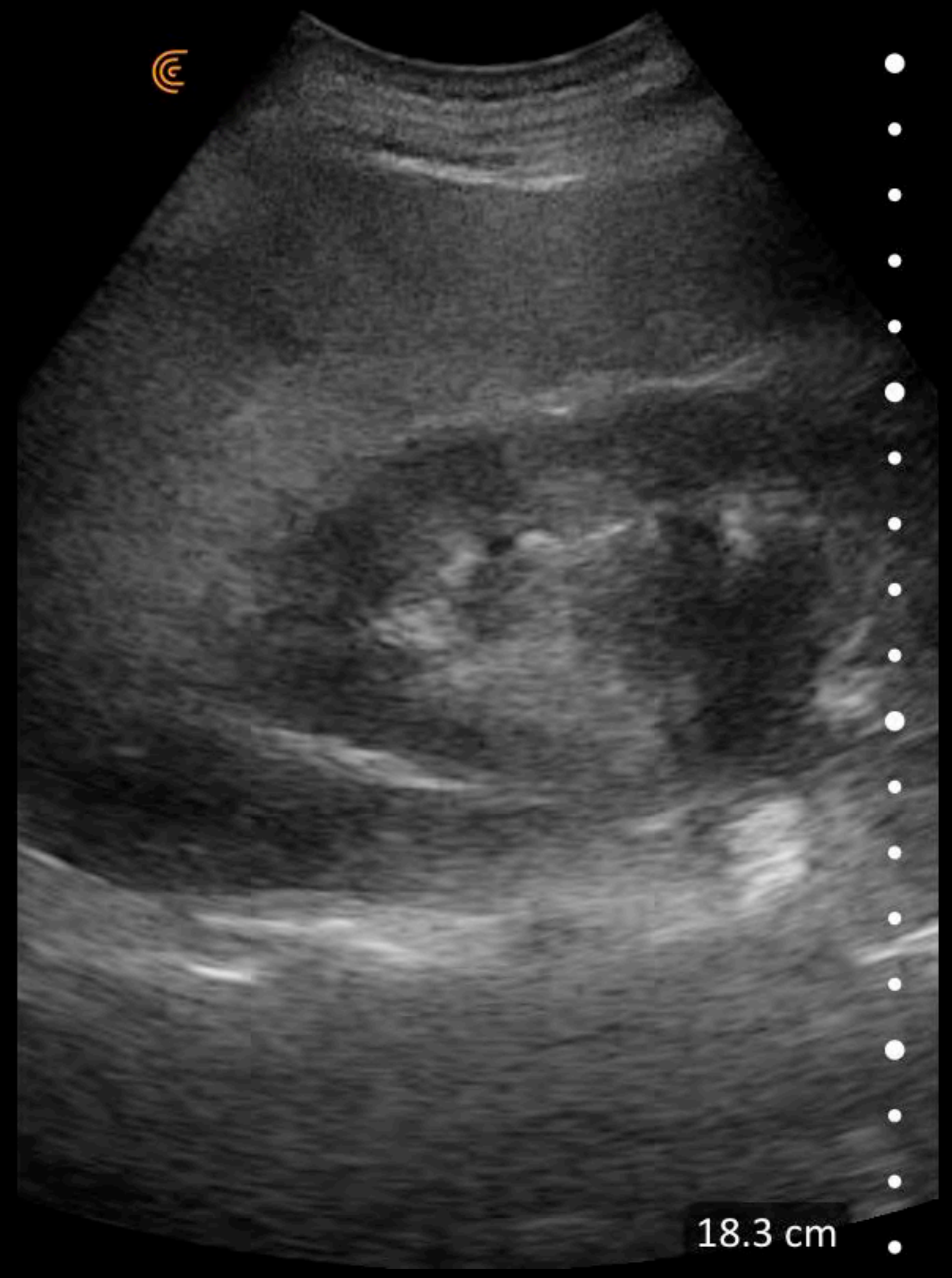


8.3 cm

Z



Abd/General
_C4-1/CH4MHz
DR60/M3/P2
-G74/E1/100%
MI1.1 TIs0.4
- 12.0 cm
- 13 Hz
- ZSI 0
- Cine





