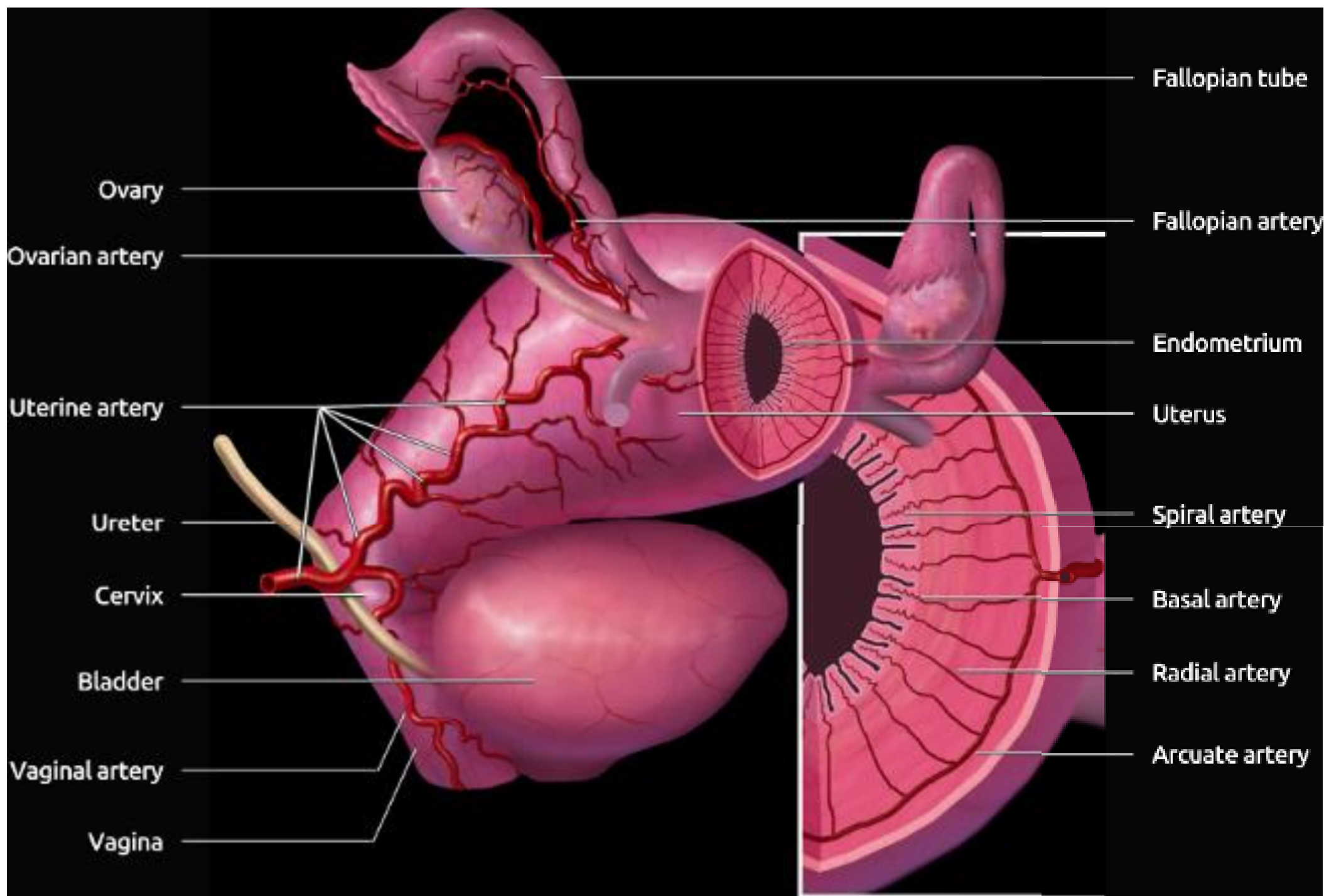


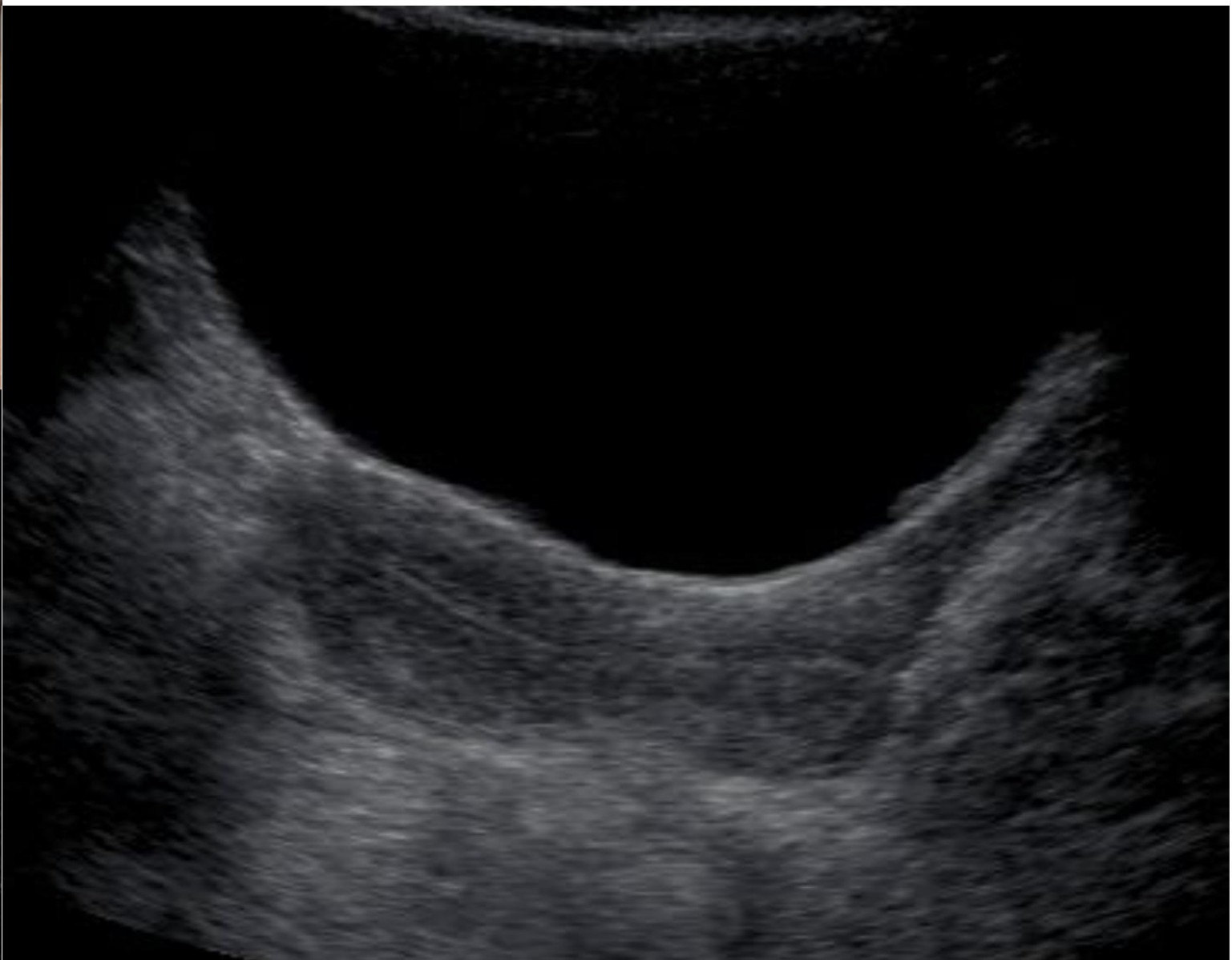
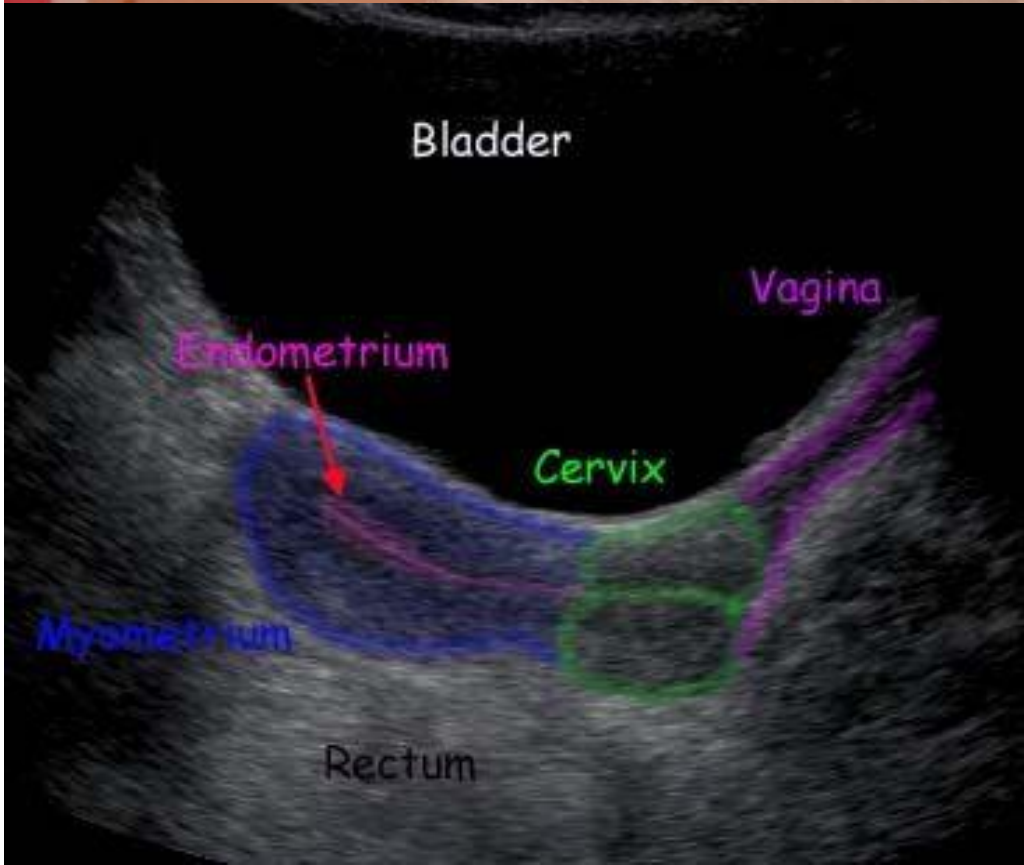
US GYN



Uterus

A sagittal B-mode ultrasound image of the uterus. The uterus is shown as a curved, hypoechoic structure. A yellow crosshair is placed at the top of the uterus, and a yellow line extends from this crosshair to a second yellow crosshair located further down the length of the uterus. The word "Uterus" is written in white text below the measurement line. The background is dark, and the uterine wall shows characteristic echogenic patterns.





