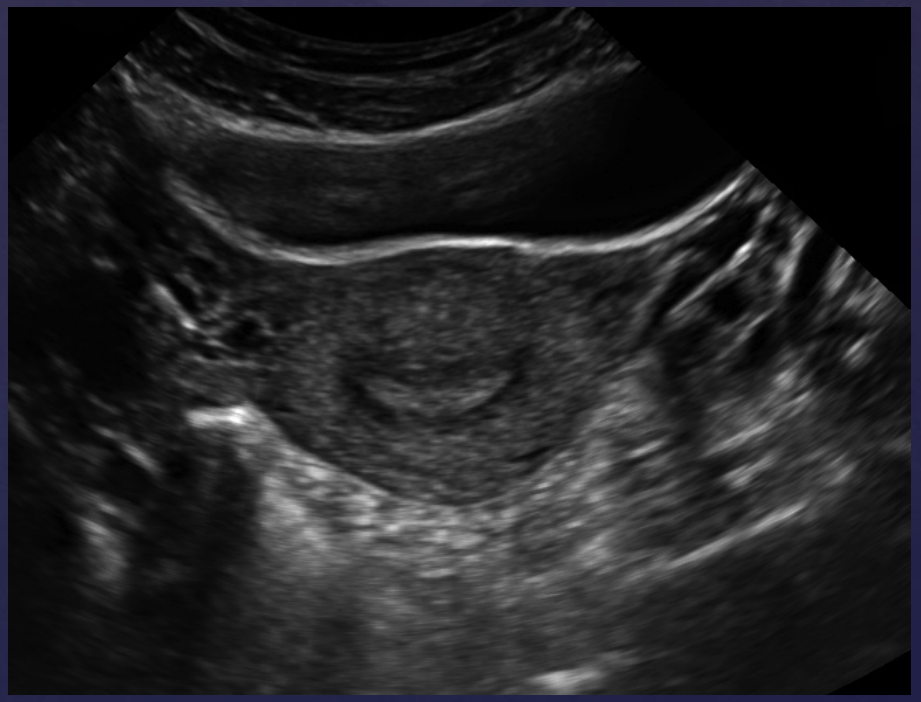
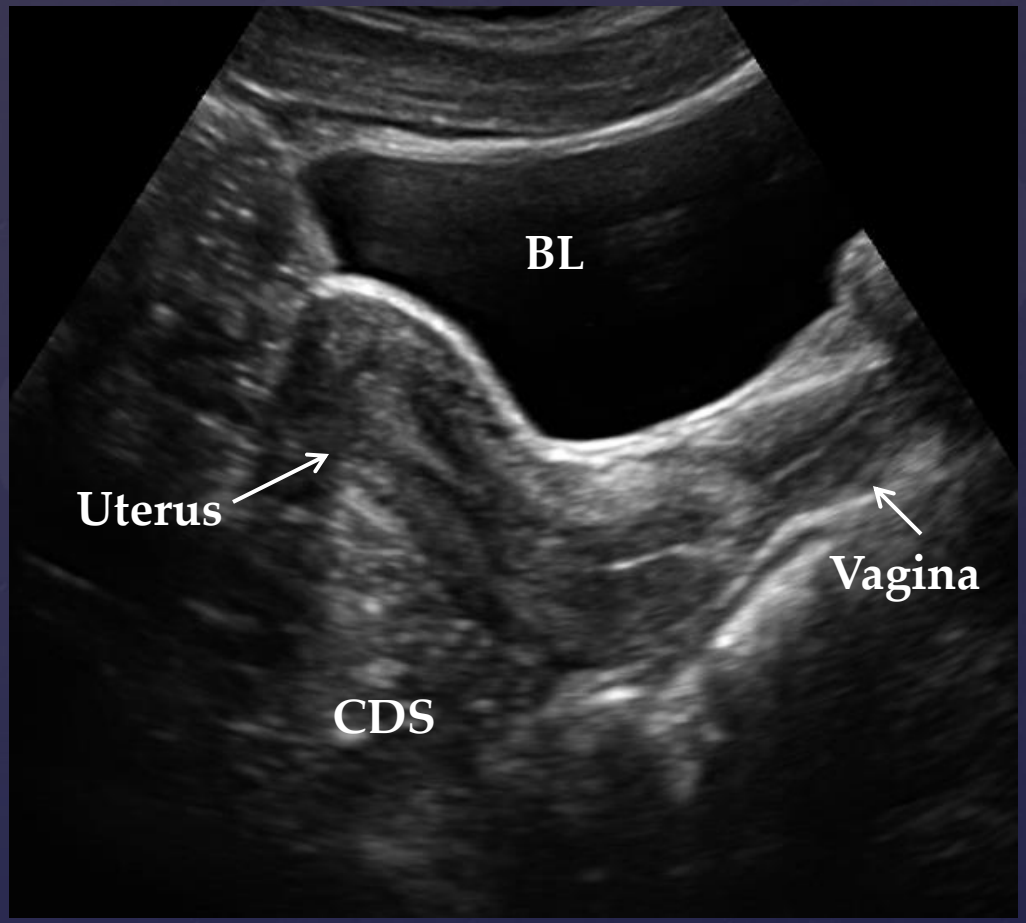
AIUM Image Library: Female Pelvis