36 yo G3P0

8wks2d by dates

FIRST TRIMESTER SPOTTING

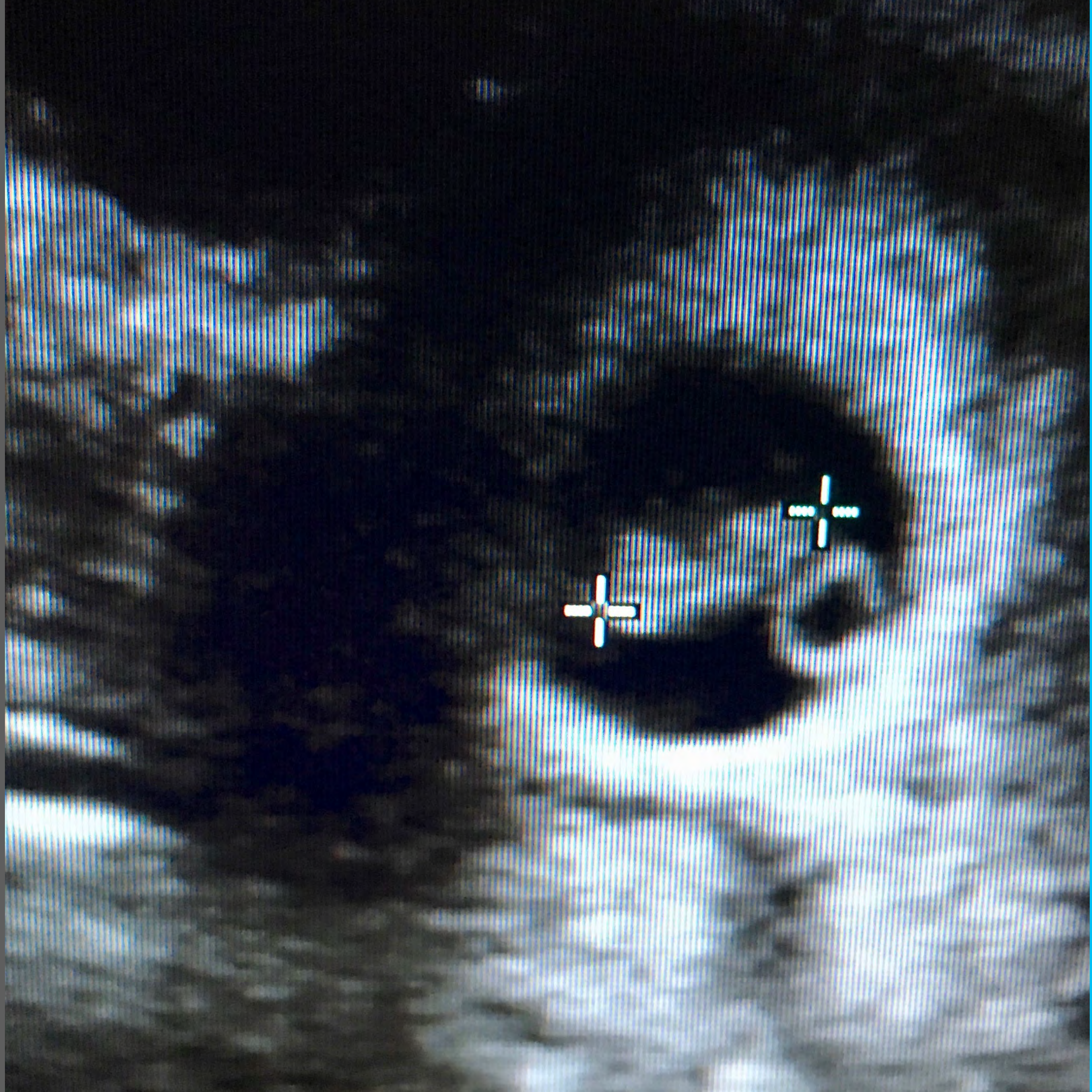
A black and white illustration. On the right side, there is a solid black silhouette of a person's head and shoulders in profile, facing left. The person's right hand is raised to their forehead in a thinking or distressed pose. From the top of the head, a series of three small circles lead to a large, cloud-like thought bubble on the left side of the image. Inside this thought bubble, the words "Early Pregnancy Loss" are written in a simple, black, sans-serif font, arranged in three lines: "Early", "Pregnancy", and "Loss".