normal anteverted uterus



排卵前？
排卵後？

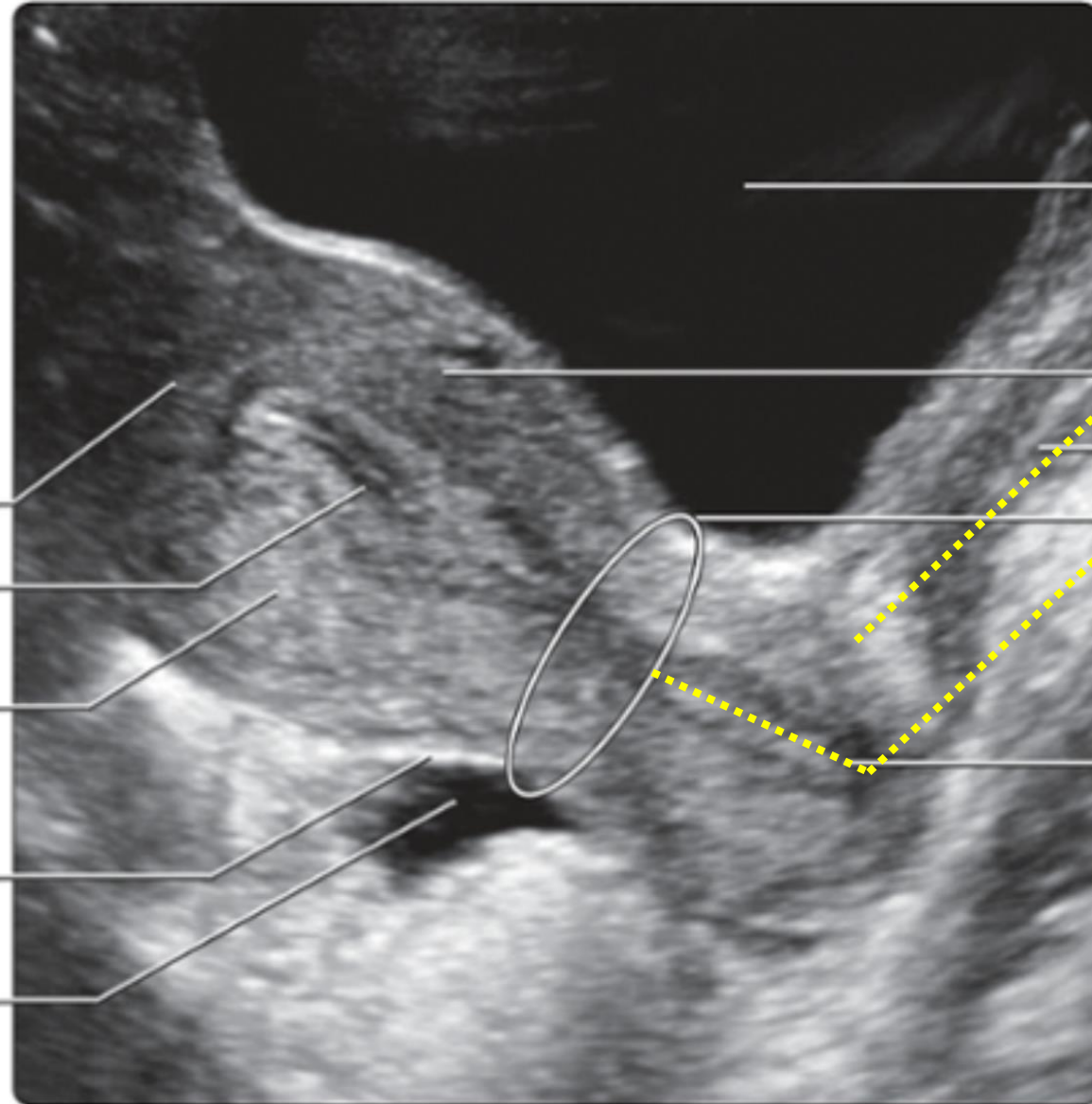
4

5

6

Parametrium

7



Bladder

3

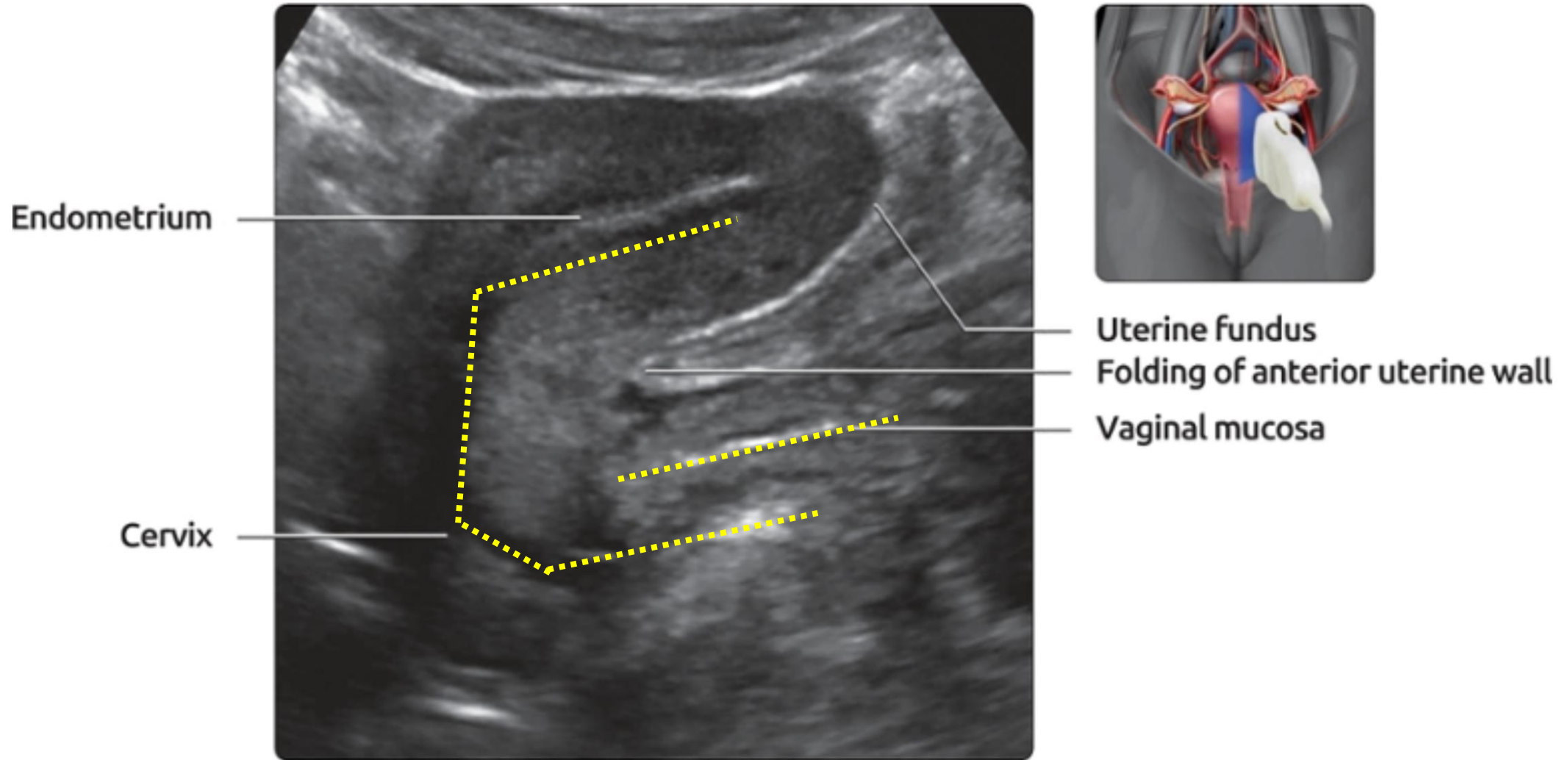
1

Isthmus

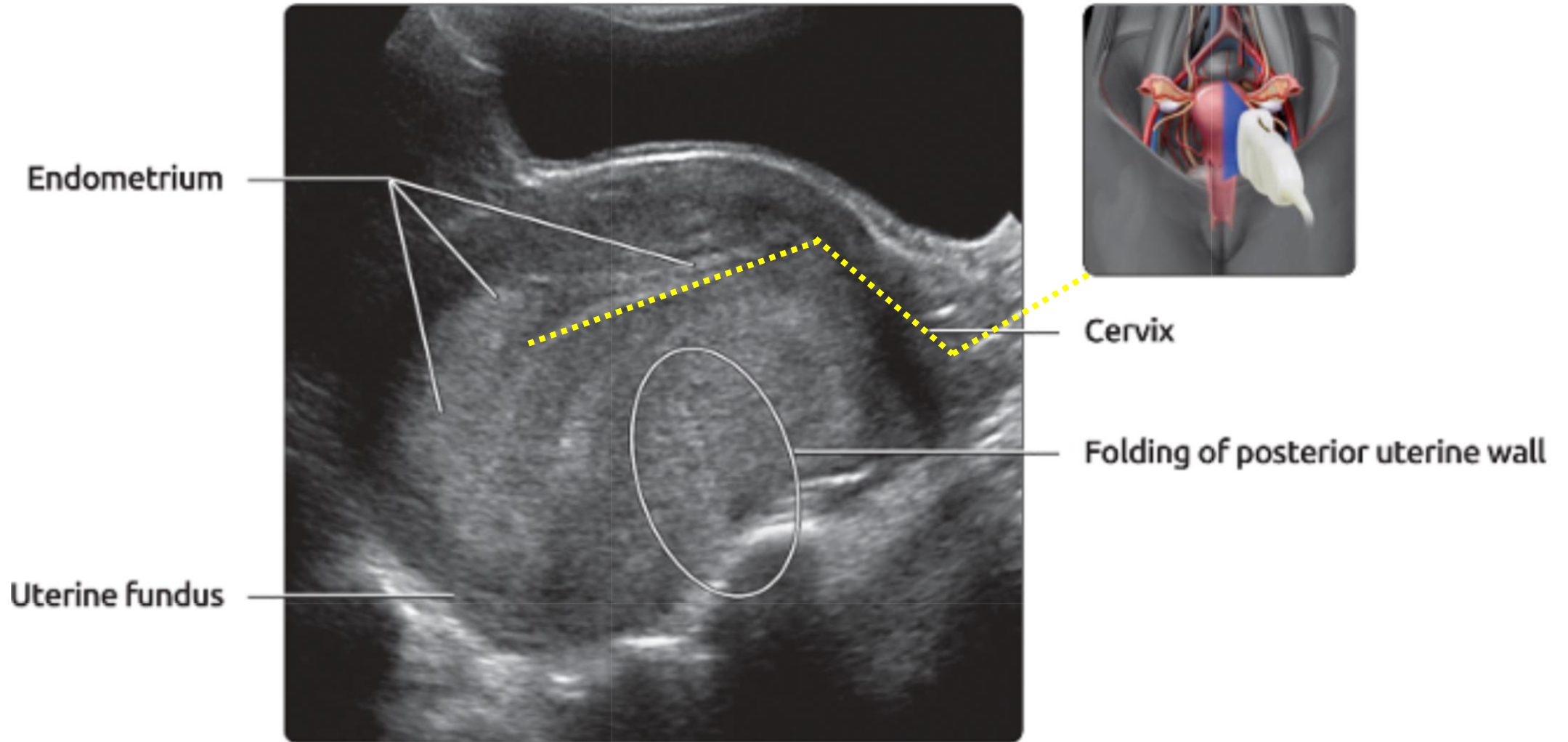
2

7

anteverted, anteflexed uterus

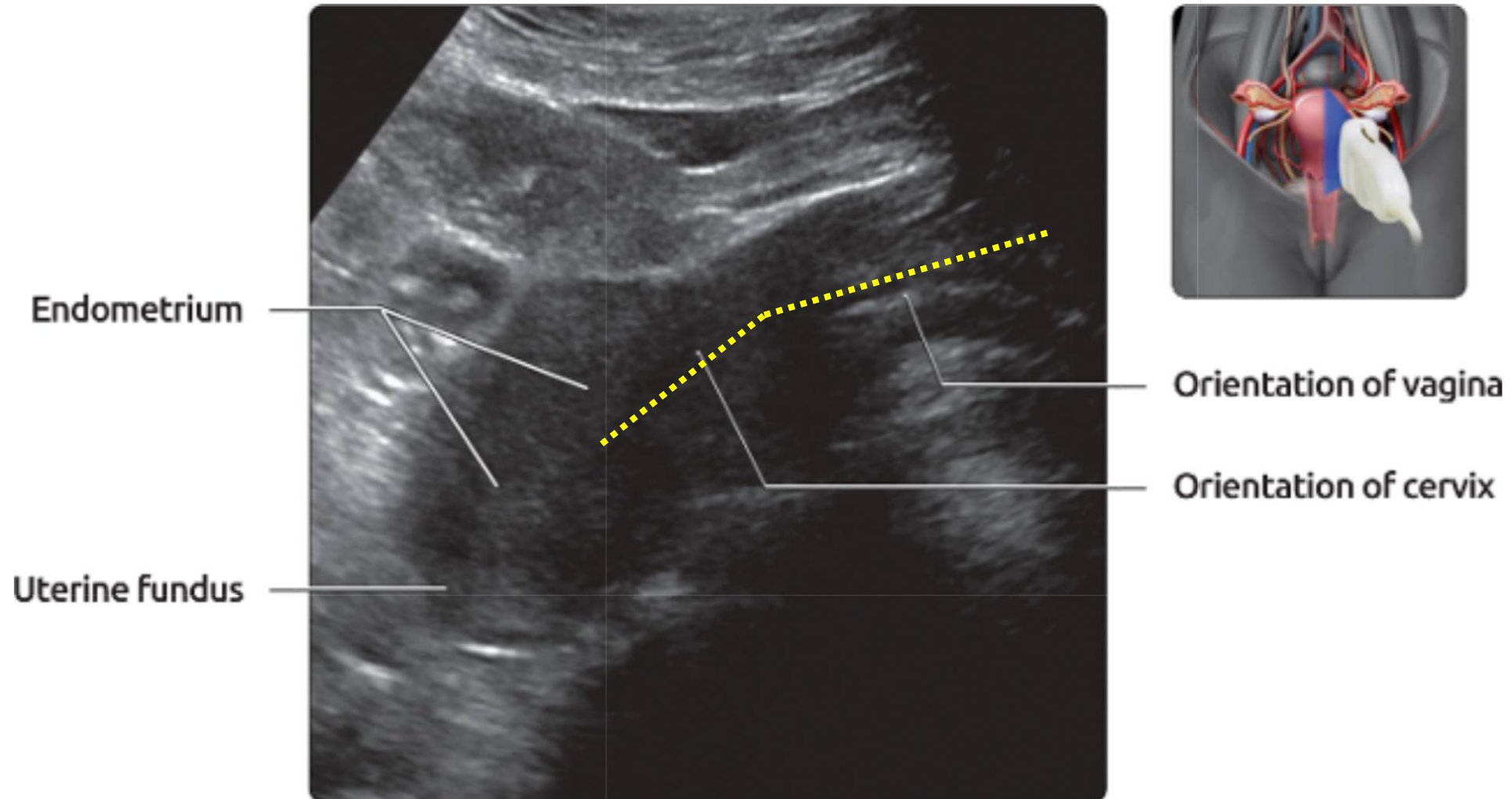


anteverted uterus with exaggerated retroflexion



retroverted uterus

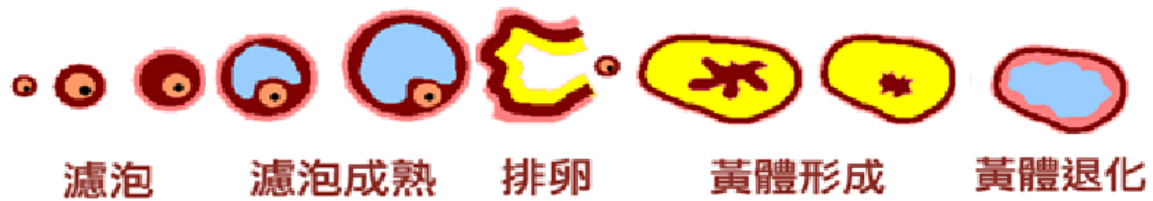
frequently limits transabdominal evaluation of the uterus



Uterine Variations with Age

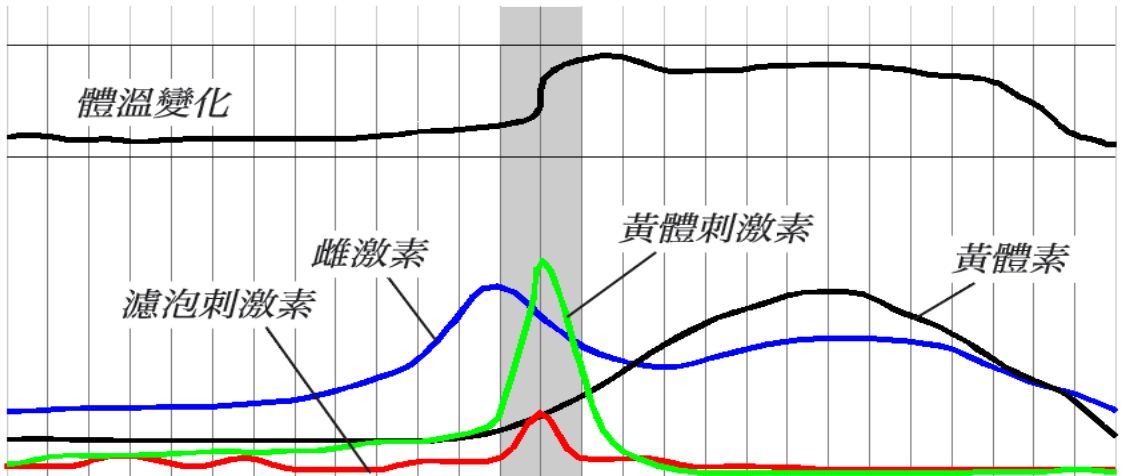
- Infantile: Corpus < cervix (1:2)
- Prepubertal: Corpus = cervix (1:1)
- Reproductive: Corpus > cervix (2:1)
 - 7.5-9.0 cm (length)
 - 4.5-6.0 cm (breadth)
 - 2.5-4.0 cm (thickness)

卵巢變化



37°C
36°C

荷爾蒙變化

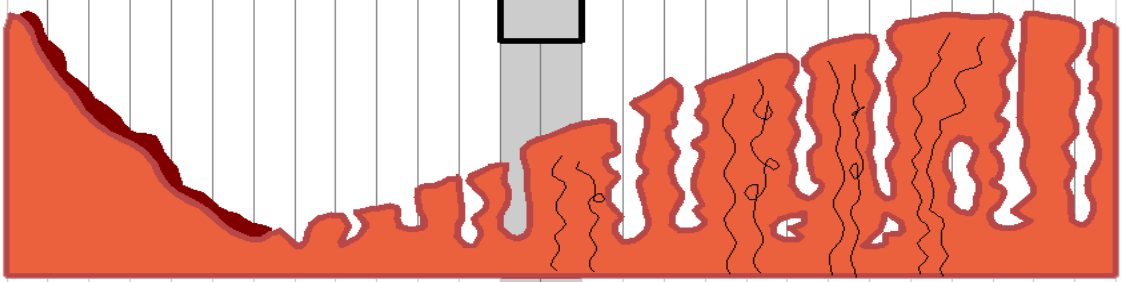


濾泡期 黃體期

月經來潮

排卵

子宮內膜變化



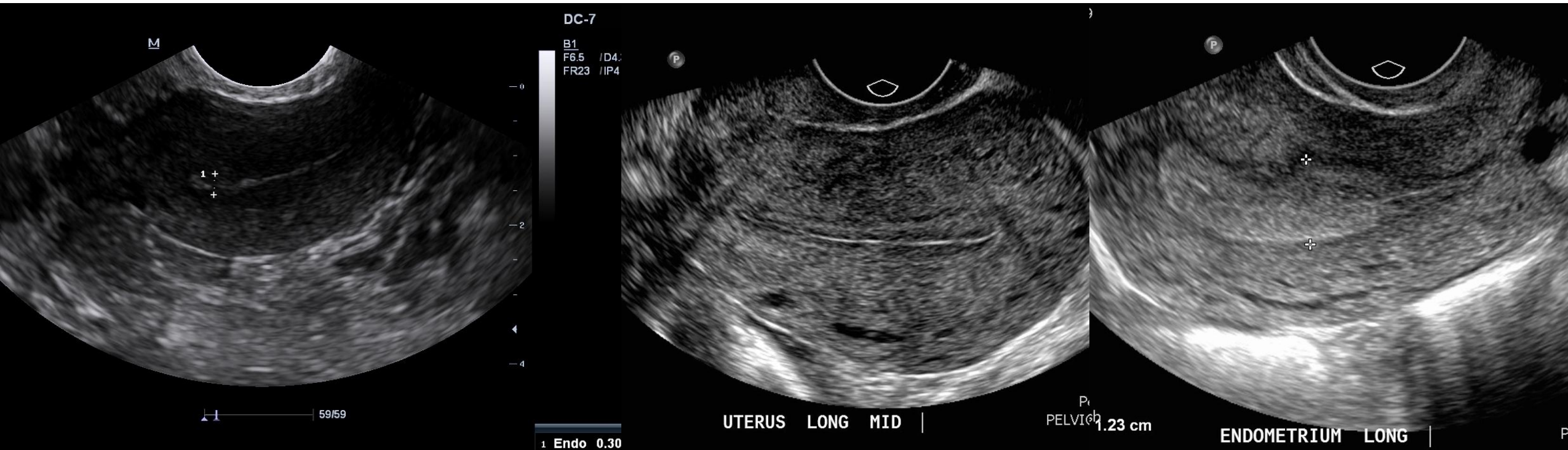
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

月經週期 (平均天數)

月經 增生期 分泌期

Endometrium

- Proliferative phase
 - Early: Thin single echogenic line
 - Progressive hypoechoic thickening (4-8 mm), classic **trilaminar appearance**
- Secretory phase
 - Increased echogenicity and thickening up to 16 mm
- Menstrual phase
 - Early: Cystic areas within echogenic endometrium indicating endometrial breakdown
 - Progressive heterogeneity with mixed cystic (blood) and hyperechoic (clot or sloughed endometrium) regions