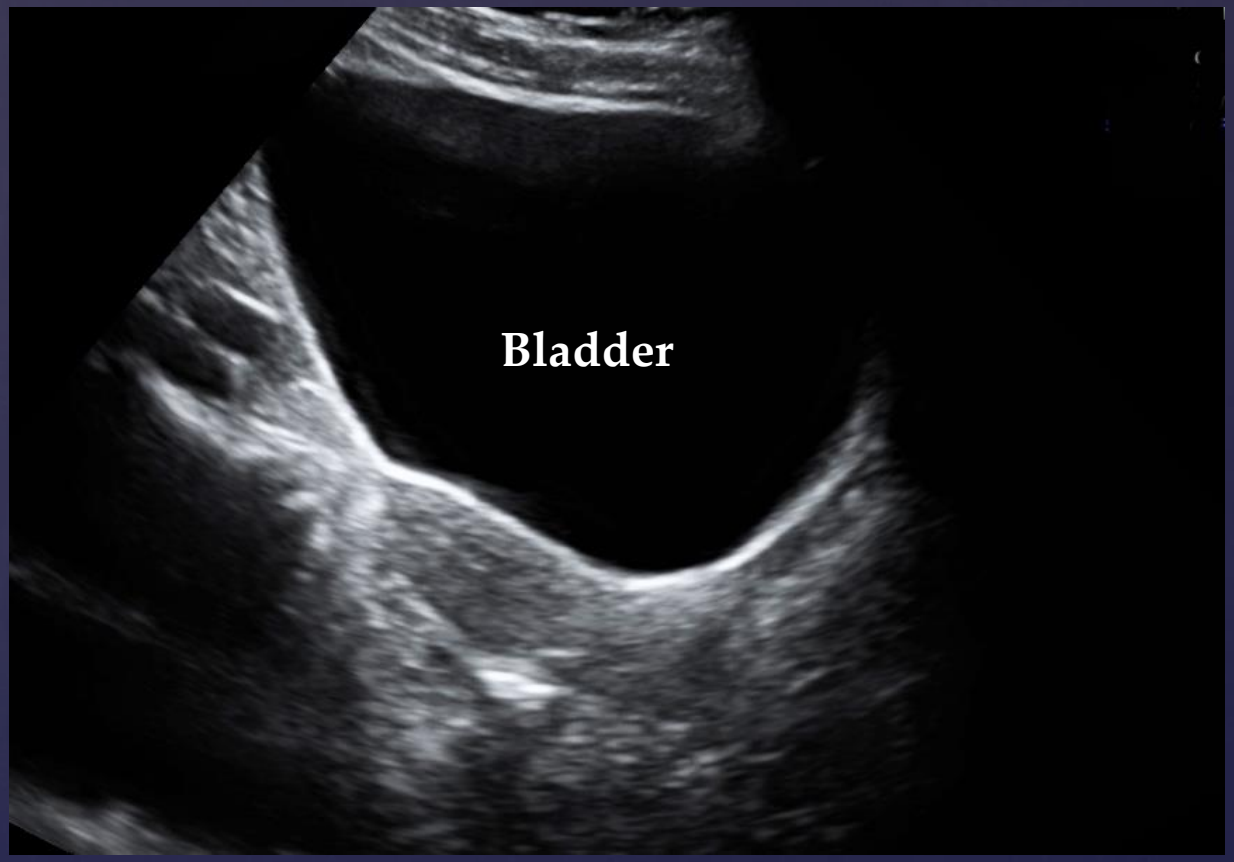
Transabdominal (TA) Scan: General Preparation



Bladder slightly distended to displace small bowel.
Overdistention may compromise the examination.