Early
Pregnancy
Loss



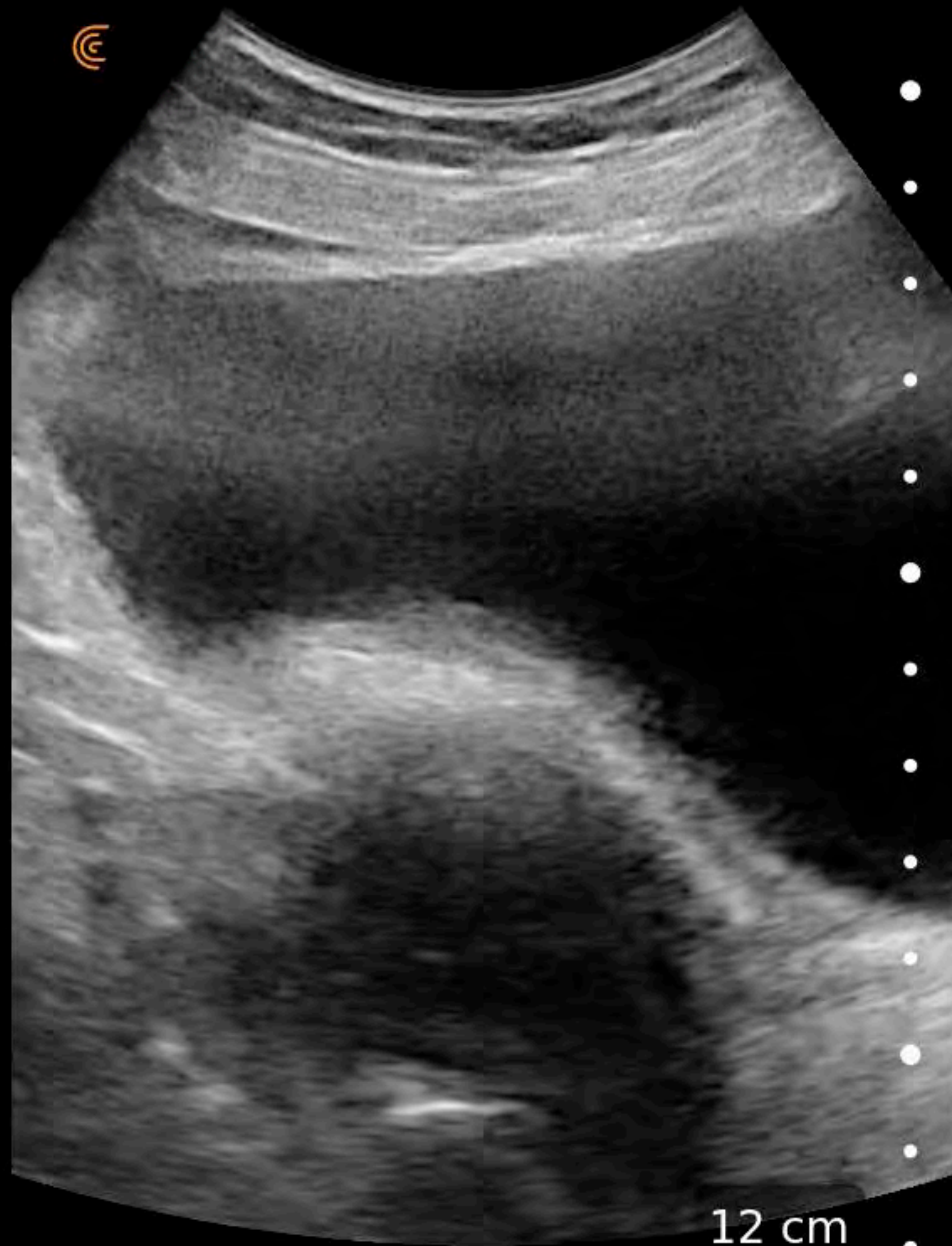
To RULE IN an IUP
Locate the
Following:

- **Bladder**
- **Uterus**
- **Gestational Sac**
- **Yolk Sac**
- **+/-Fetal Pole**



GESTATIONAL MILESTONES ON TRANS ABDOMINAL US

- The gestational sac - 5 weeks
- The yolk sac - 5.5 to 6 weeks
- The fetal pole - 6 weeks
- Cardiac activity - 7 weeks