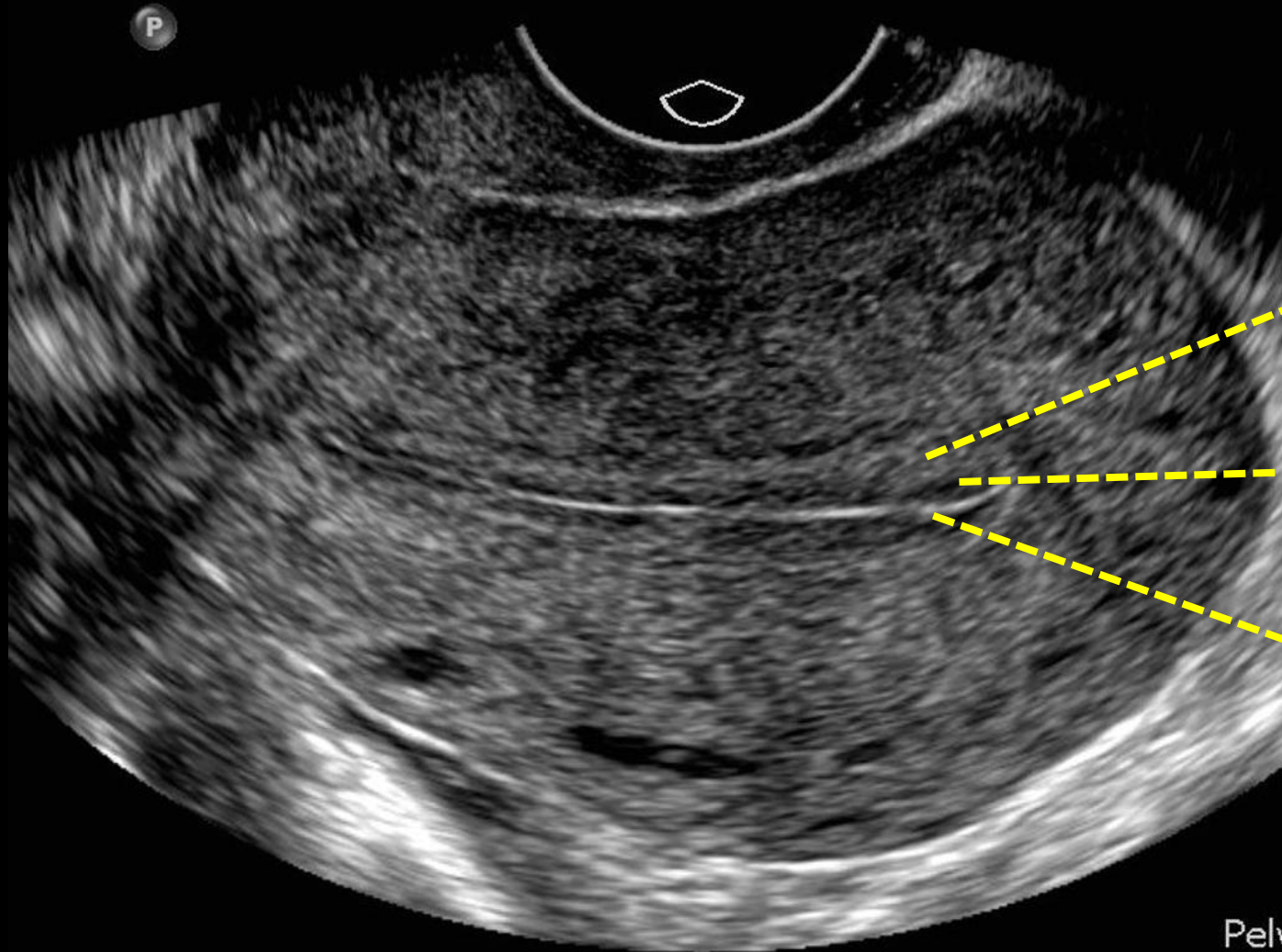


Menstrual phase

Proliferative phase

Secretory phase

Proliferative phase, 增生期



trilaminar appearance

outer echogenic basal layer

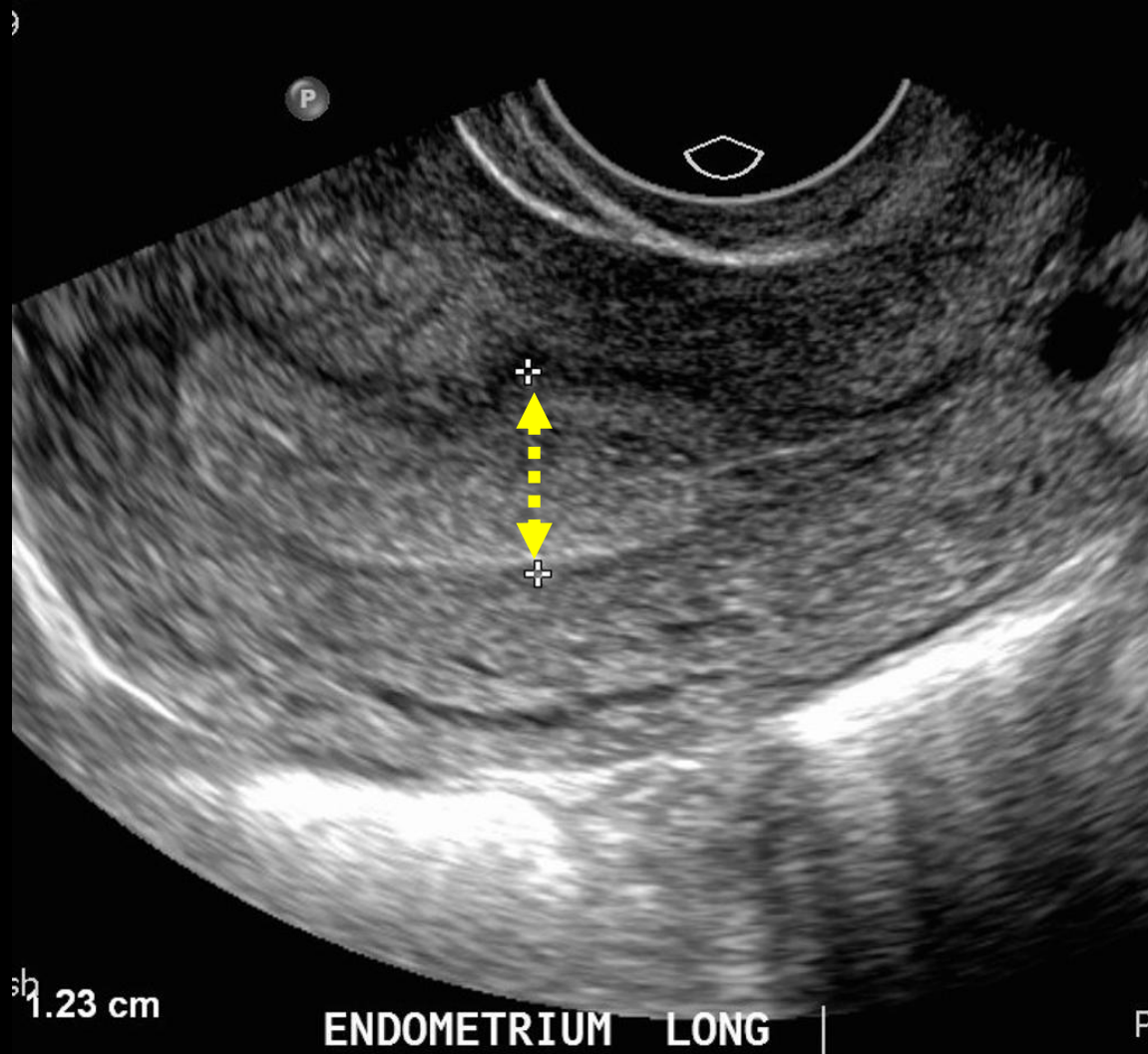
middle hypoechoic
functional layer

inner echogenic stripe

UTERUS LONG MID |

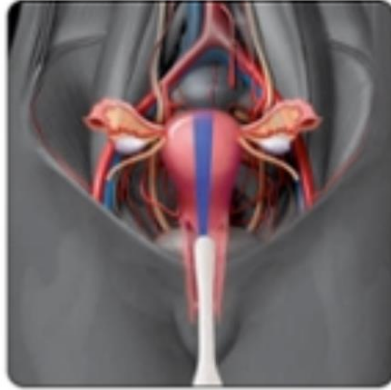
Pelvic
PELVIC U

Secretory phase , 分泌期

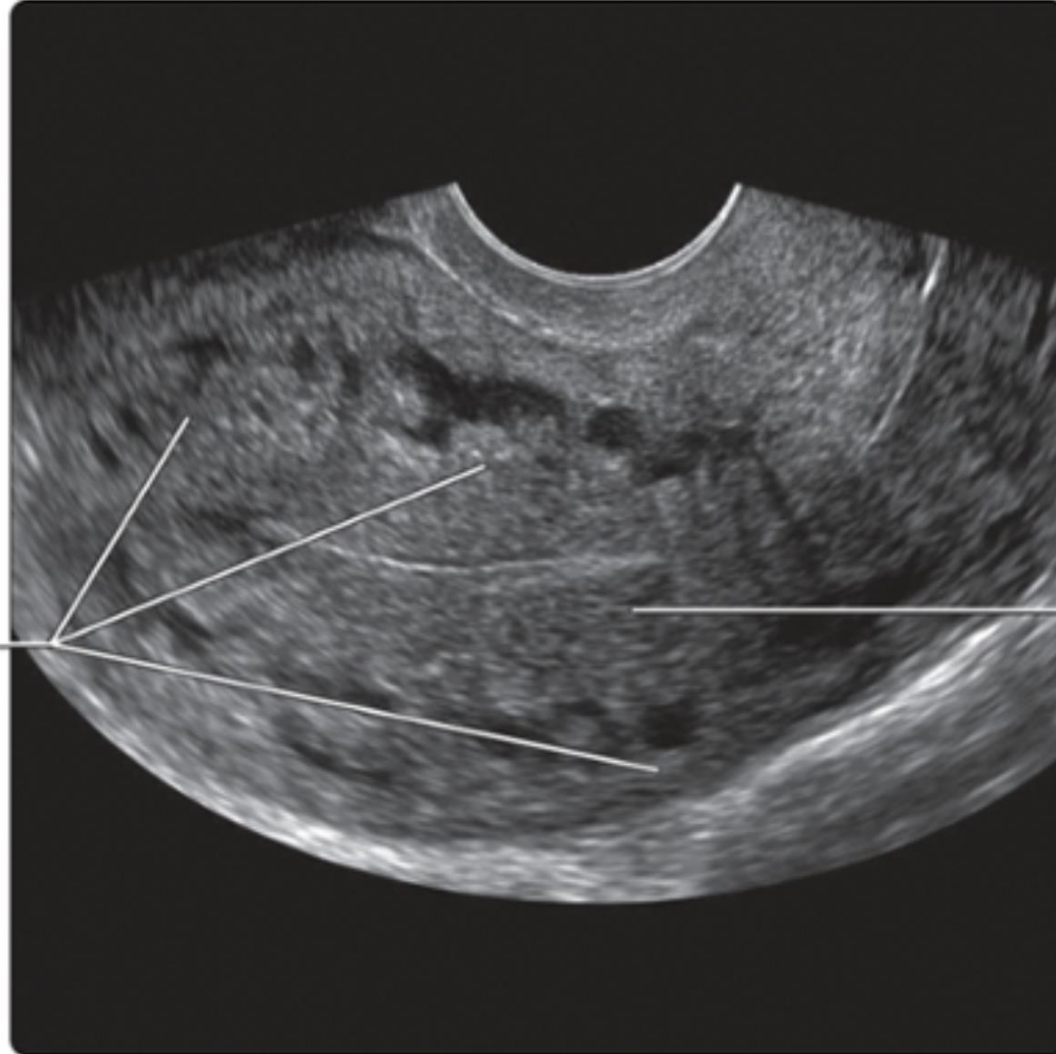


uniformly echogenic

early proliferative phase 增生早期

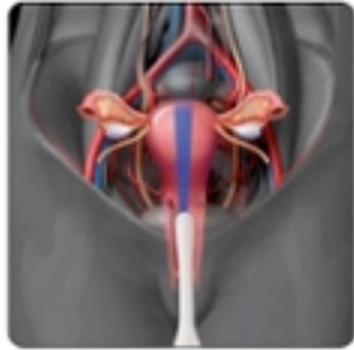


Arcuate arteries and veins



Endometrium

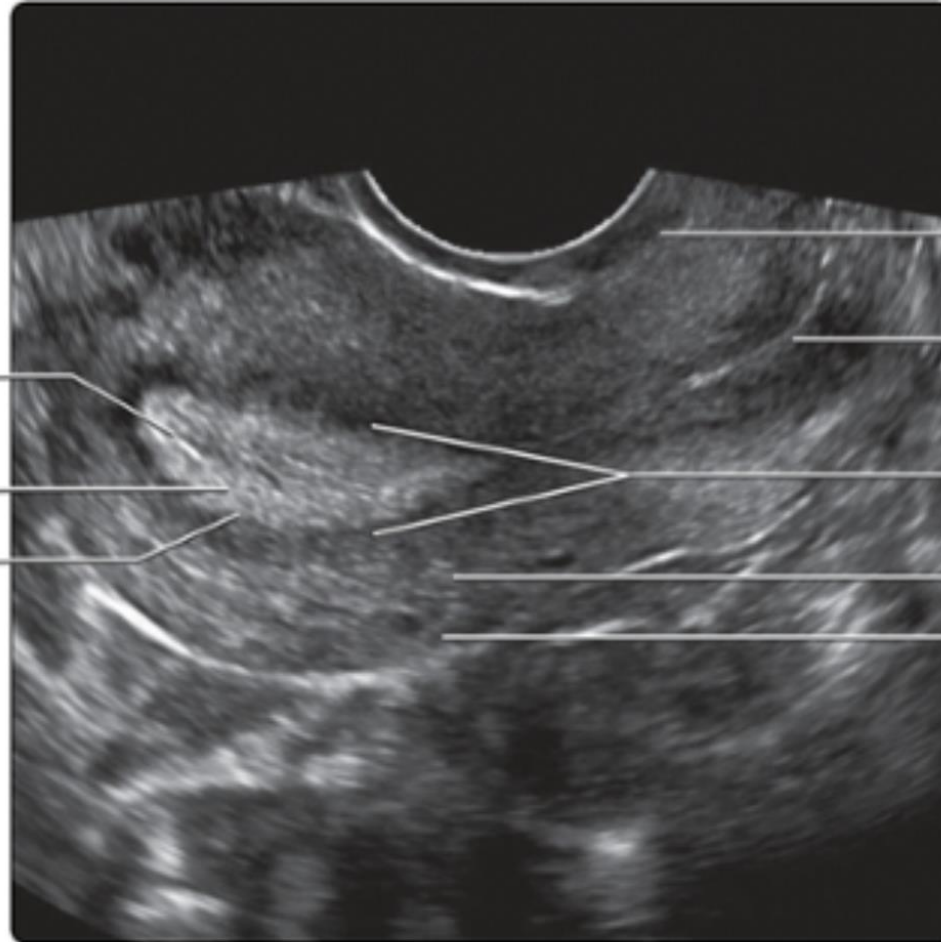
secretory phase 分泌期



Central line of endometrium

Inner functional layer of endometrium

Basal layer of endometrium



Anterior vaginal fornix

Cervical canal

Inner zone of myometrium

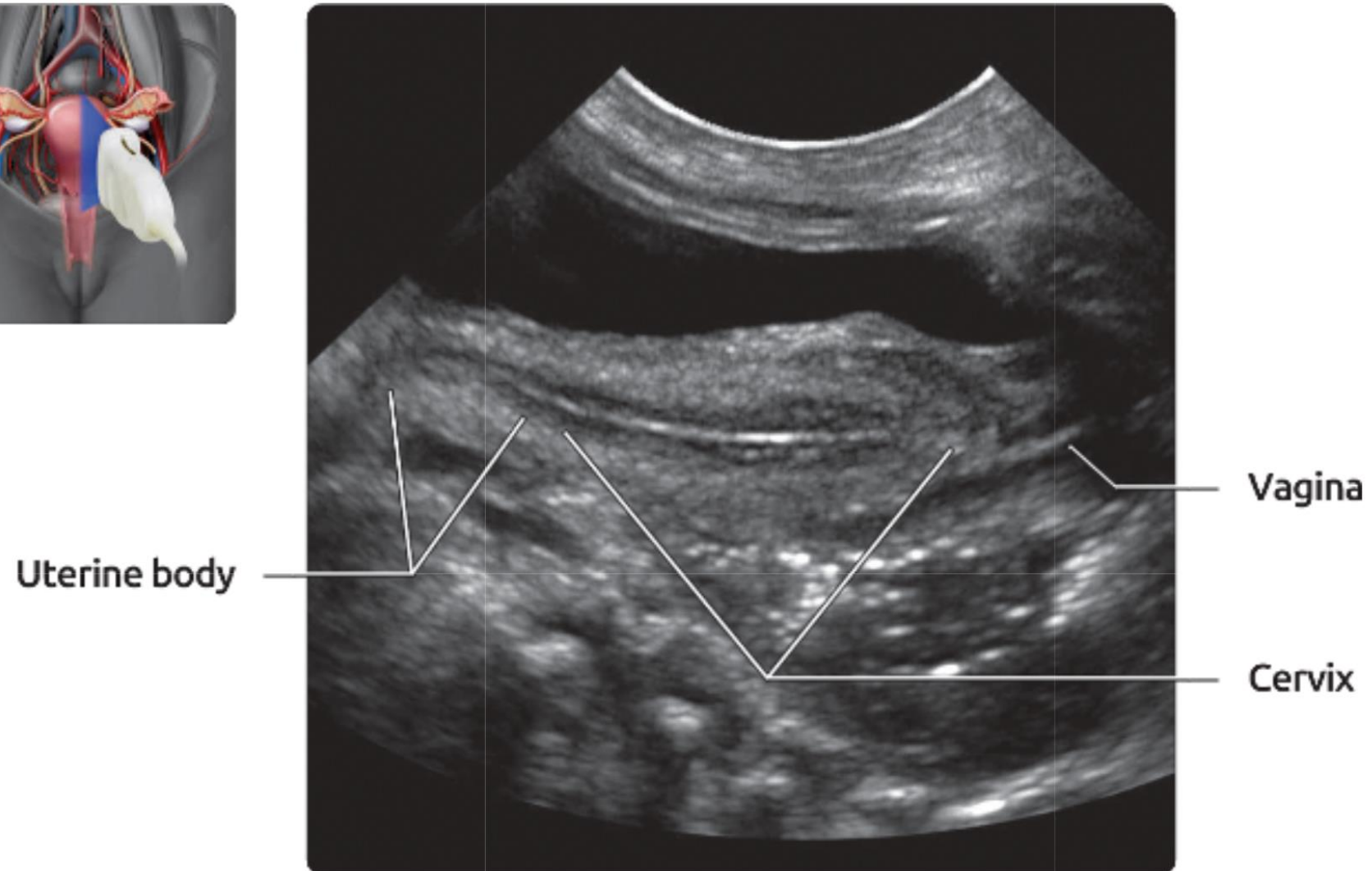
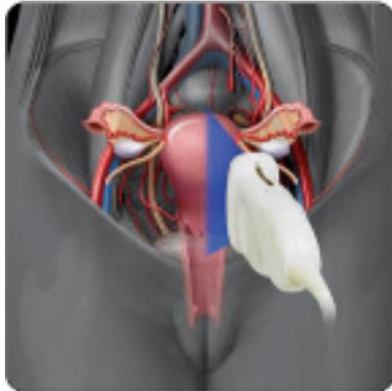
Middle zone of myometrium

Outer zone of myometrium

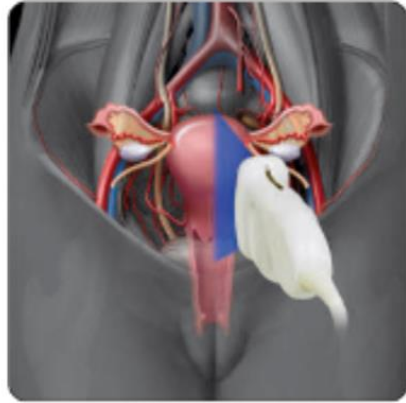
Premenopausal endometrial thickness

- during menstruation: 2-4 mm
 - early proliferative phase (day 6-14): 5-7 mm
 - late proliferative / preovulatory phase: up to 11 mm
 - secretory phase: 7-16 mm
-
- following D & C: > 5 mm \rightarrow consider retained products of conception

neonatal uterus (day 2)

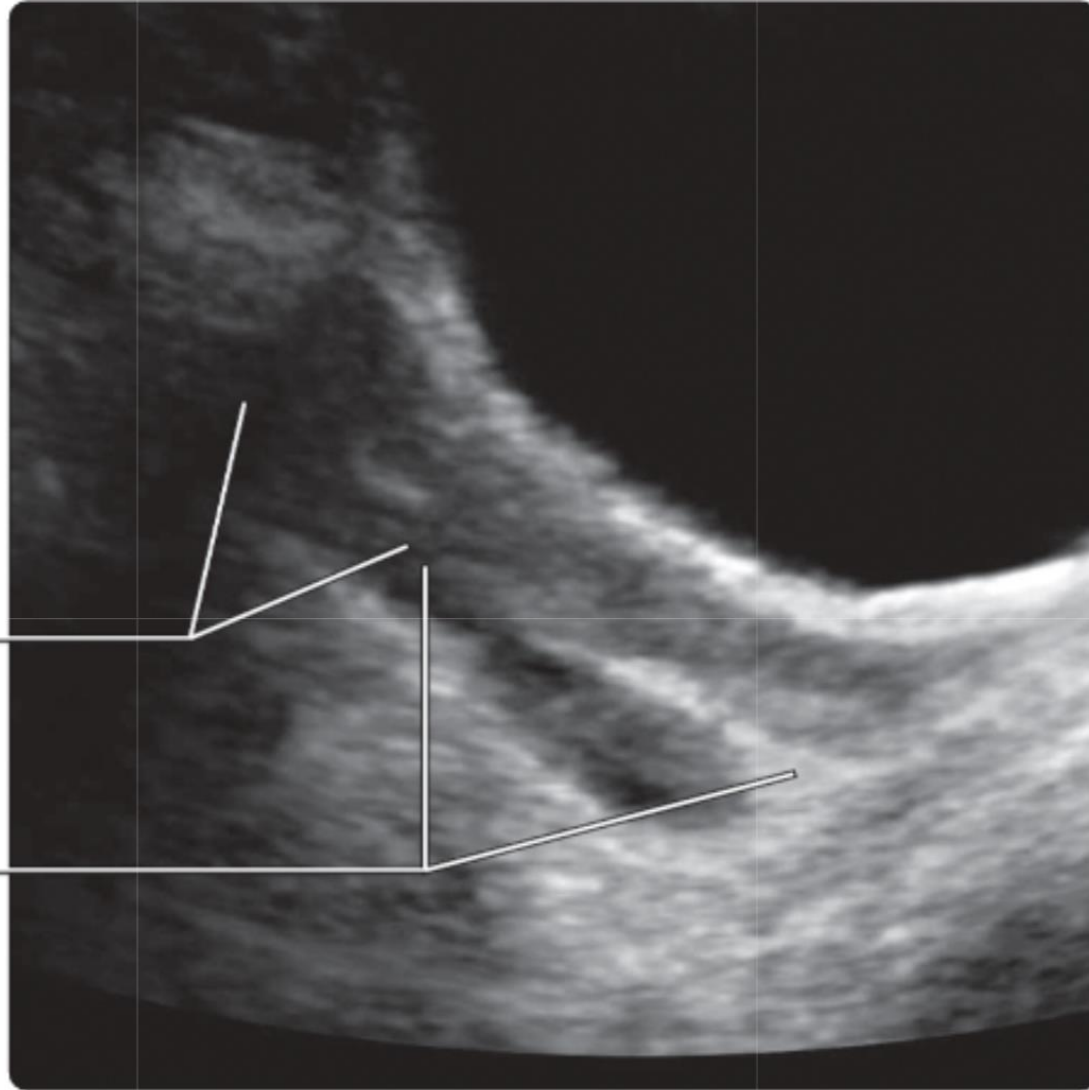


prepubertal uterus(8 Y/O)



Uterine body

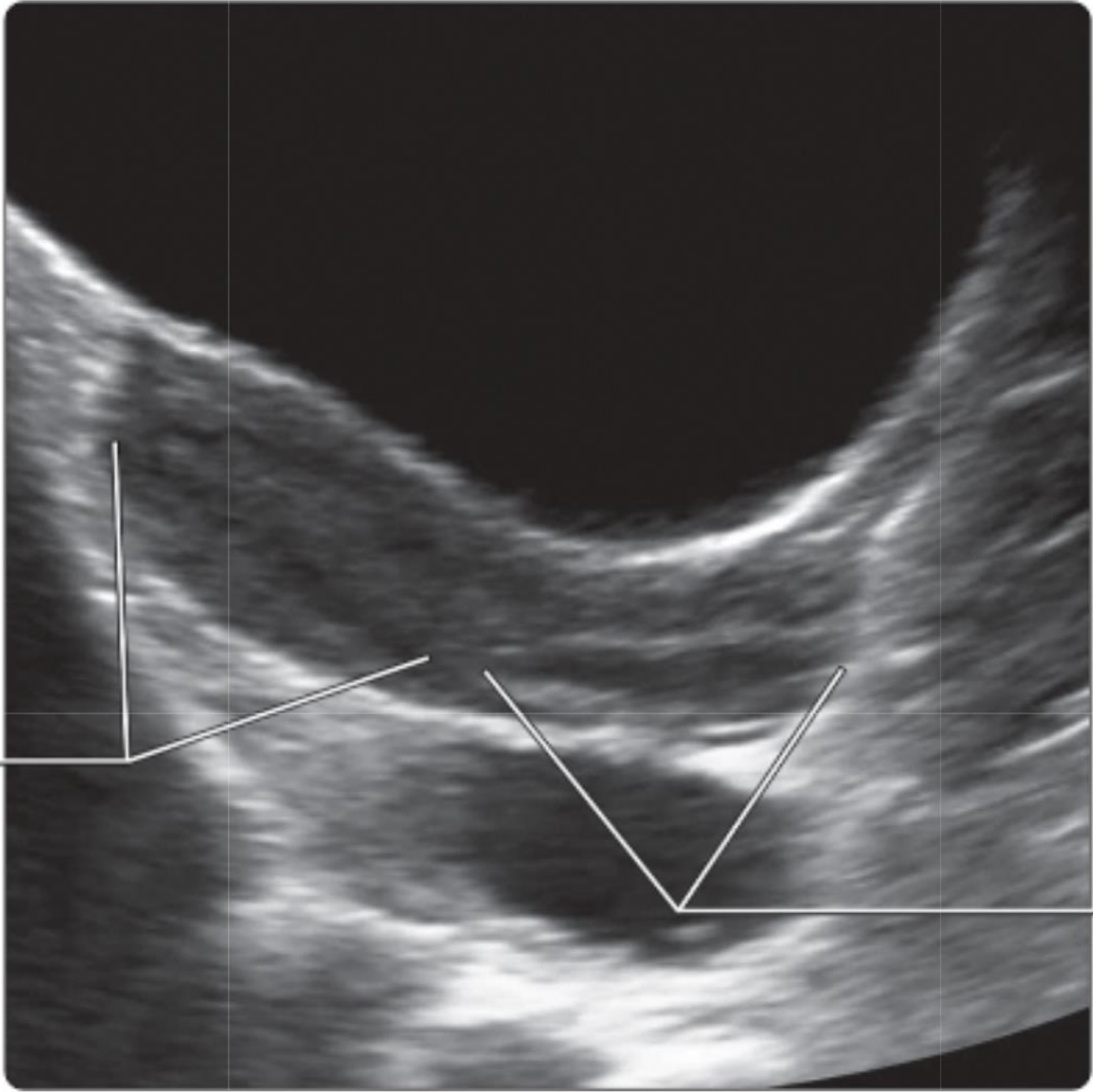
Cervix



early pubertal uterus (12 Y/O)