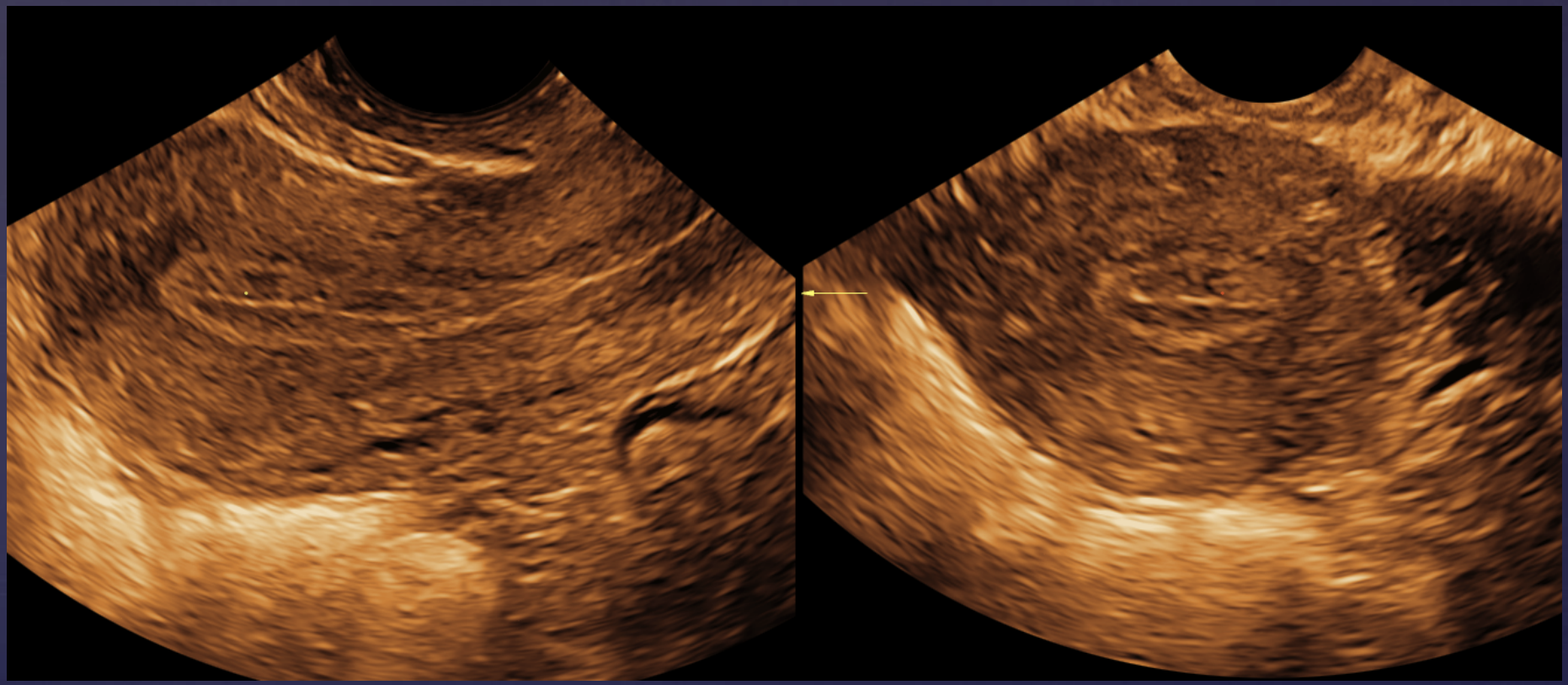
Overdistended Bladder

Not necessary or useful.