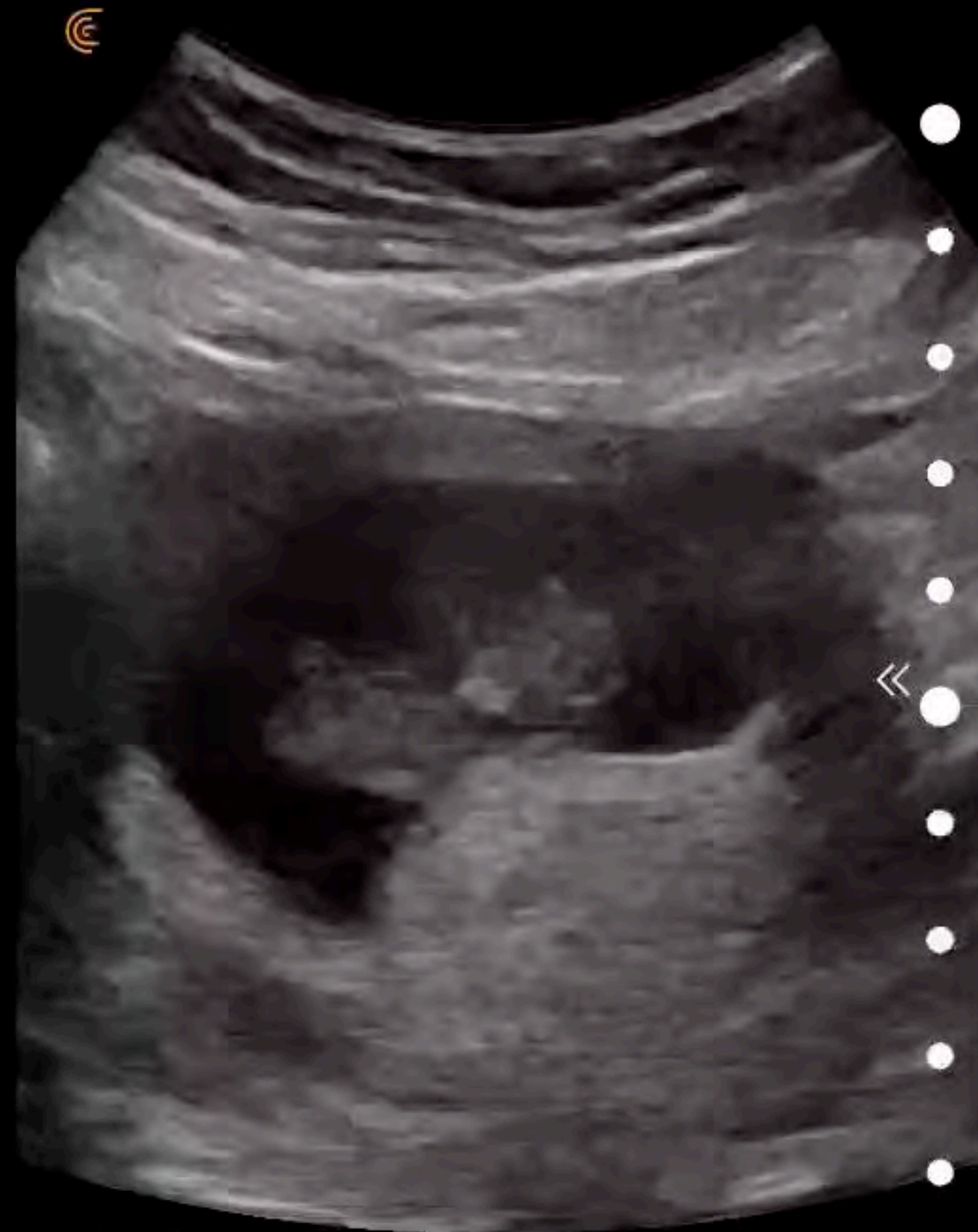
12 cm

2017Apr27 1



CRL 1.84cm 8w2d

13





DOES EVERY RH NEGATIVE PATIENT NEED RHOGAM?

Depends who you ask?

- **SOGC: Give Rhogam for pregnancies greater than 7 weeks (49 days) Evidence III-C**
- **NICE National Institute of Clinical Evidence 2012: Do NOT offer RhoGAM to women with threatened miscarriage unless surgical management is undertaken.**
- **ACOG: RhoGAM administration to a patient with threatened abortion prior to 12 weeks gestation is controversial and no evidence based recommendation can be made.**

ANTI-D ADMINISTRATION AFTER SPONTANEOUS MISCARRIAGE FOR PREVENTING RHESUS ALLOIMMUNISATION.