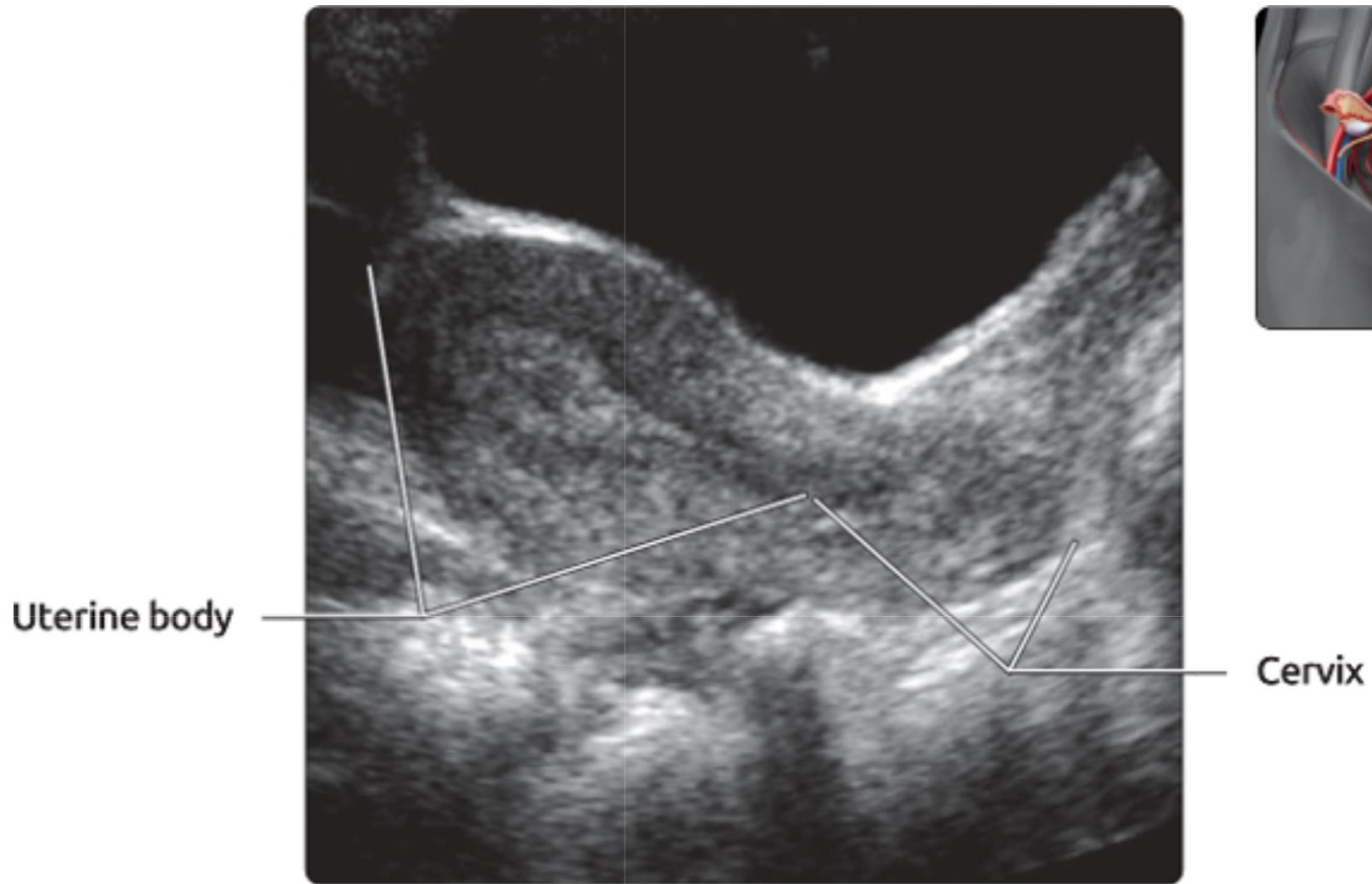


Uterine body

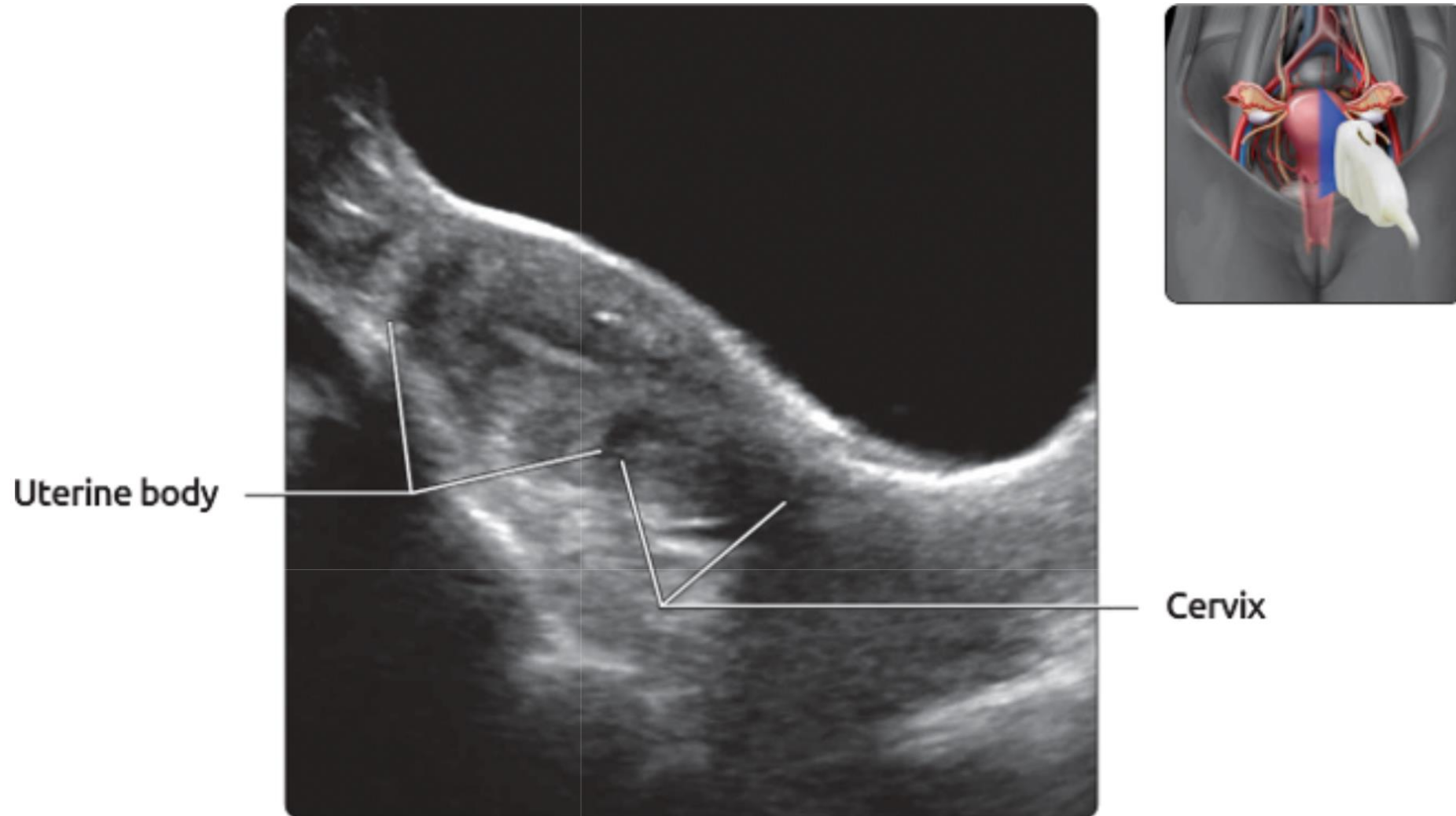


Cervix

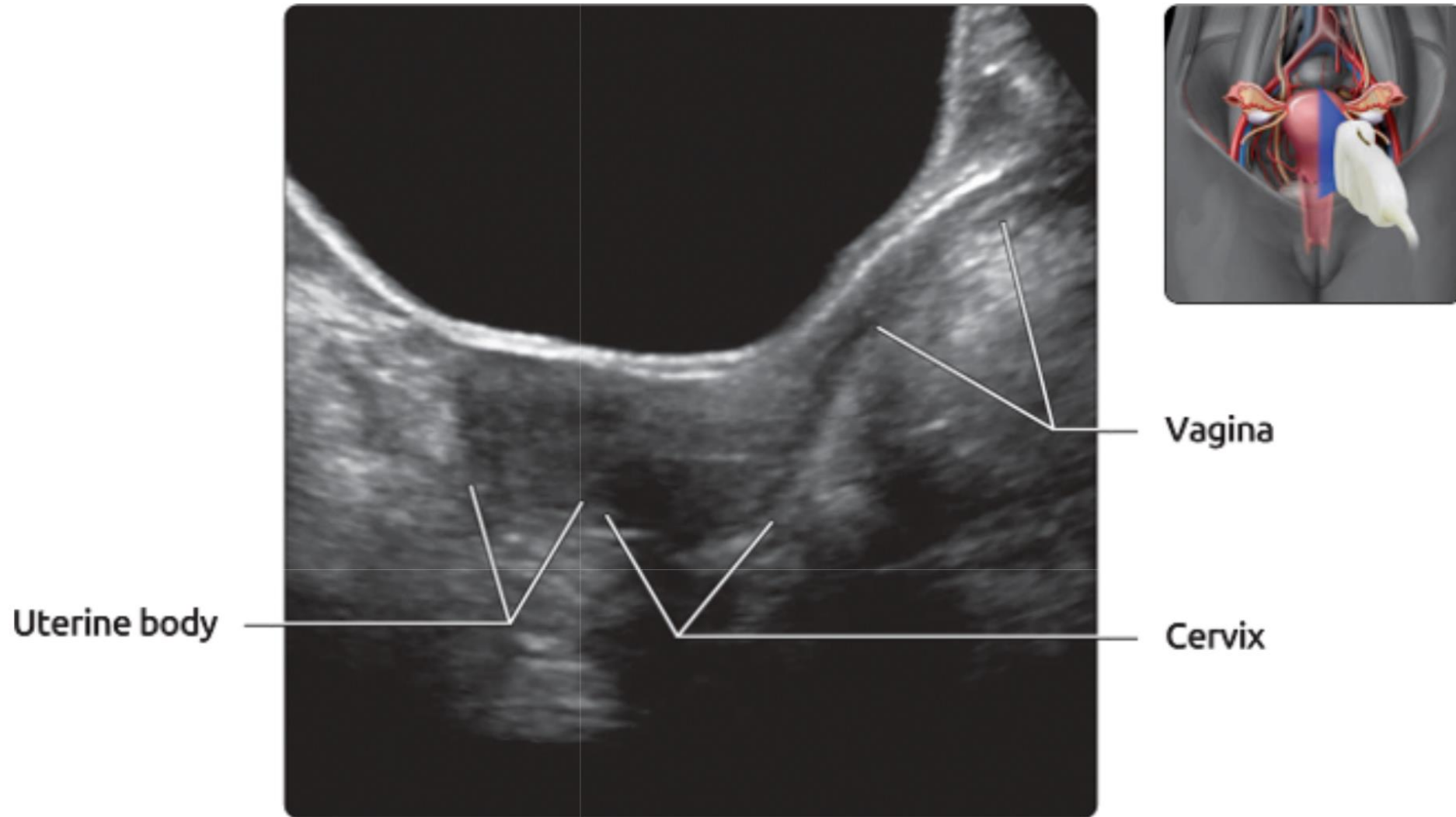
nulliparous (未產婦的) uterus



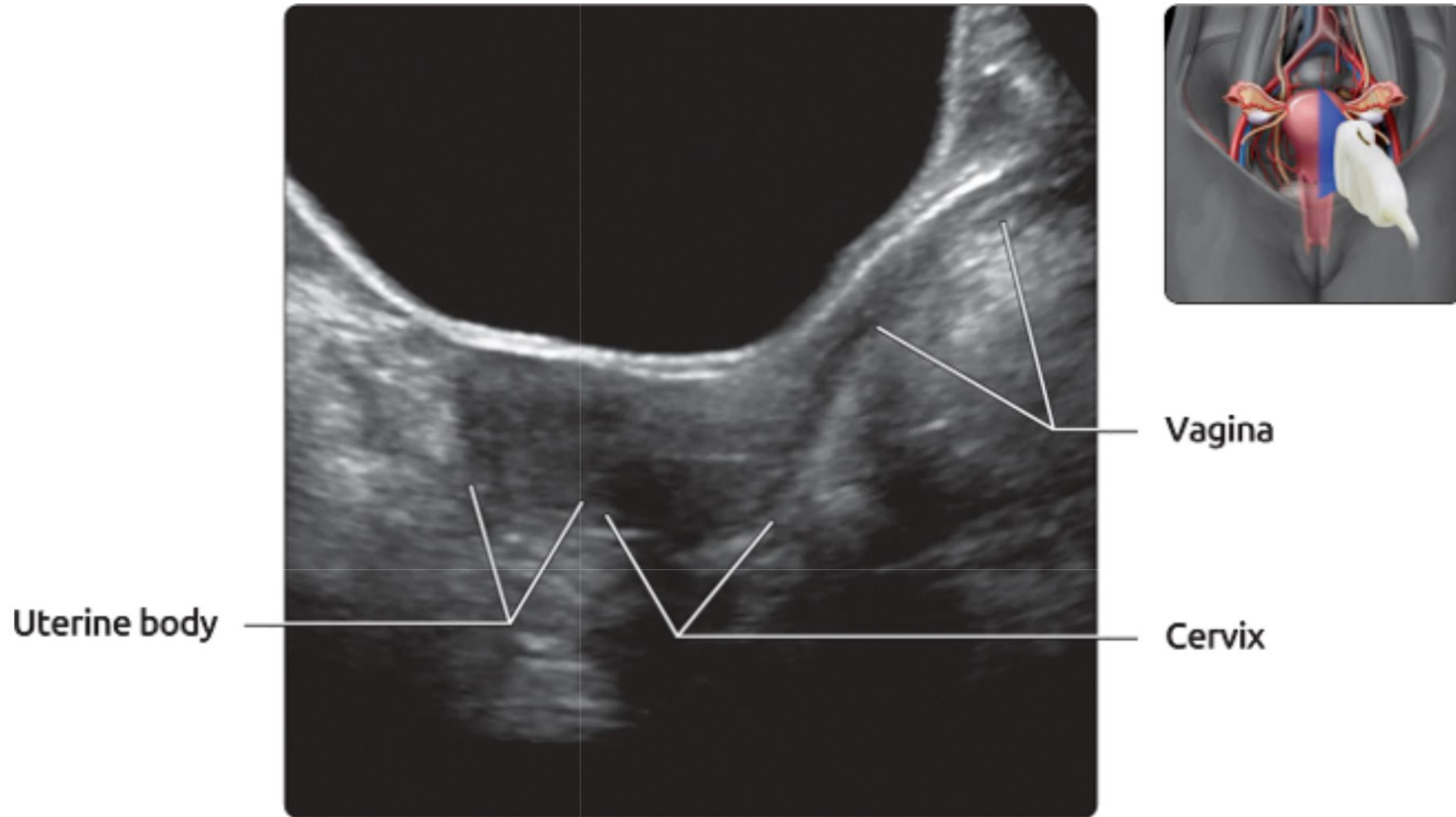
early postmenopausal uterus



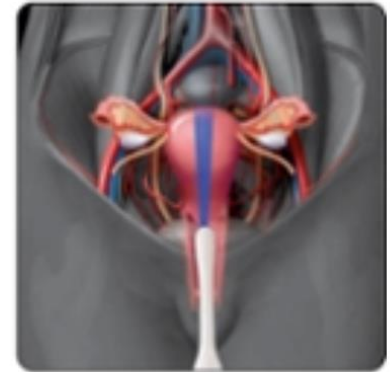
later postmenopausal uterus



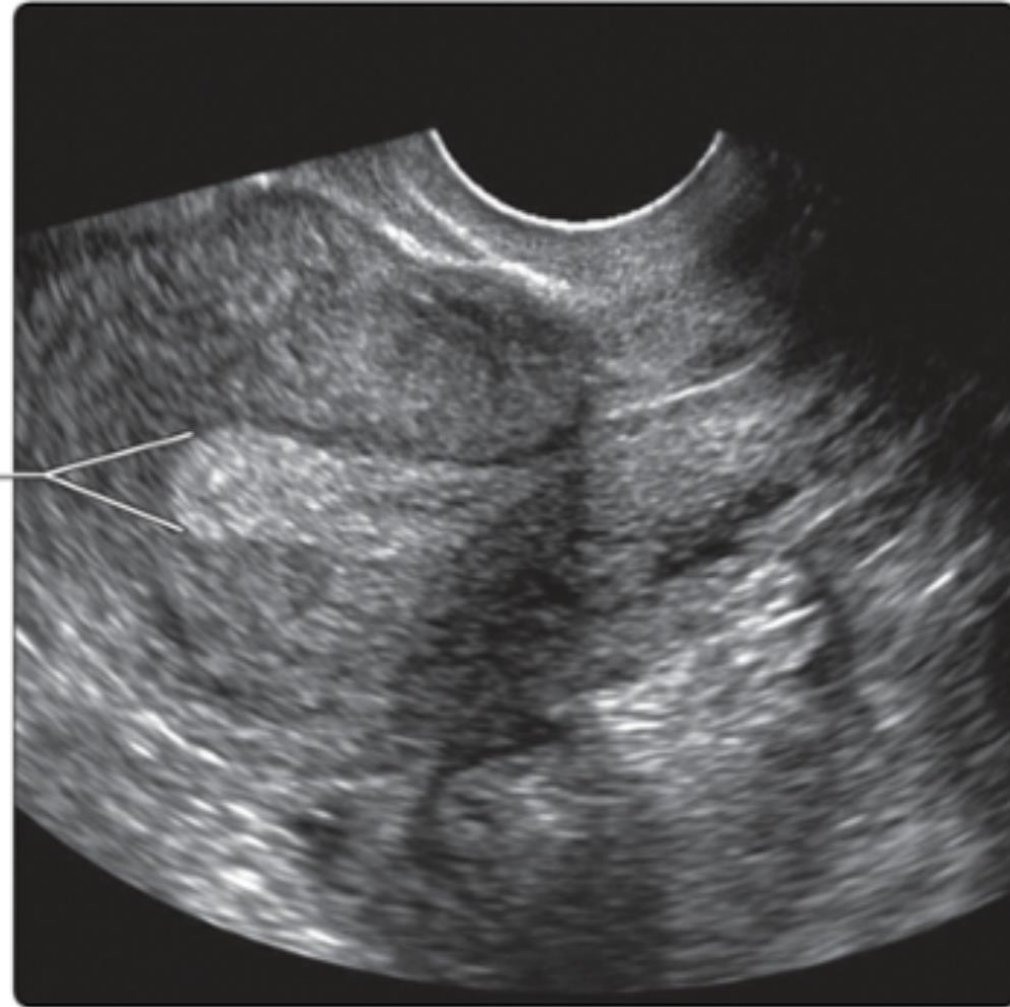
later postmenopausal uterus



early secretory phase

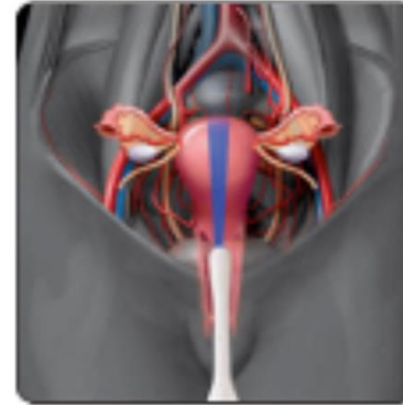
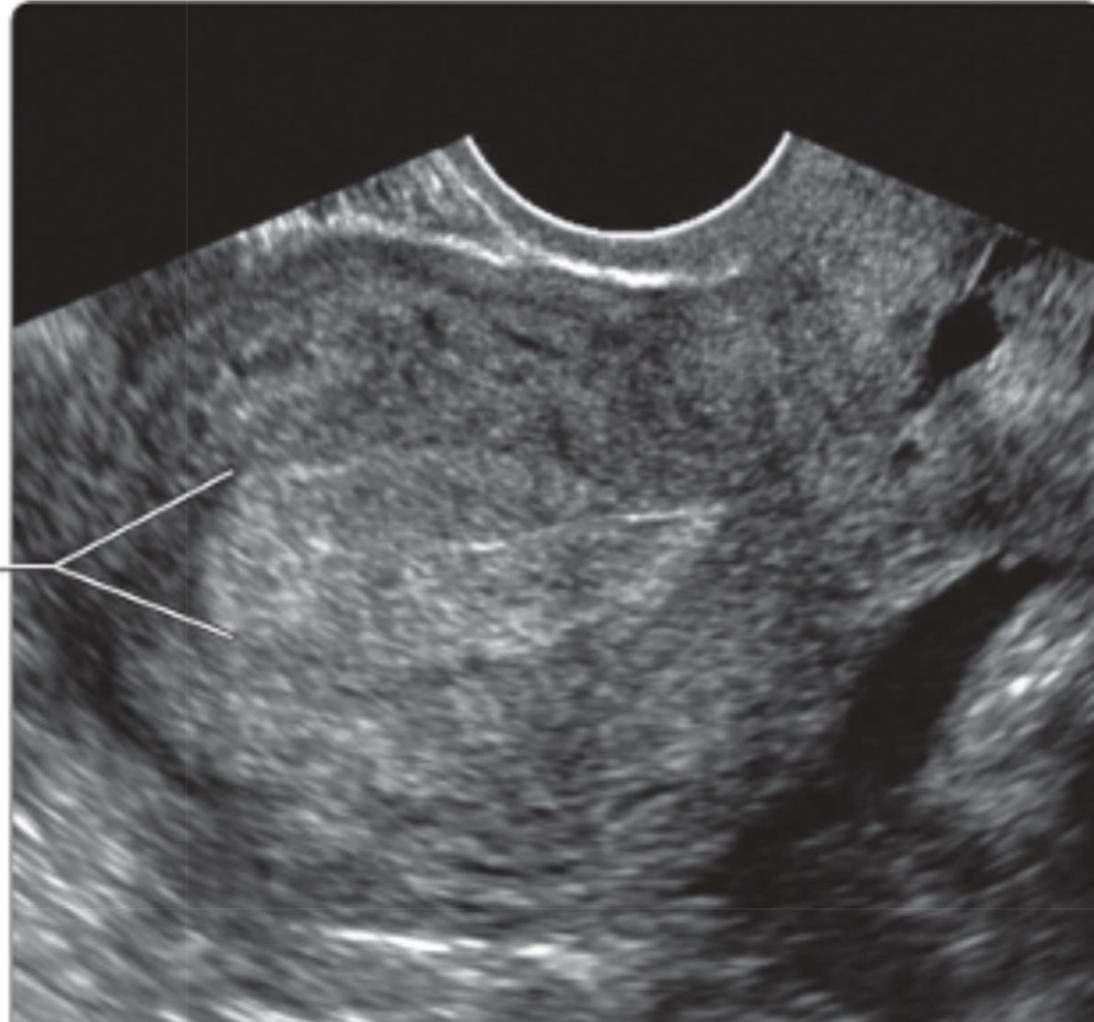