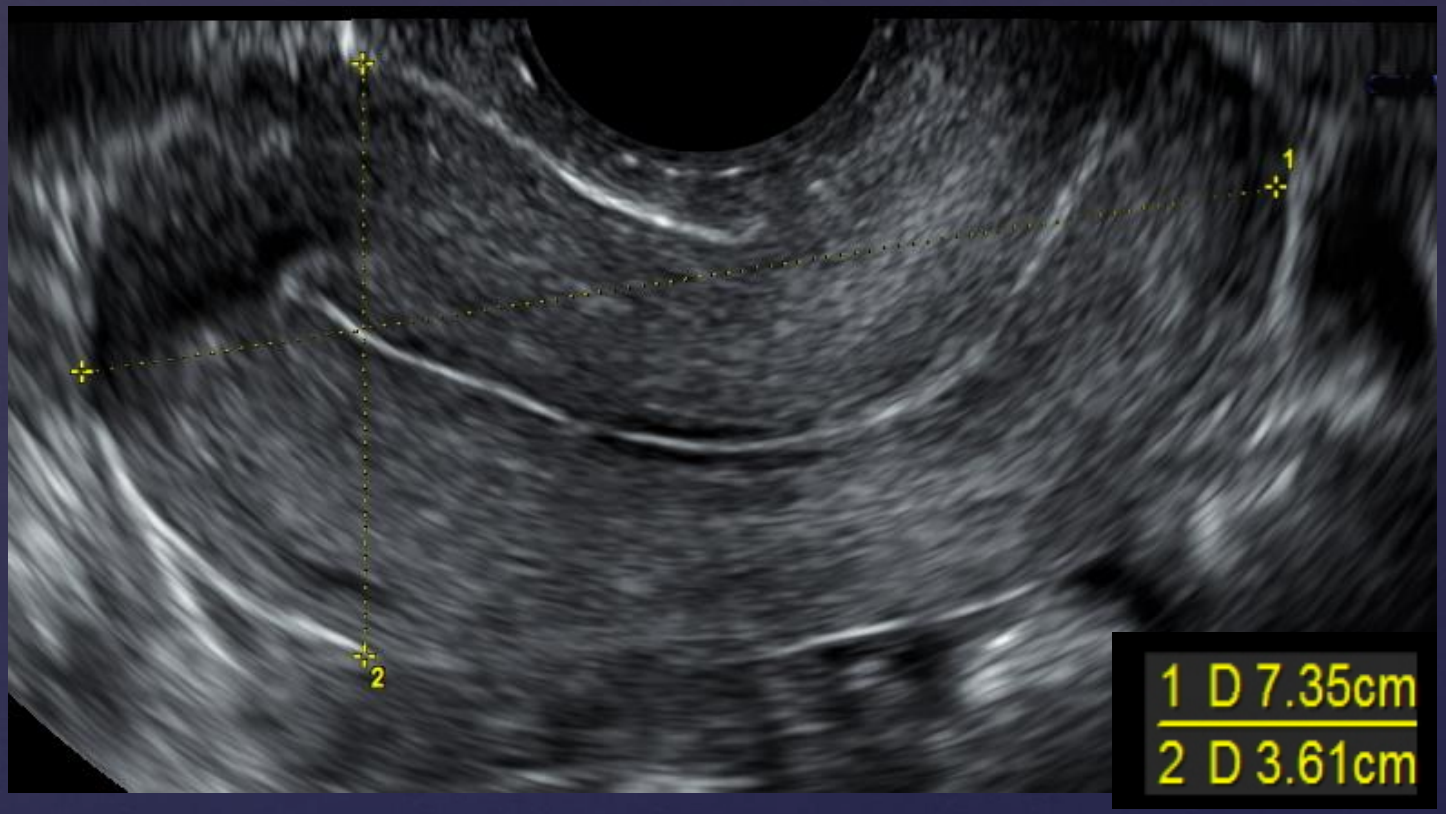
TA scan through an overdistended bladder demonstrating a sagittal view of the uterus.

Transvaginal (TV) scan may be necessary to optimally visualize all relevant anatomy.



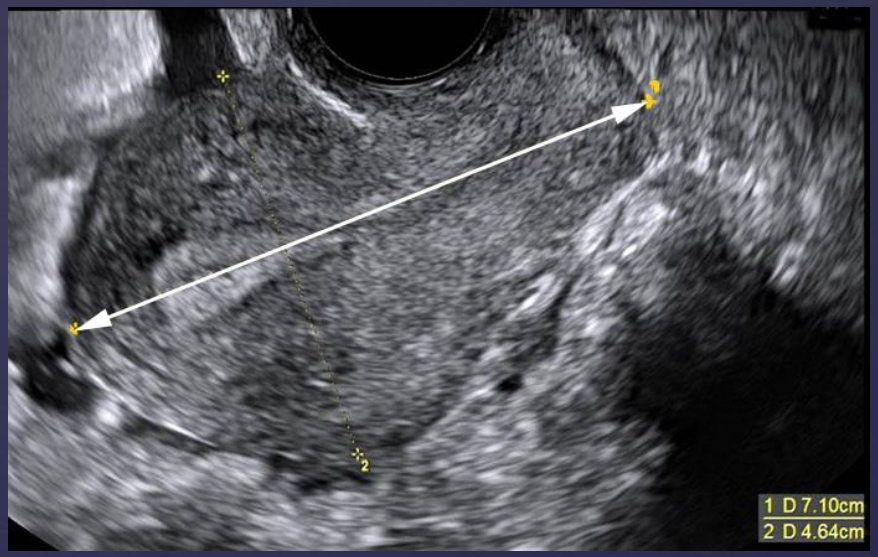
TV scan demonstrating sagittal and transverse views of a normal uterus and trilaminar endometrium. The bladder should be empty for a TV examination.