Contraception. 2019;99(5):265-6:

- ▶ 57 Rh negative women with Rh positive partners
- ▶ Miscarriage below 10 weeks were randomized to Rhogam or placebo.

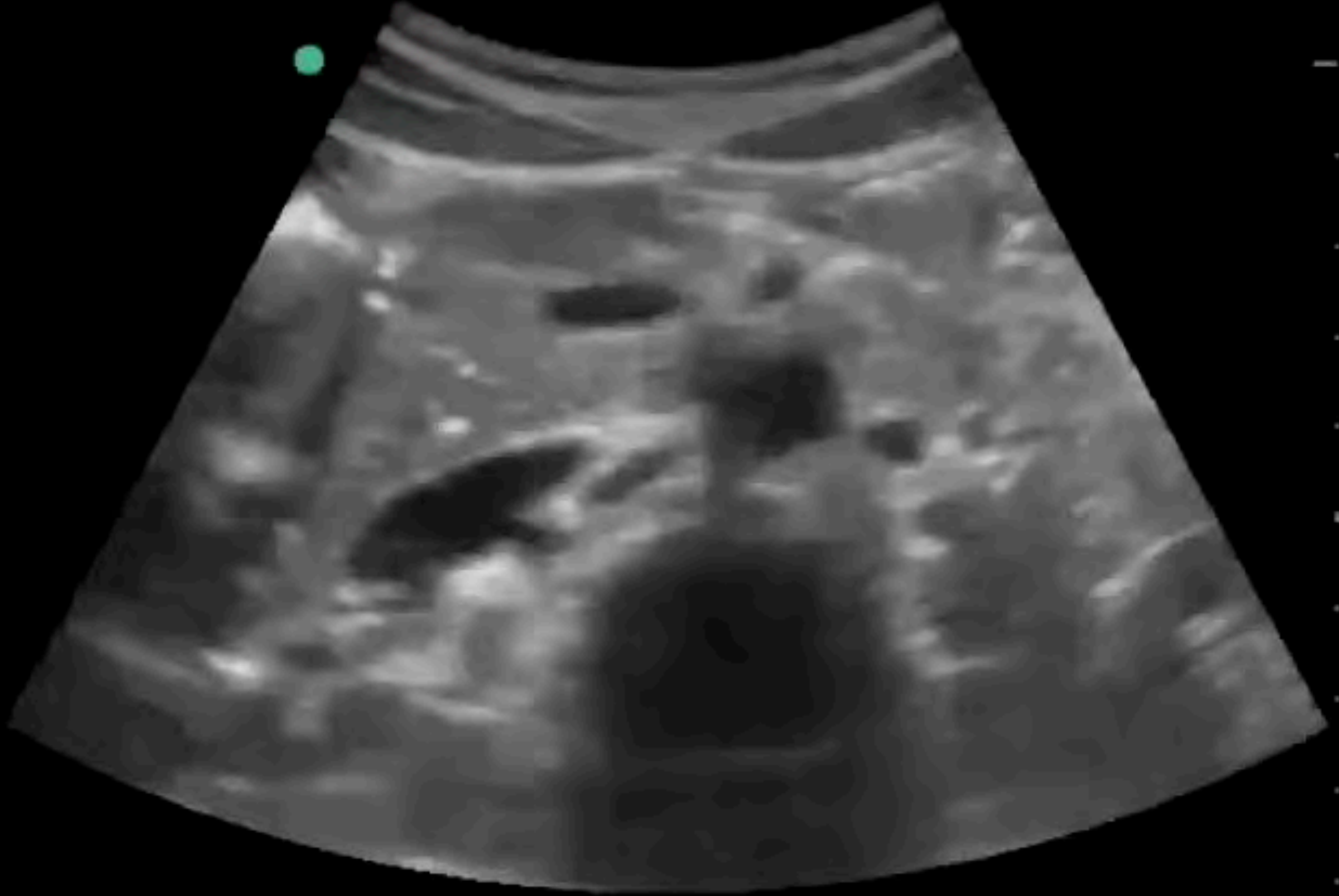
Not a single case of alloimmunisation

ABDOMINAL PAIN

65 yo male comedian with intermittent non-specific lower abdominal pain. Maybe it gets worse after a meal, particularly a large meal. Radiates to the back. He has no chest pain, no epigastric pain, and no other abdominal symptoms.