Endometrium, early secretory phase



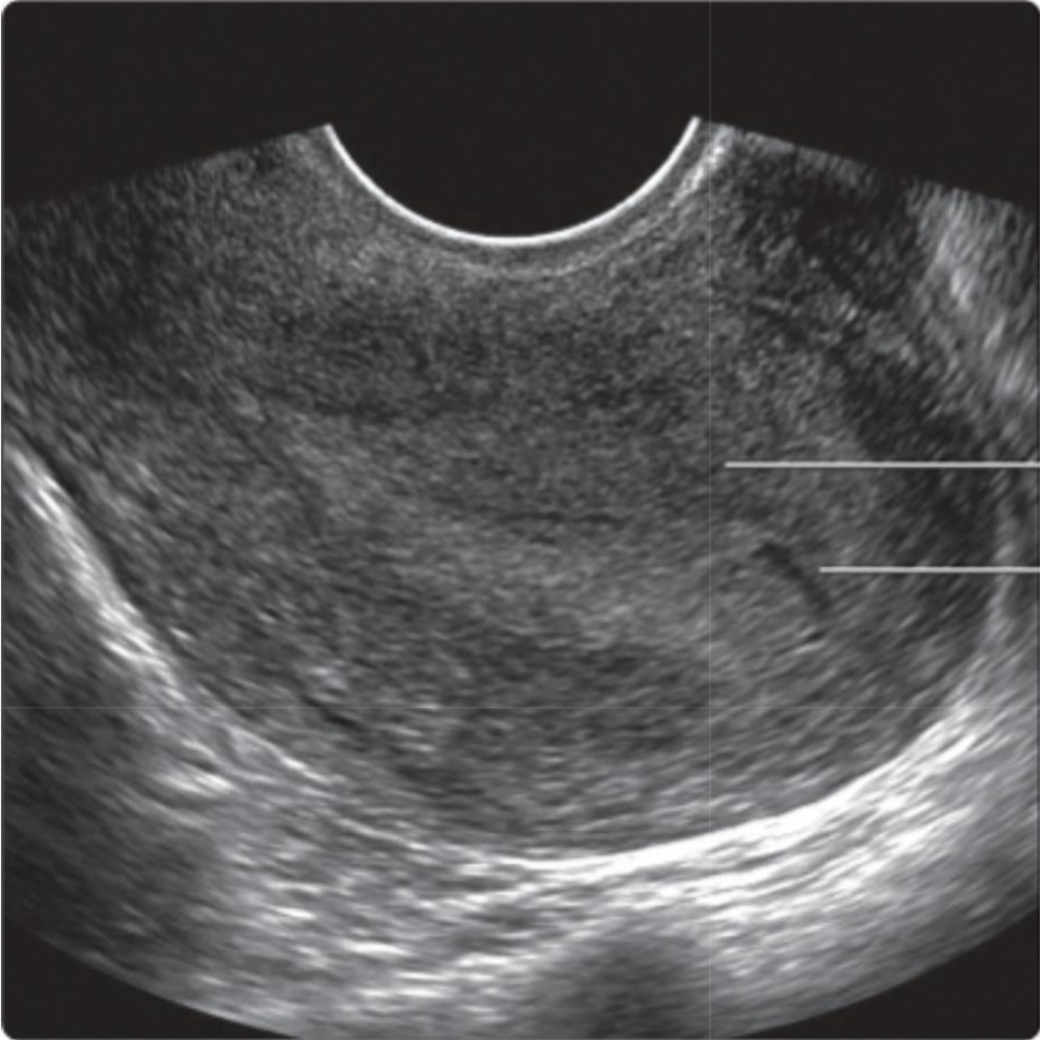
late secretory phase

Endometrium, secretory phase



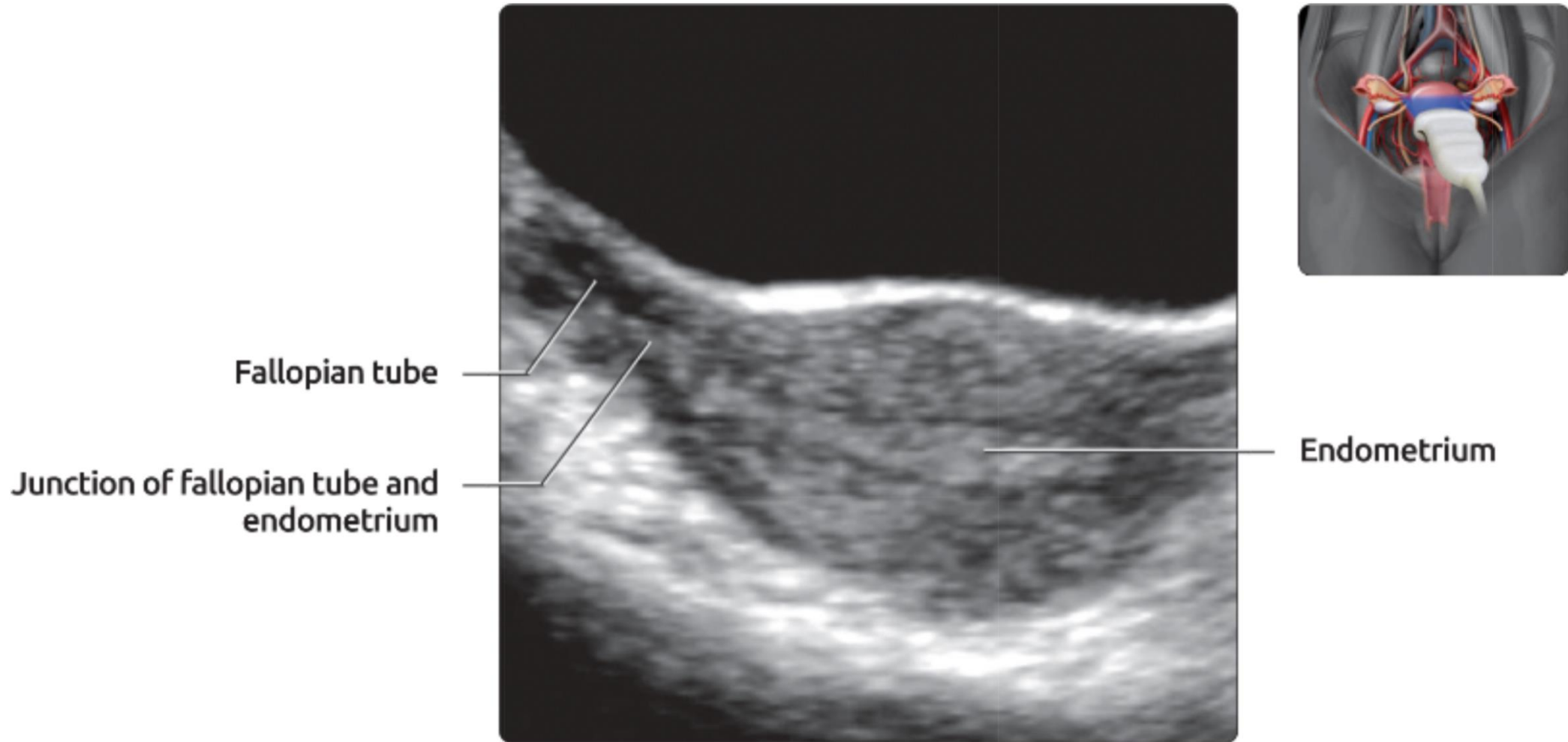
thickened endometrium just prior to menstruation

A small amount of fluid can be seen within the endometrial cavity



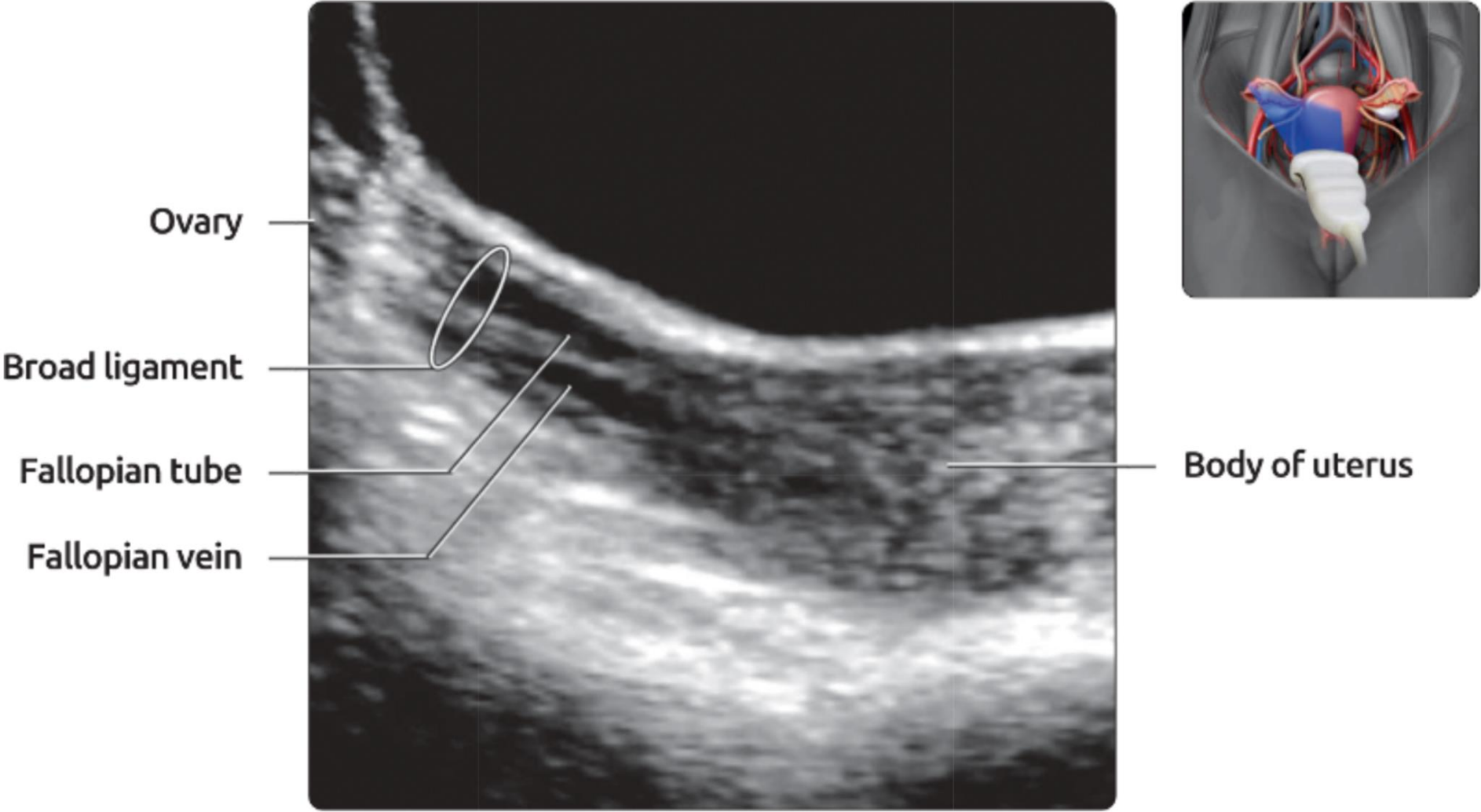
Shedding endometrium, onset of menstruation
Trace fluid in canal

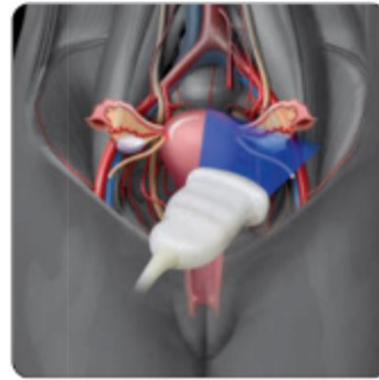
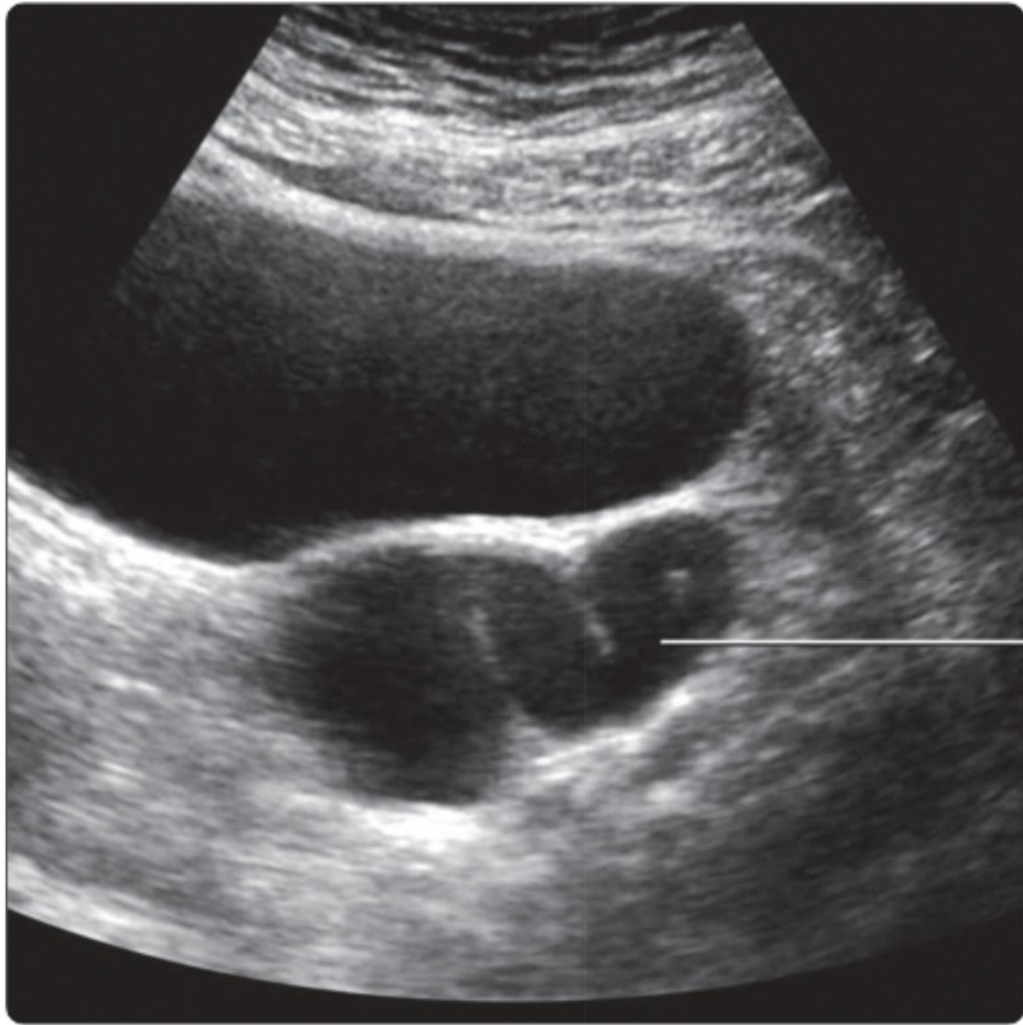
interstitial portion of the fallopian tube



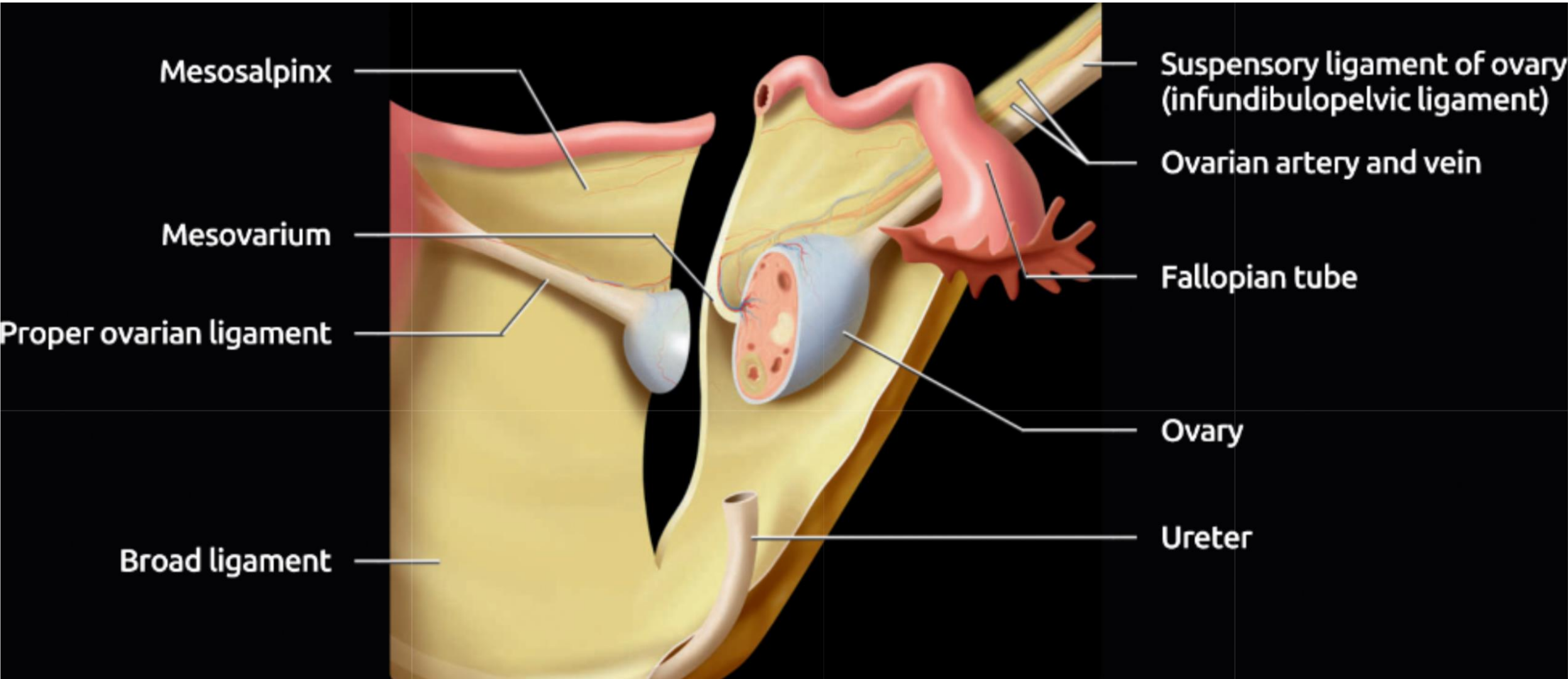
fallopian tube with peristaltic movement

fallopian vessel running parallel to the tube





Hydrosalpinx



Mesosalpinx

Mesovarium

Proper ovarian ligament

Broad ligament

Suspensory ligament of ovary (infundibulopelvic ligament)