Uterine Size

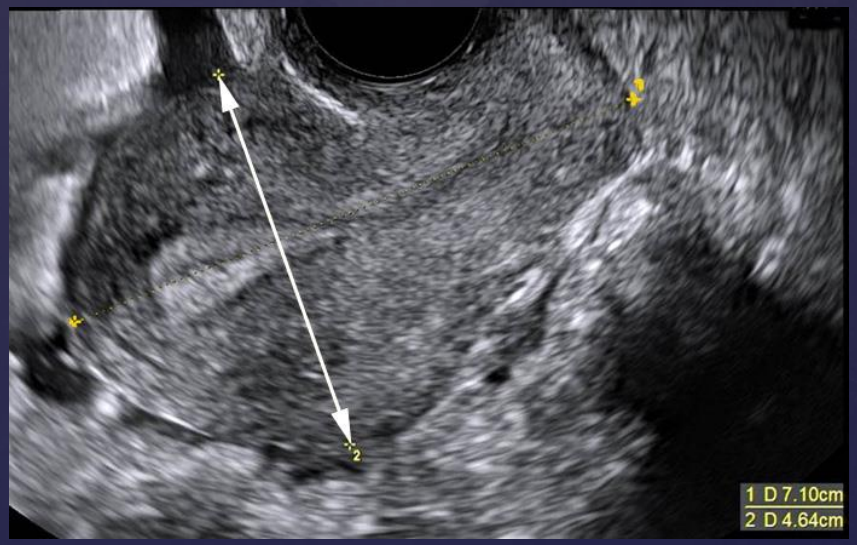


TA scan showing an anteverted uterus. Overall uterine length is evaluated in the long axis from the fundus to the cervix. The depth is measured in the same view from anterior to posterior.