Ex-smoker. Smoked from age 14 to 55 but quit when his older brother died of lung cancer

BP: 160/88

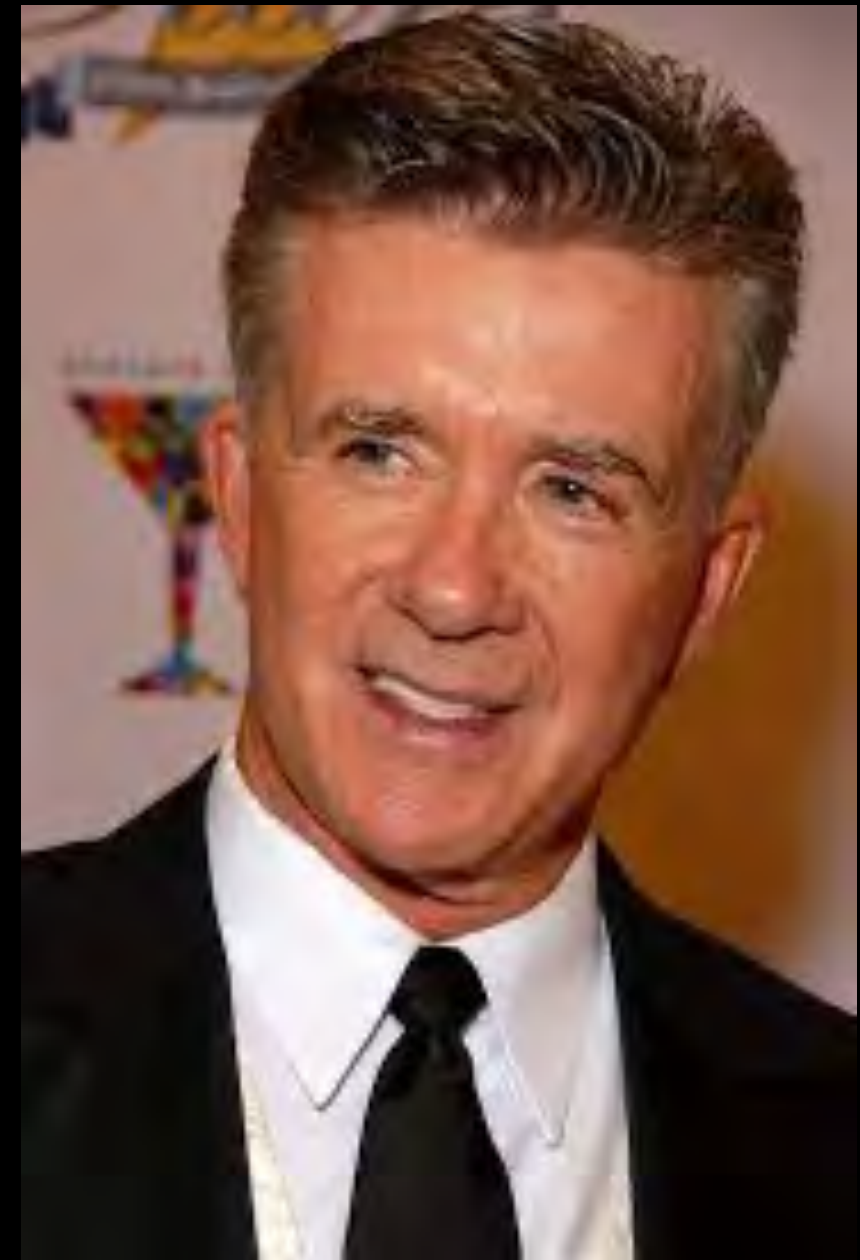




15 cm



15 cm



**CAN YOU DO
THIS SAFELY?**



A Review of Lawsuits Related to Point-of-Care Emergency Ultrasound Applications


Lori Stolz, MD*

Kathleen M. O'Brien, MD†

*University of Arizona, Department of Emergency Medicine, Tucson, Arizona

†Massachusetts General Hospital, Division of Global Health and Human Rights,

Analysis of lawsuits related to diagnostic errors from point-of-care ultrasound in internal medicine, paediatrics, family medicine and critical care in the USA

Michael Reaume,¹ Mehdi Farishta,² Joseph A Costello,³ Tyler Gibb,⁴
Thomas A Melgar ⁵