Ovarian artery and vein

Fallopian tube

Ovary

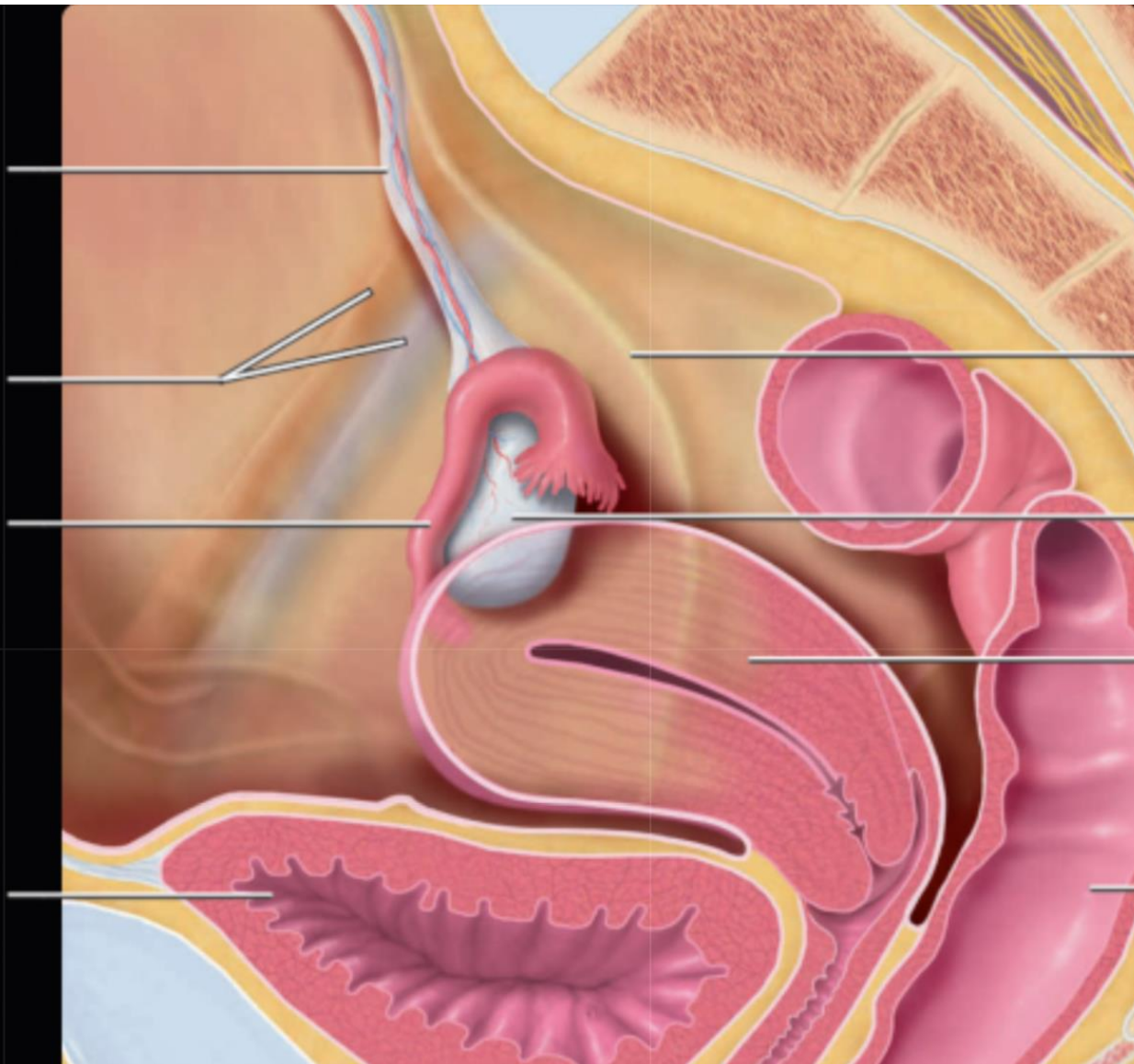
Ureter

Suspensory ligament of ovary

External iliac vessels

Fallopian tube

Urinary bladder



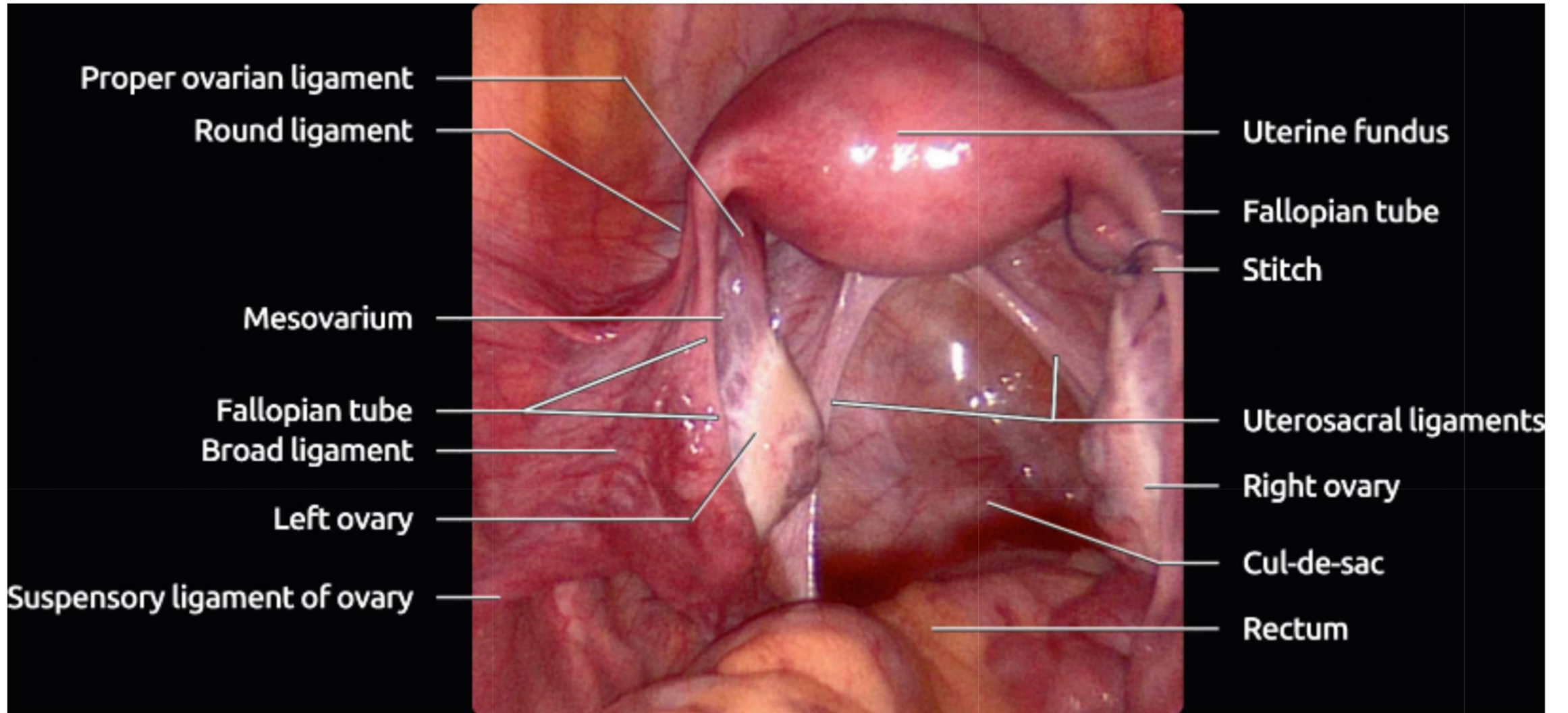
Ureter

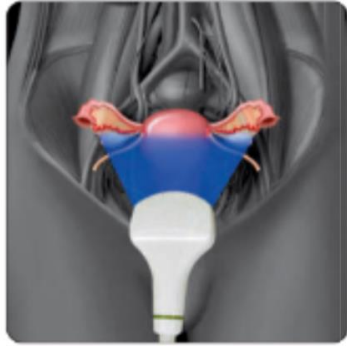
Ovary

Uterus

Rectum

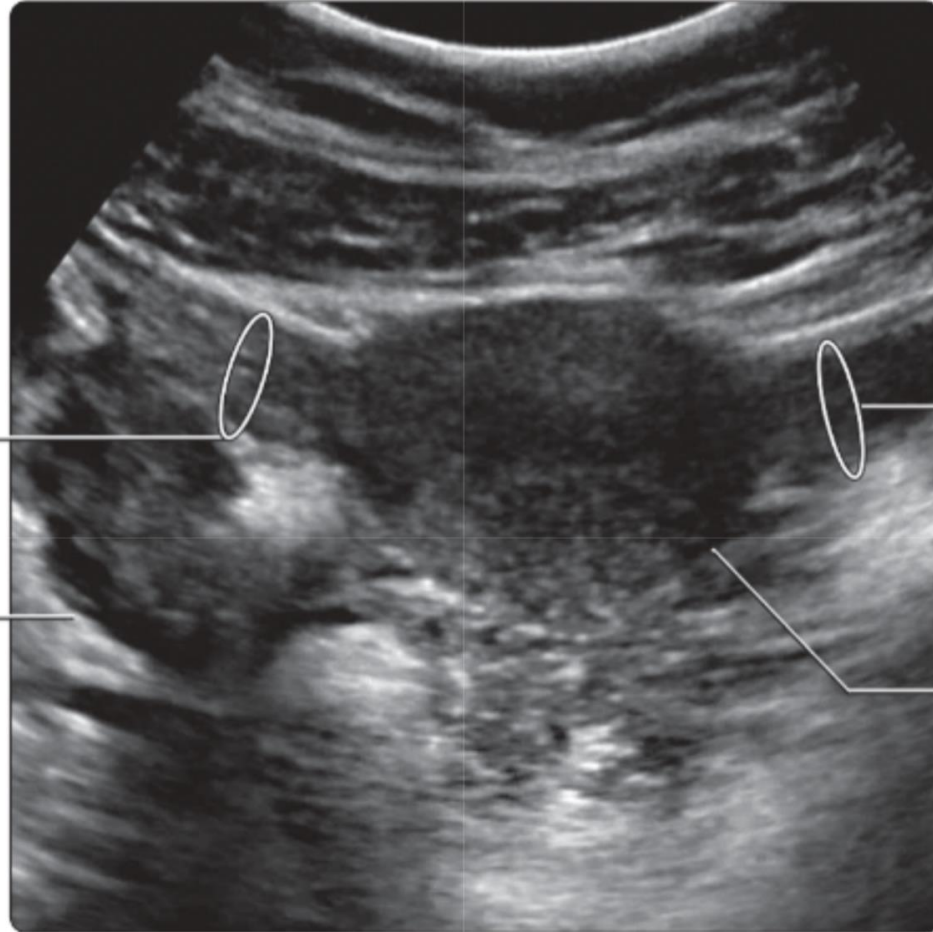
Photograph during laparoscopy





Fallopian tube/broad ligament

Right ovary

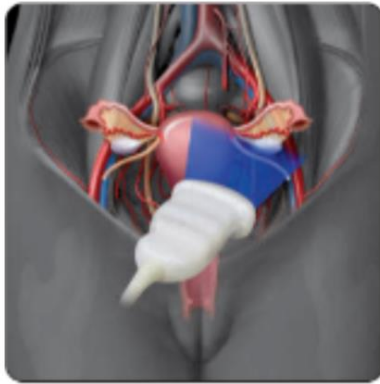


Fallopian tube/broad ligament

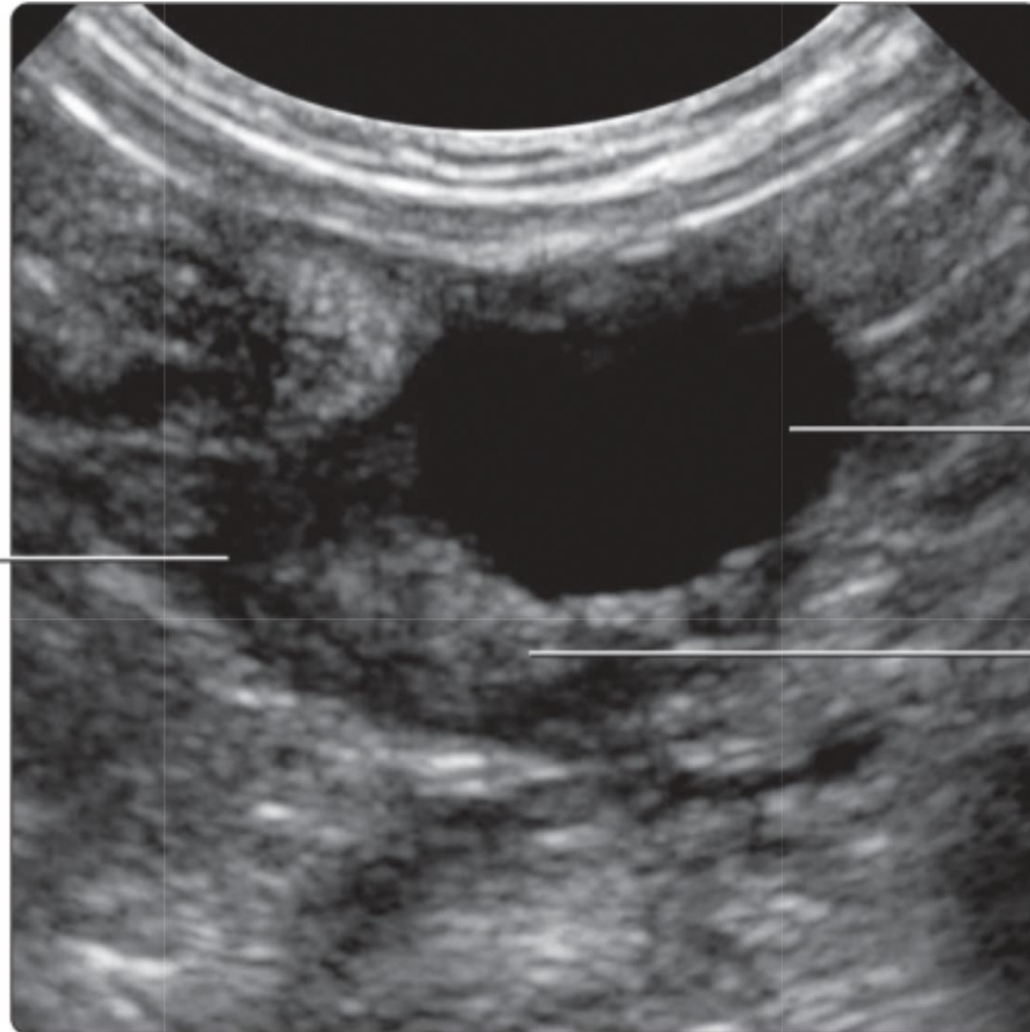
Uterus

ovary in a neonate

dominant follicle related to stimulation from residual maternal gonadotrophins



Ovary

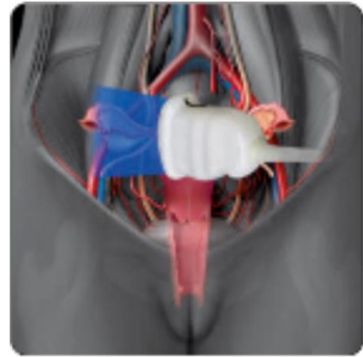


Dominant follicle

Solid parenchyma

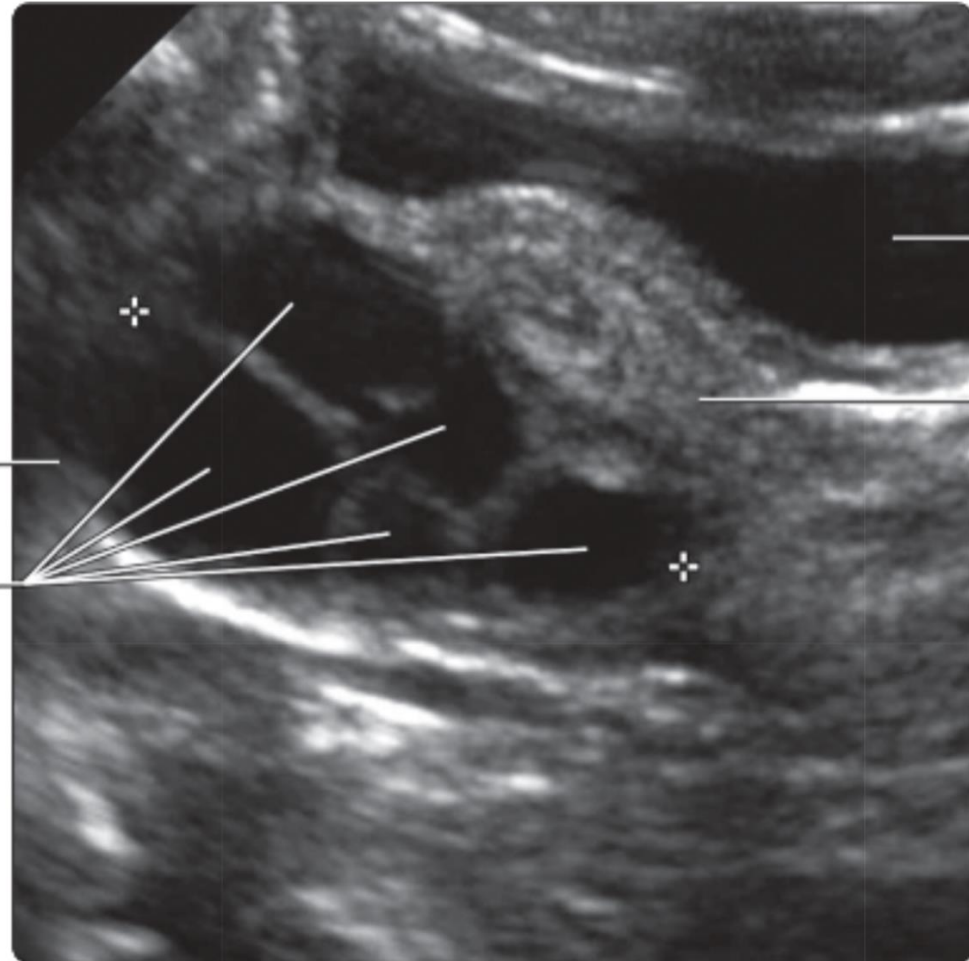
5-month-old girl

slightly prominent due to stimulation from maternal hormones



Right ovary

Immature follicles

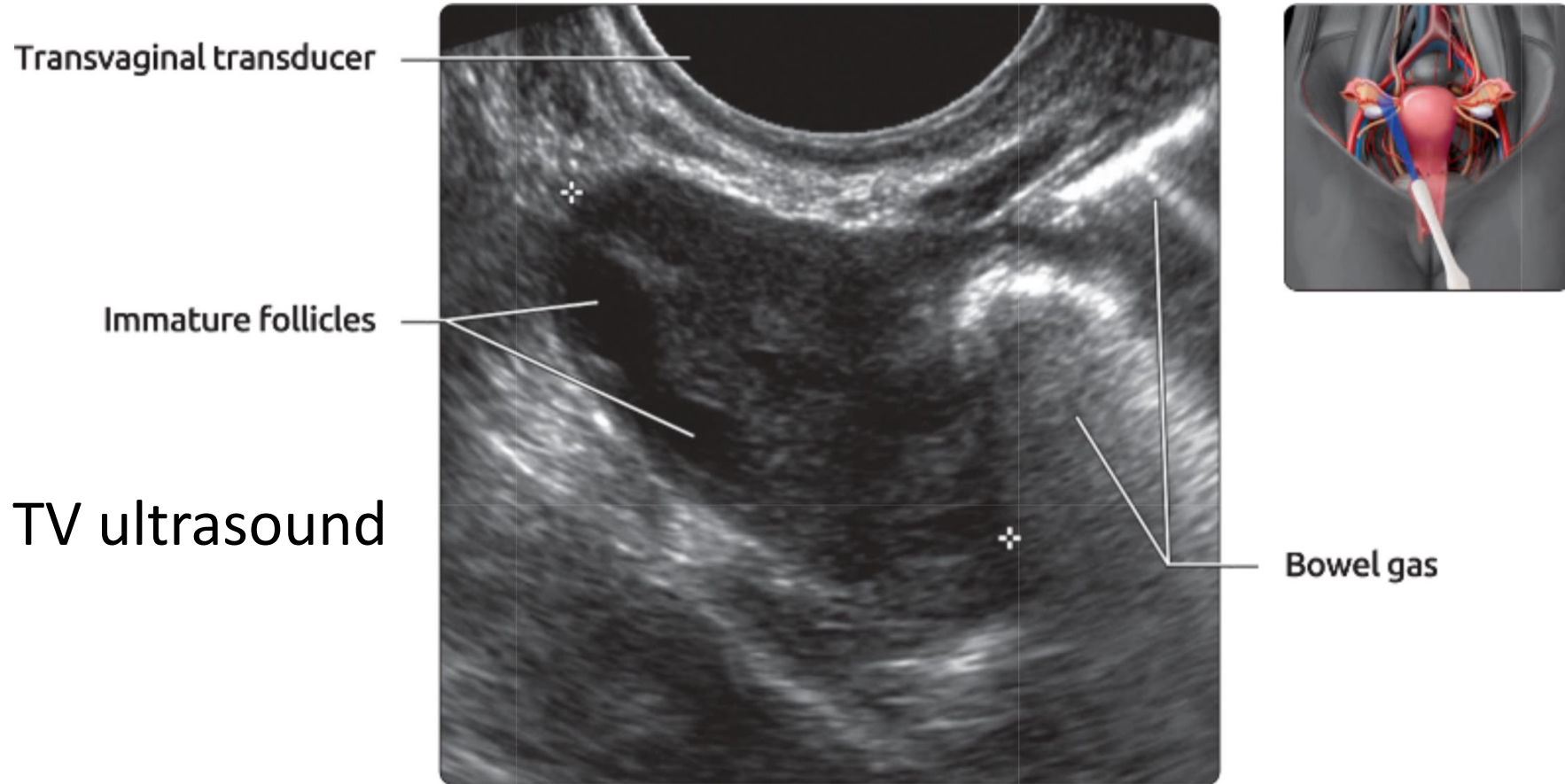


Bladder

Uterus

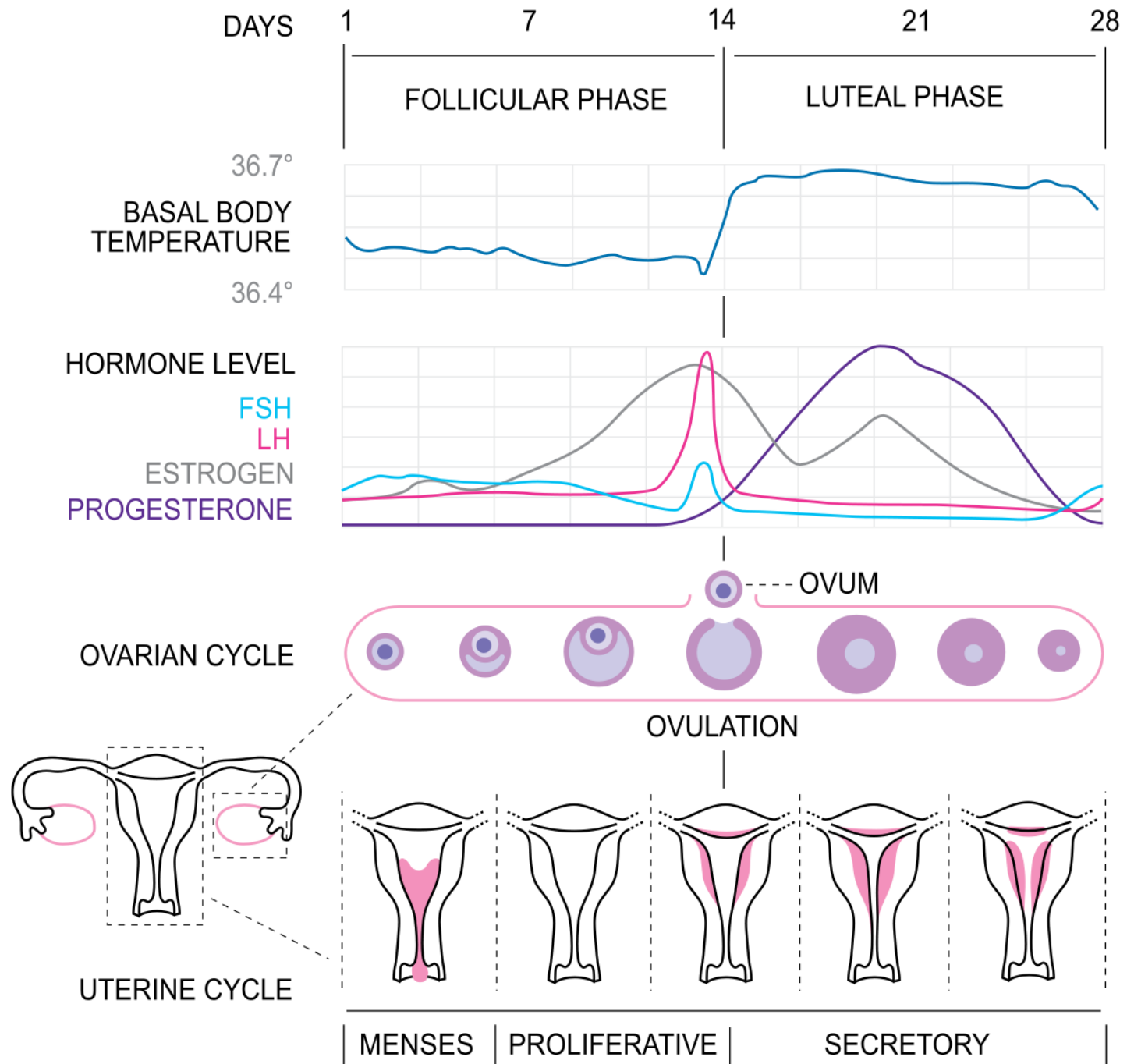
Visible follicles may persist until 9 months of age or longer.