Uterine Size

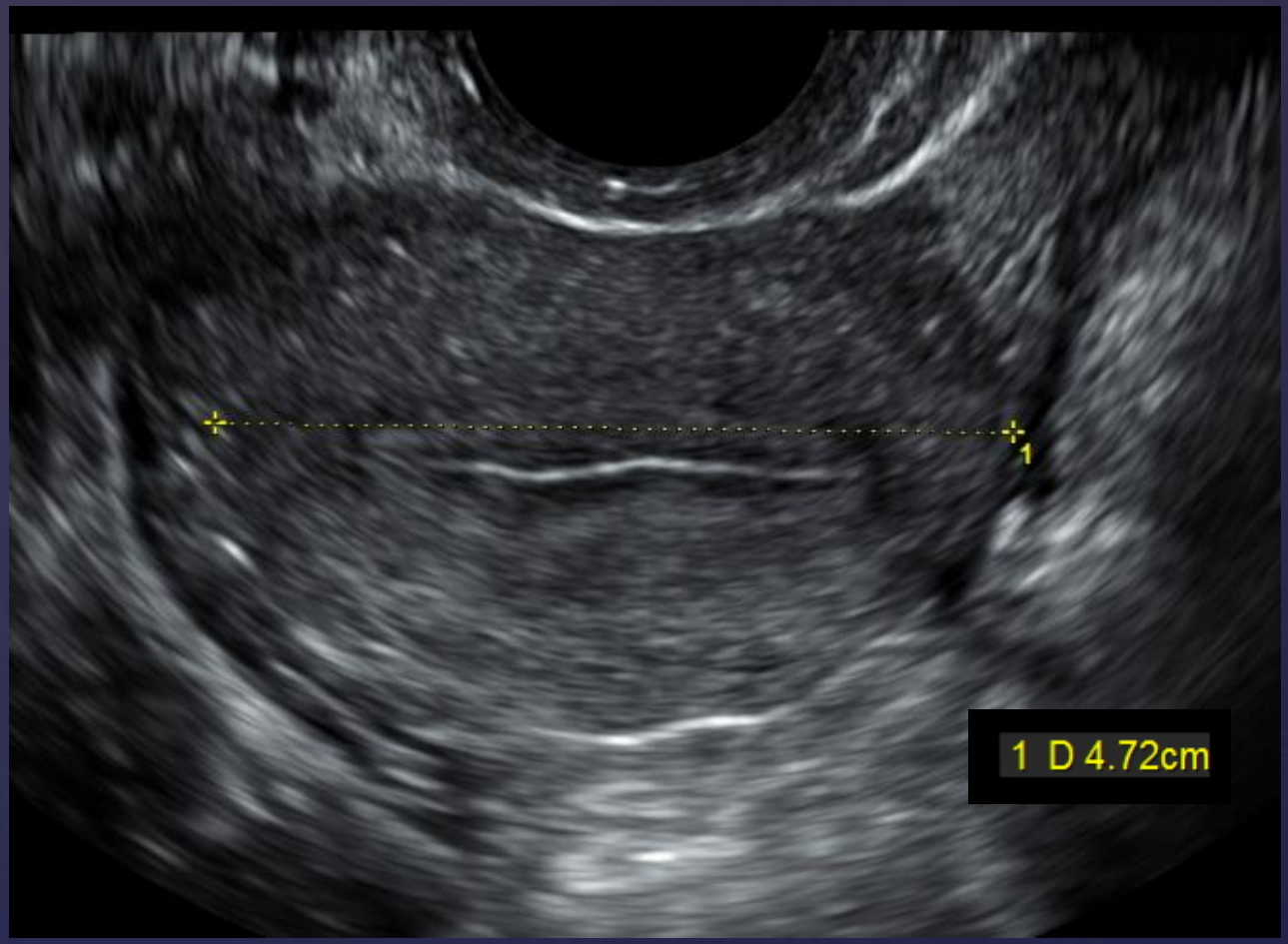


Length



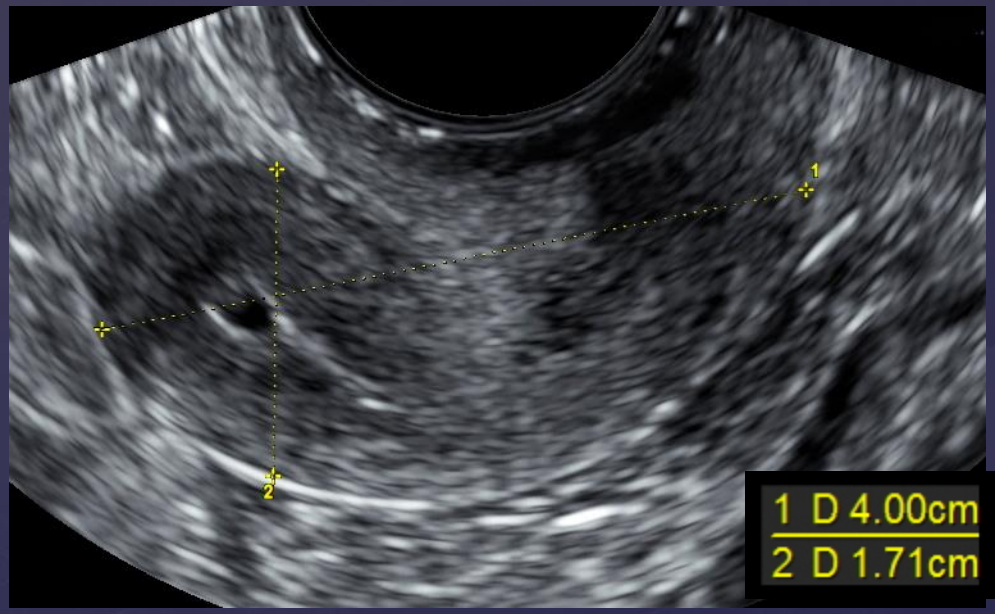
Depth

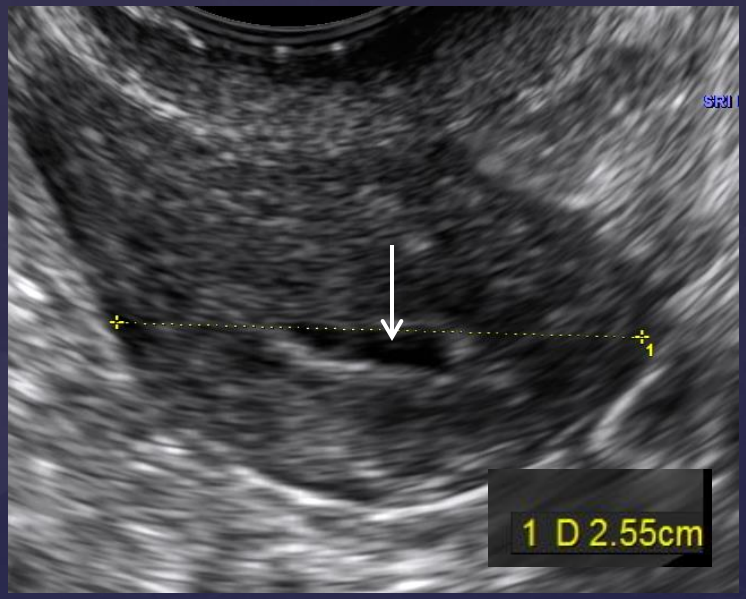
Uterine Size



The maximum width is measured in the transverse view of the uterus.

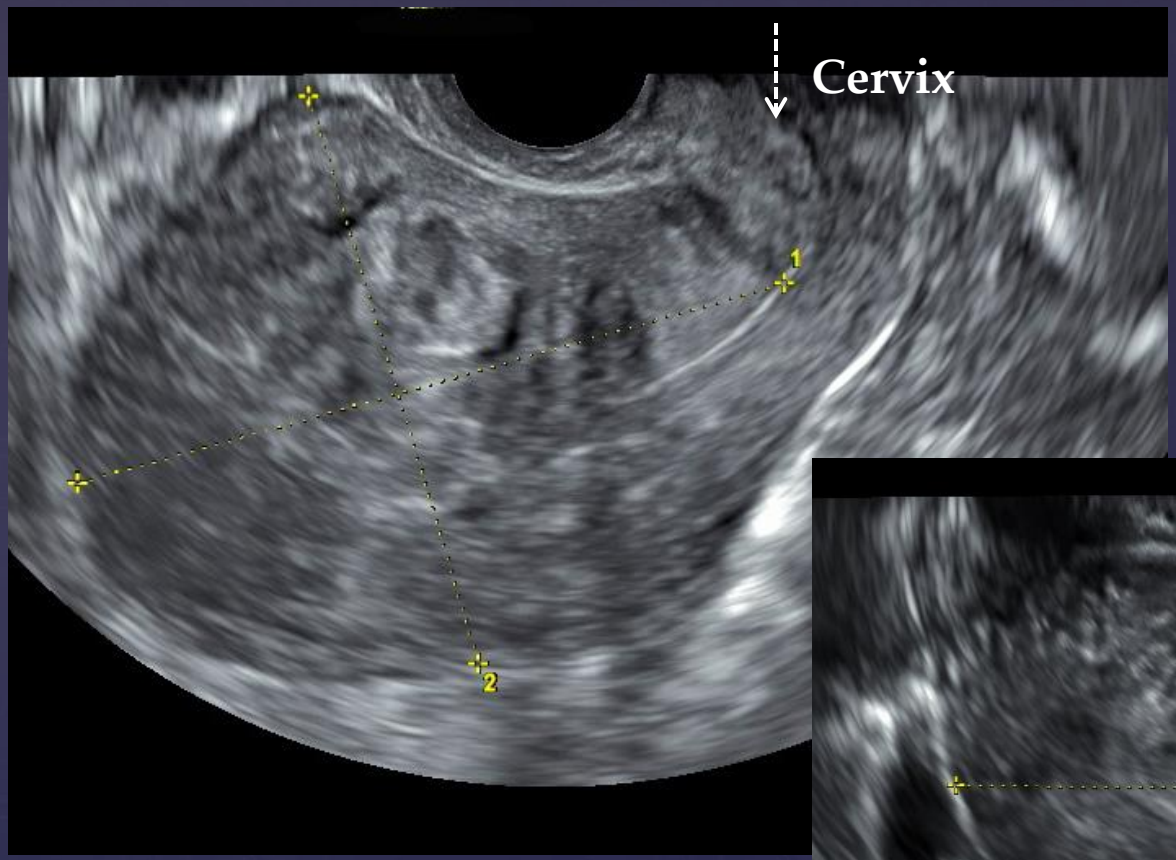
Uterine Size



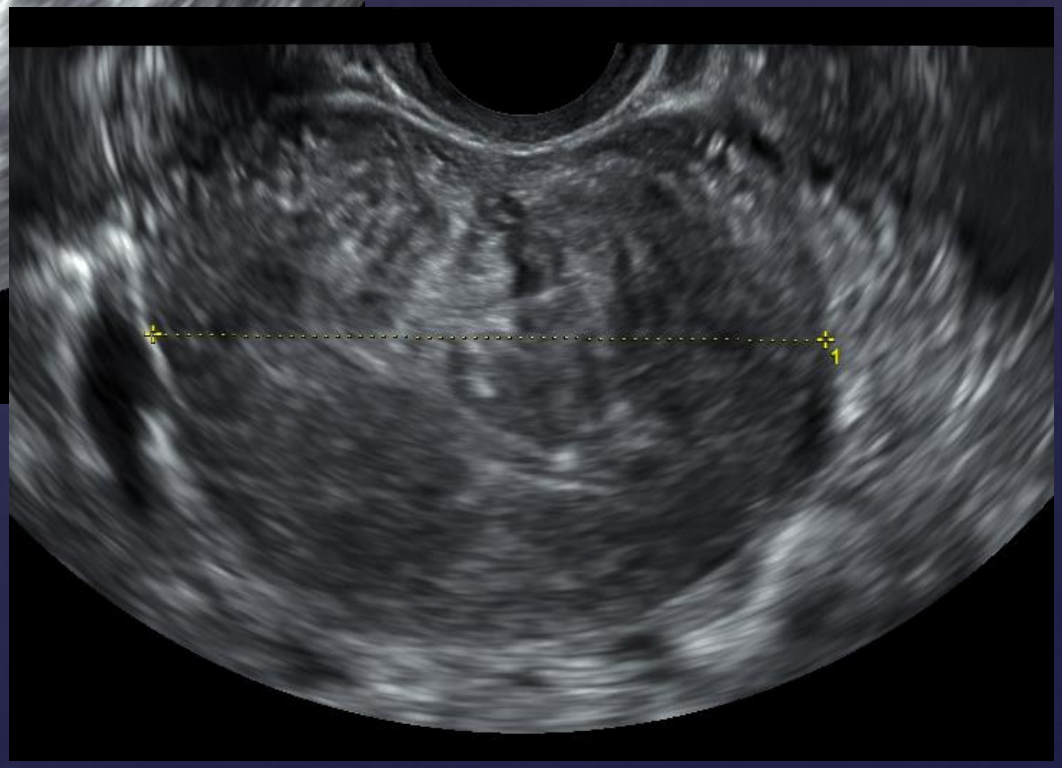


TV measurements of a small anteverted uterus in a postmenopausal patient. Note the small amount of fluid in the endometrium (arrow).