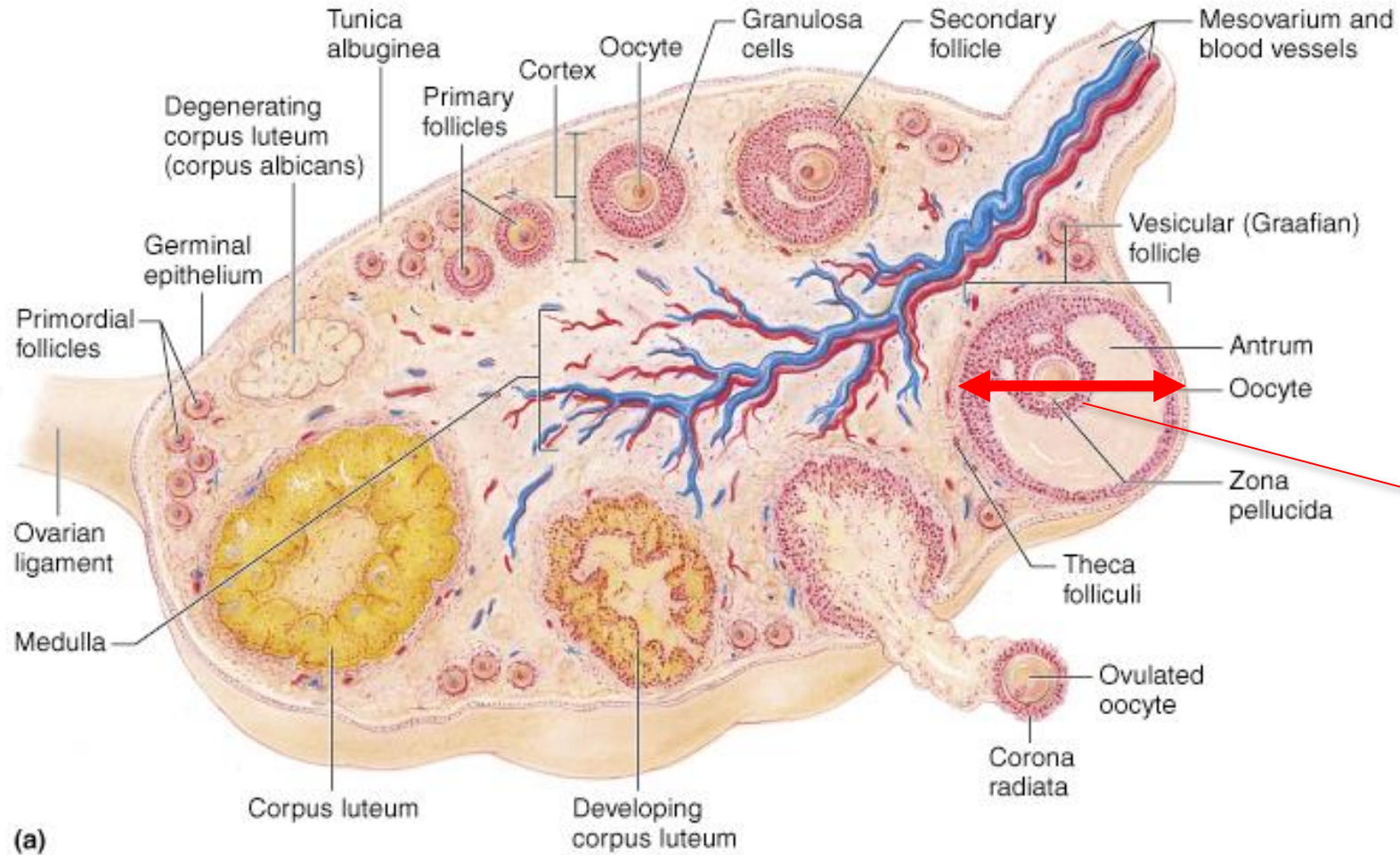
18-year-old woman ovary with immature follicles



Variations in menstrual cycle, follicles

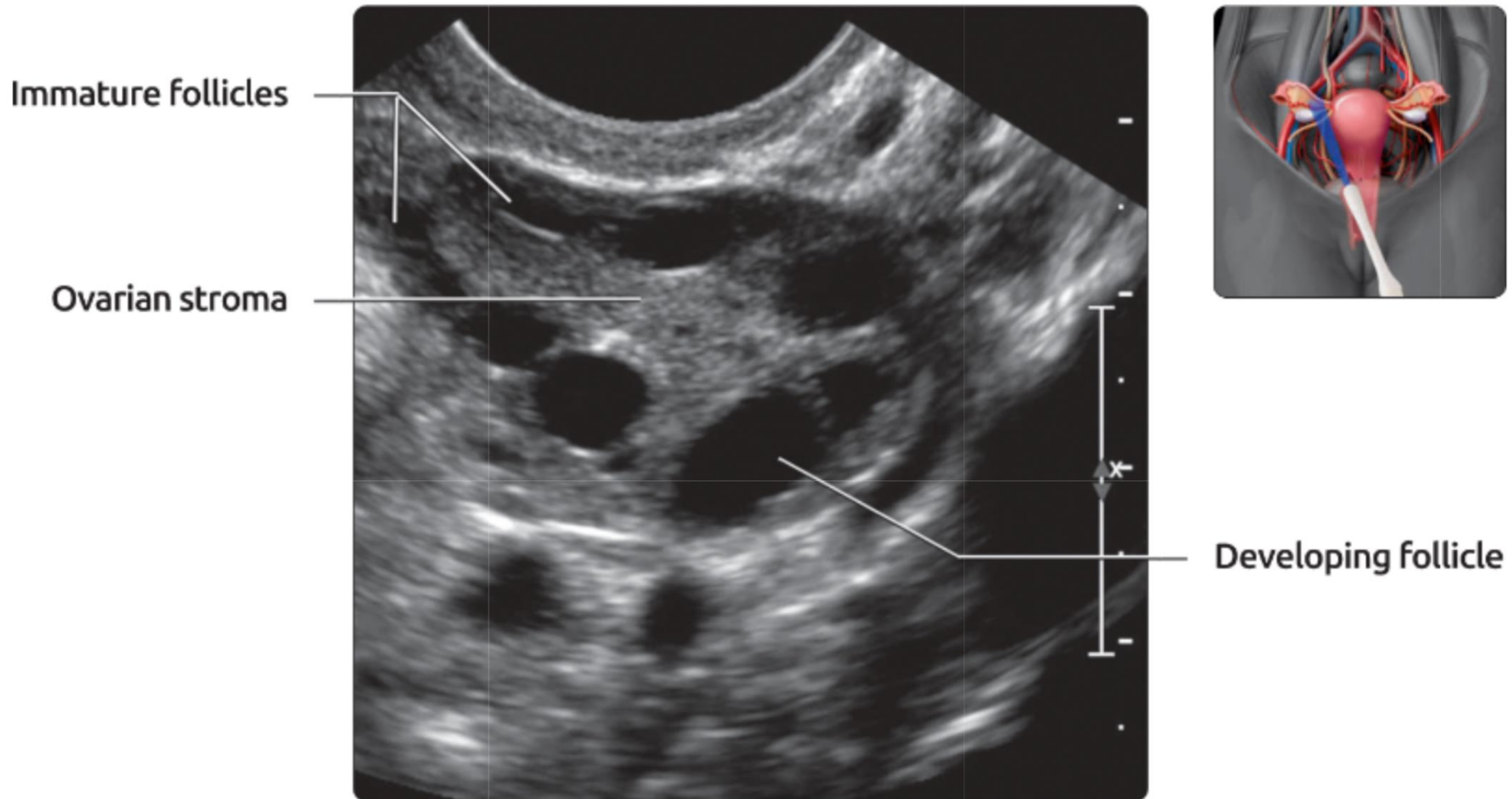
- Follicular phase (days 0-14)
 - Several follicles begin to develop
 - By **days 8-12, dominant follicle develops**, while remainder start to regress
- Ovulation (day 14)
 - Dominant follicle, typically **2.0-2.5 cm**, ruptures and releases ovum
- Luteal phase (days 14-28)
 - **Luteinizing hormone** induces formation of corpus luteum from ruptured follicle
 - If fertilization occurs, corpus luteum maintains and enlarges to **corpus luteum cyst of pregnancy**





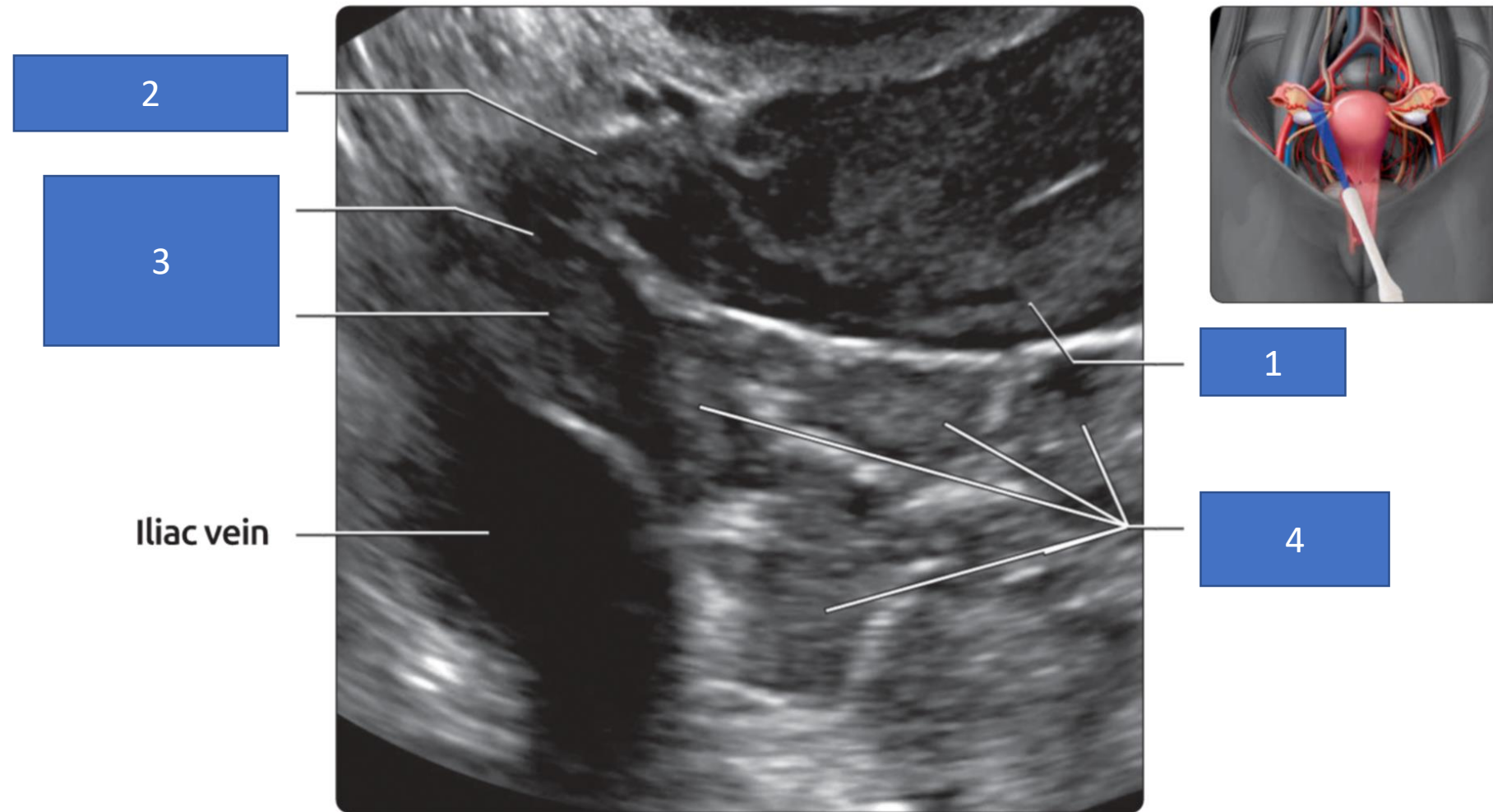
2-2.5 cm

(a)
 Copyright © 2001 Benjamin Cummings, an imprint of Addison Wesley Longman, Inc.

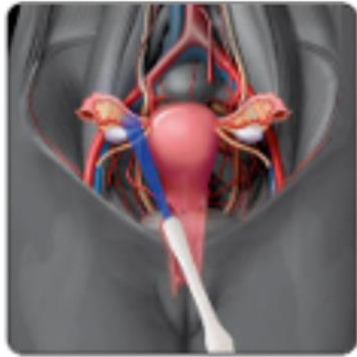


Ovulation usually occurs when the follicle enlarges to 2-2.5 cm.

74-year-old postmenopausal woman

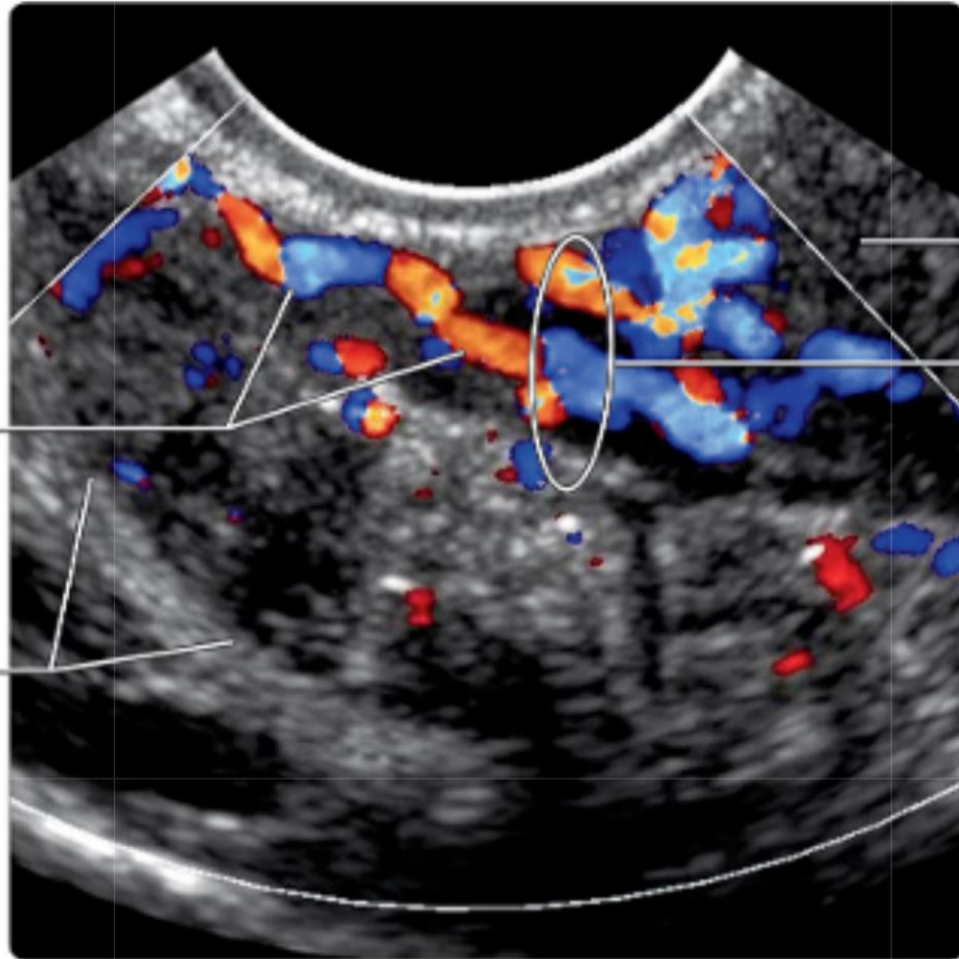


small size, lack of follicles, and surrounding bowel loops



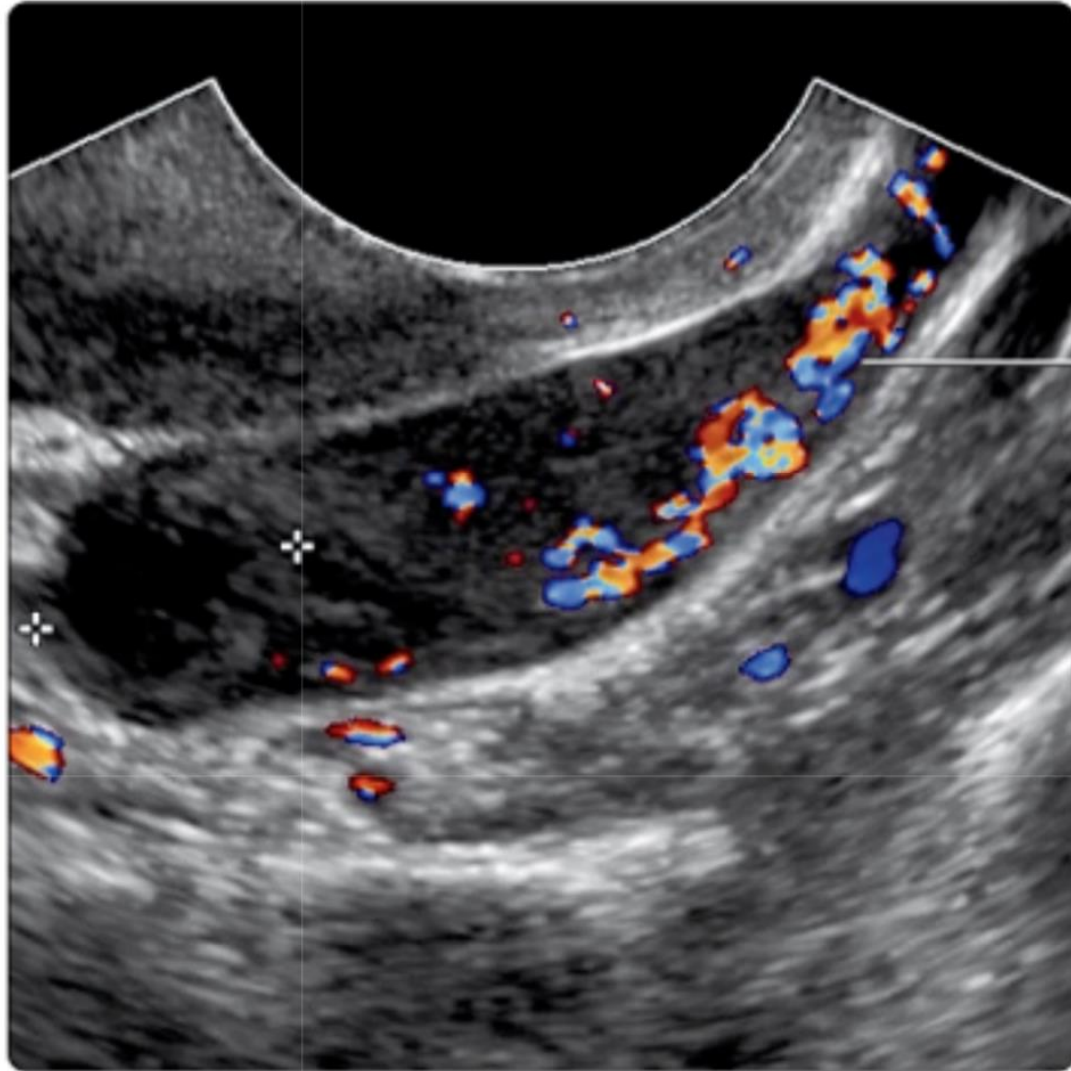
Ovarian branch of uterine artery

Right ovary

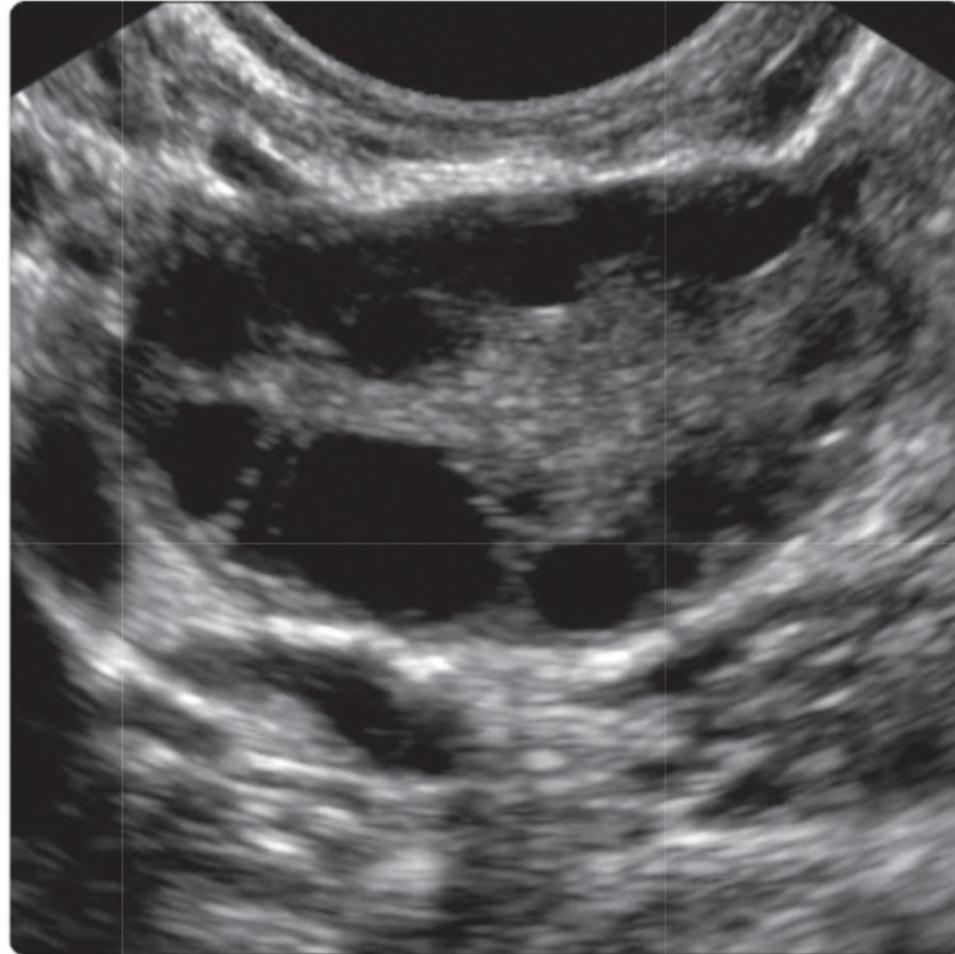
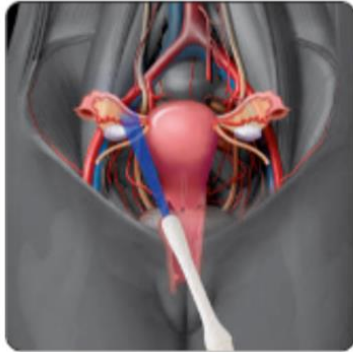


Uterus

Broad ligament



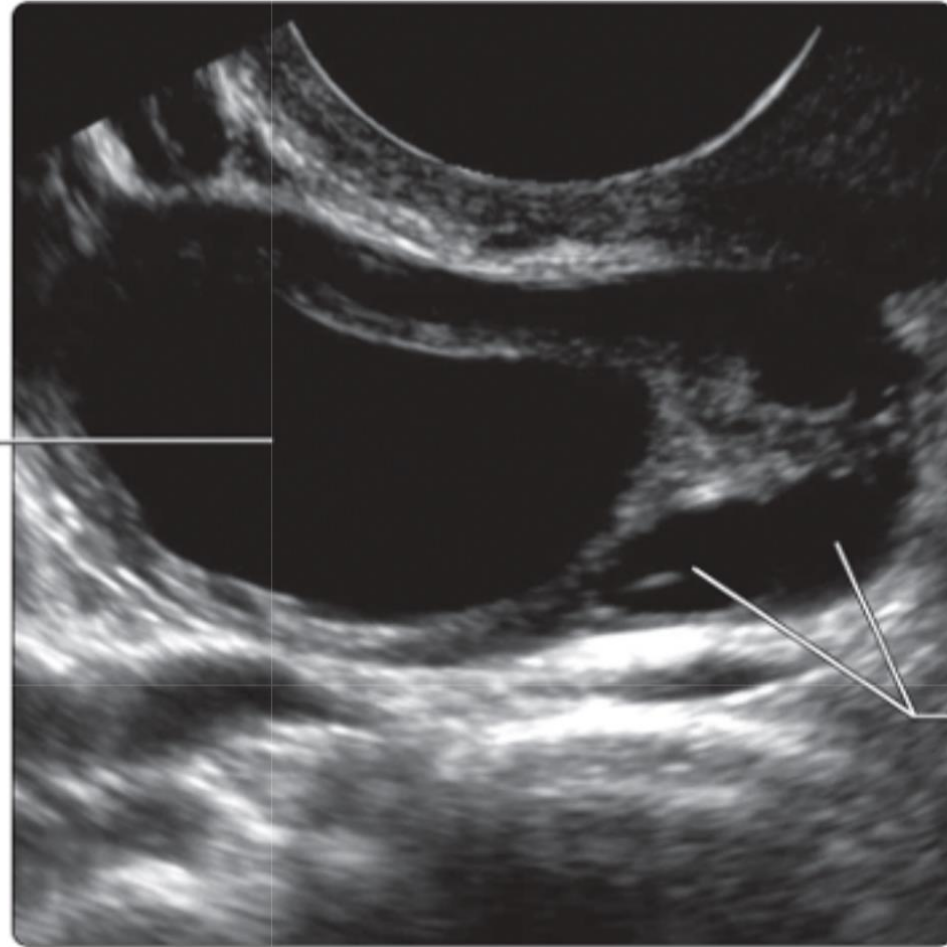
Ovarian vessels



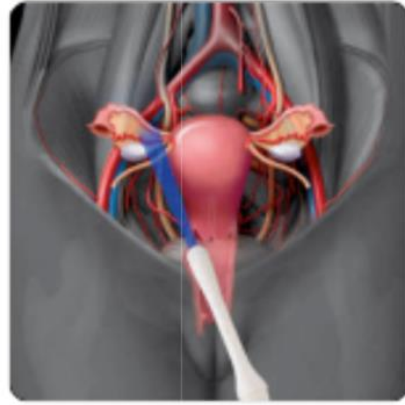
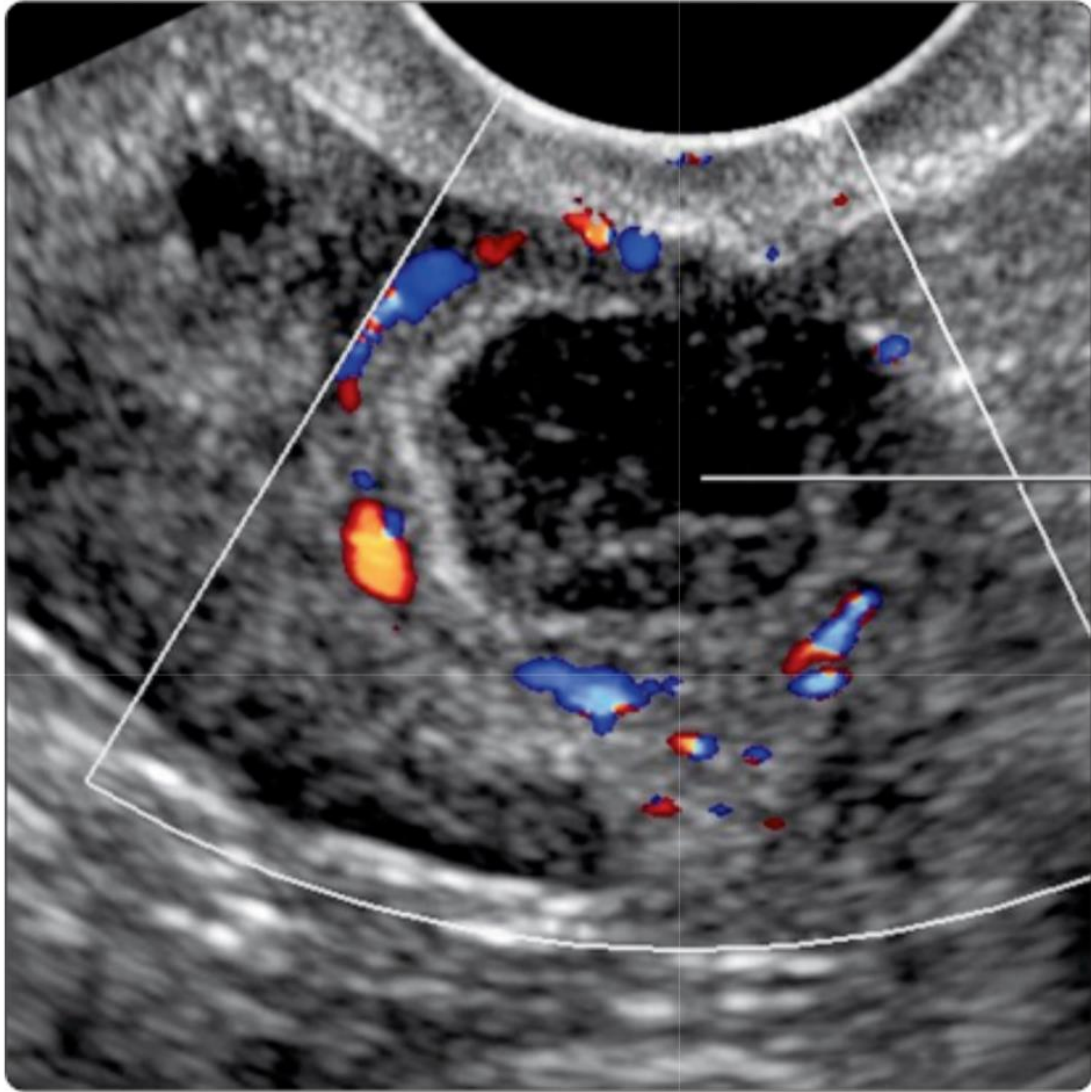
early follicular phase



early follicular phase



late follicular phase




Recently ruptured follicle

Thank you ❤️



病史 + 理學檢查

→ 臨床臆斷

+ POCUS 

→ R/I or R/O



Acute lower abd pain Childbearing-age women



Corpus luteum rupture
Ectopic pregnancy rupture
Hemorrhagic cyst
Ovarian torsion

病史

21 F, lower abd pain for 6 hrs,
syncope on standing, LMP: 2 wks
ago

理學

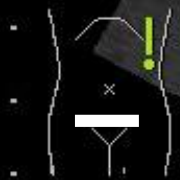
Lower abd tenderness,
tachycardia

臆斷

Corpus luteum rupture



MI = 1.6 TIS < 0.4 78%
18Hz



2.00MS R13.0 G62 D74 A1



MI = 1.6 TIS < 0.4 78%
19Hz



2.00MS R12.0 G62 D74 A1

1:Abdomen

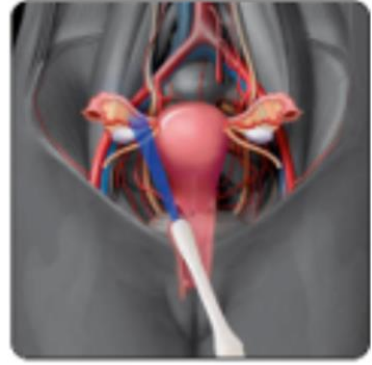
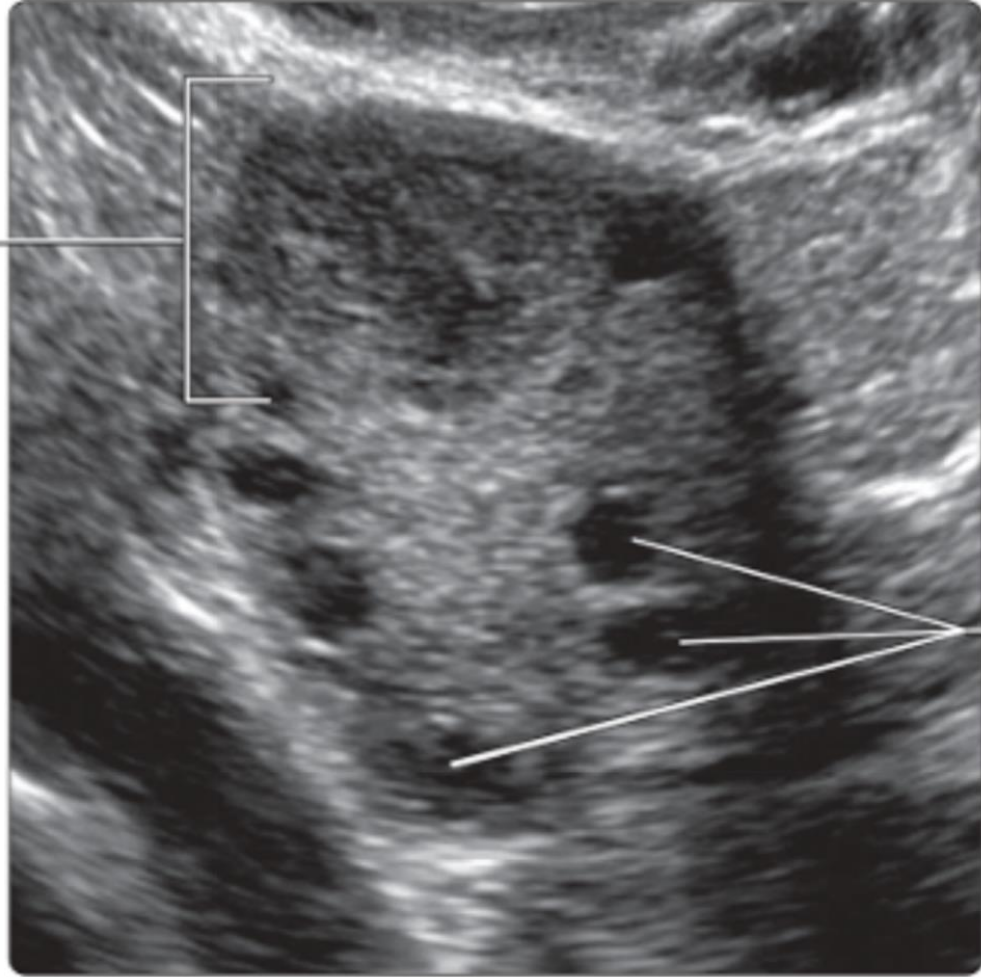
Probe:9130

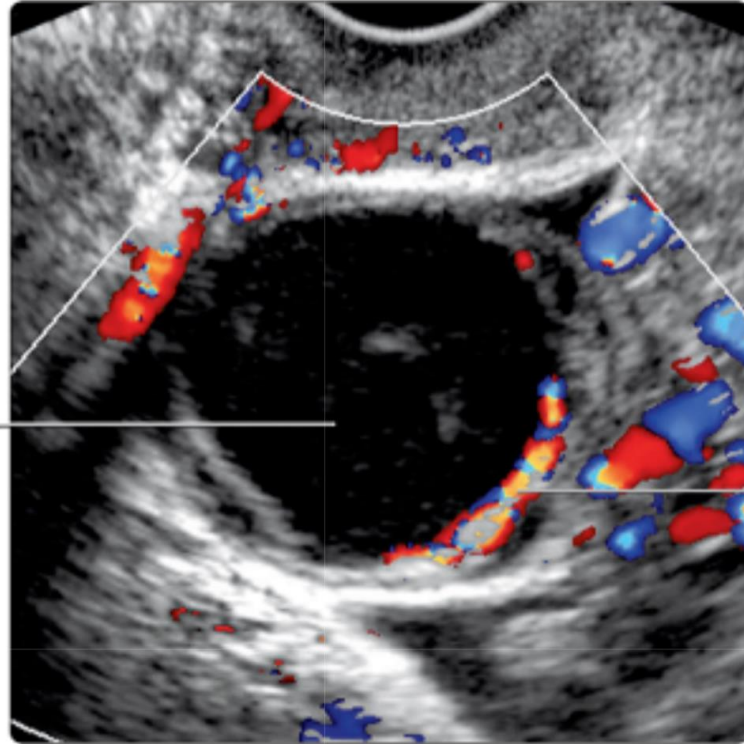
BbH

SIP

5 hours later







early luteal phase

病史

24 F, left lower abd pain for 6 hrs,
LMP:9 weeks ago, irregular period

理學

Lower abd tenderness, HR:102
BP:92/51

臆斷

Ectopic pregnancy rupture



26H



24H

5.0 R19 G45 C8 A3

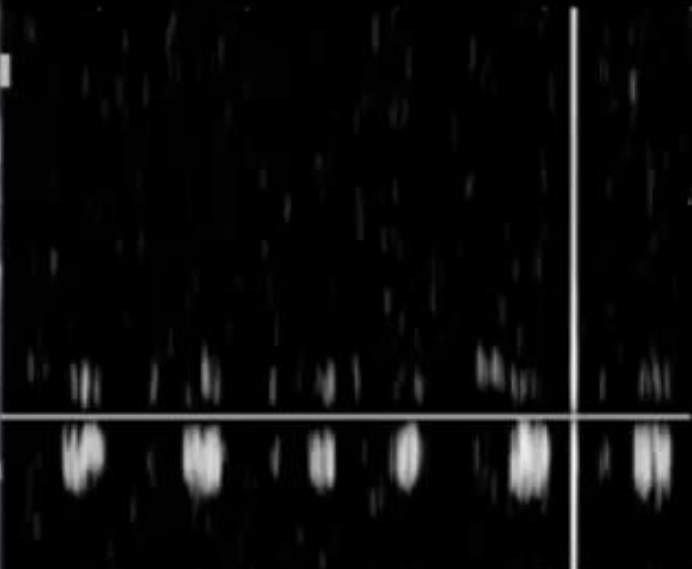
MI = 1.0 DVA: 100%
TIS < 0.4

5.0 R10 G52 C8 A3

MI = 1.0 DVA: 100%
TIS < 0.4



↑0.95



0.37 G43 C14

2.5 R10 G52 C8 A3

1:GI

MI = 0.6 DVA: 82%
TIS < 0.4

@ www.ultrasound-images.com

Pure

T1

P100
6C3
T4.6
24fps
DR70
G80

0
DECID
PARIETALIS

DECID BASALIS

5
DECID.
CAPSULARIS

SAC

FL

GS	10.8mm	4w6d	U/S	4w6d
			EDD	17/06/2012
GS	10.8mm	4w6d		

CINE REVIEW ▶



病史

34 F, Hx of ovarian cyst, sudden onset of RLQ pain for 2 hrs, no fever. LMP 3 wk ago.

理學

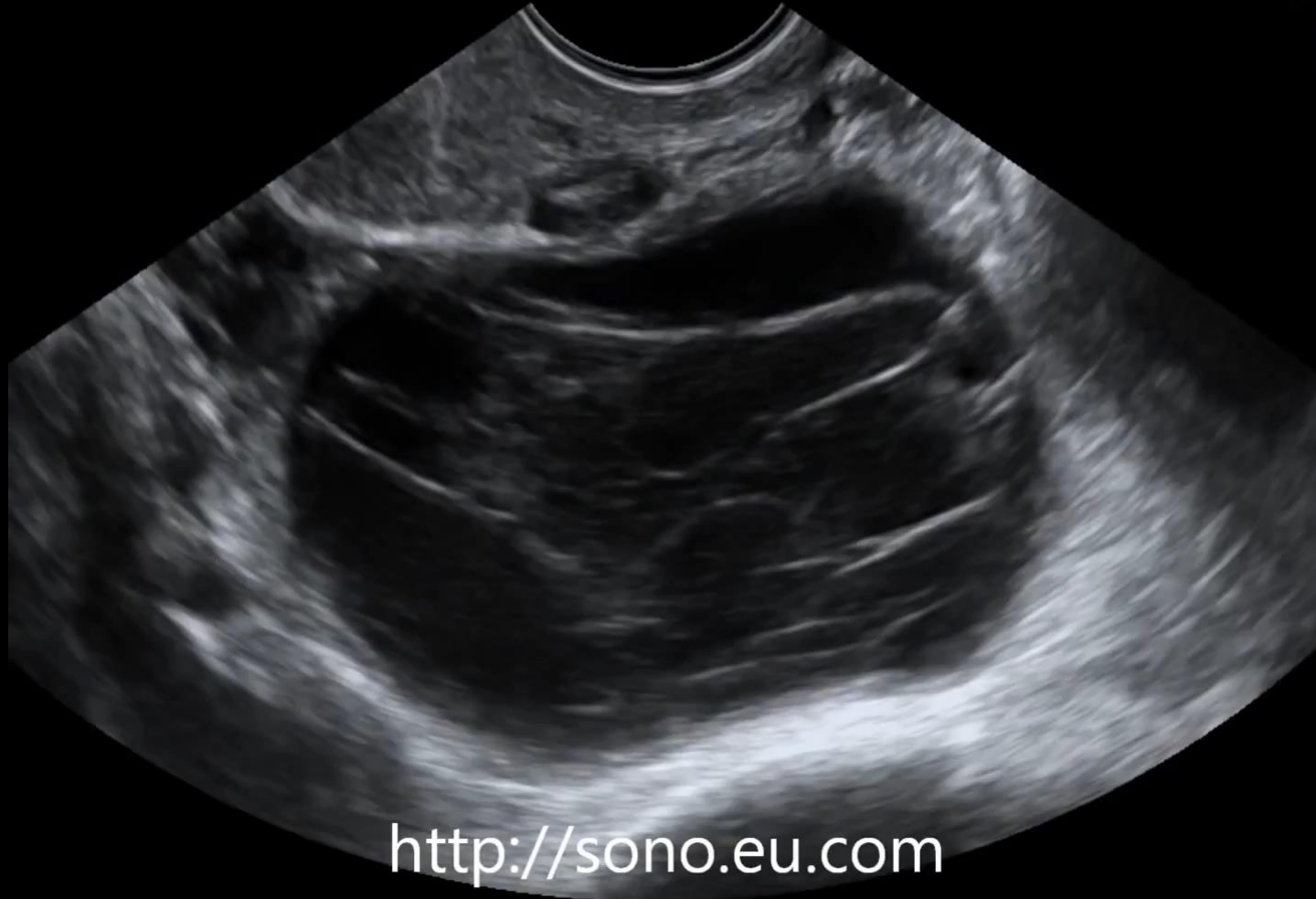
Lower abd tenderness, normal V.S.

臆斷

Hemorrhagic cyst

E8

15.3
Pw



<http://sono.eu.com>



Whirlpool sign in a case of ovarian torsion

Thank you ❤️