Uterine Volume

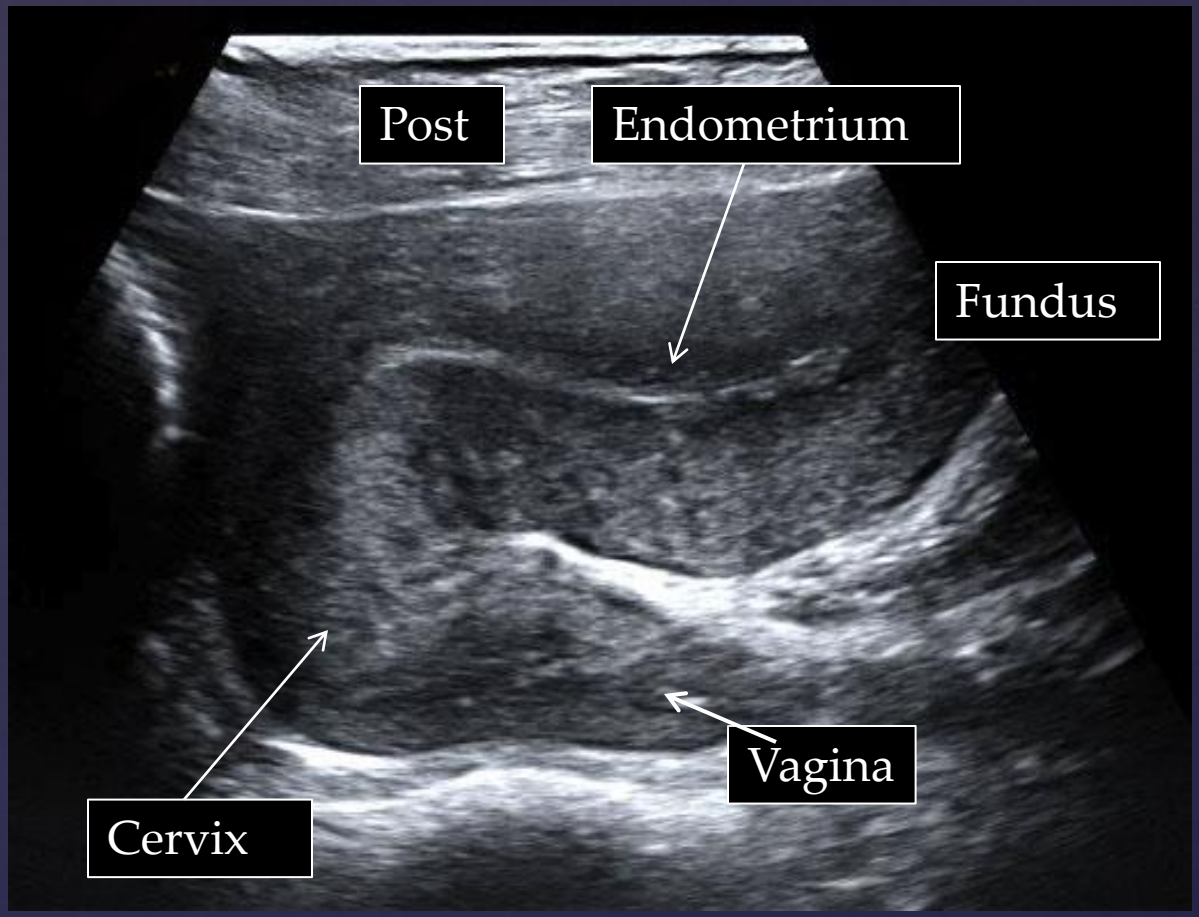


Multiple Uterine Fibroids



If volume measurements of the uterine corpus are performed, the cervical component should be excluded from the length measurement.

Uterine Orientation

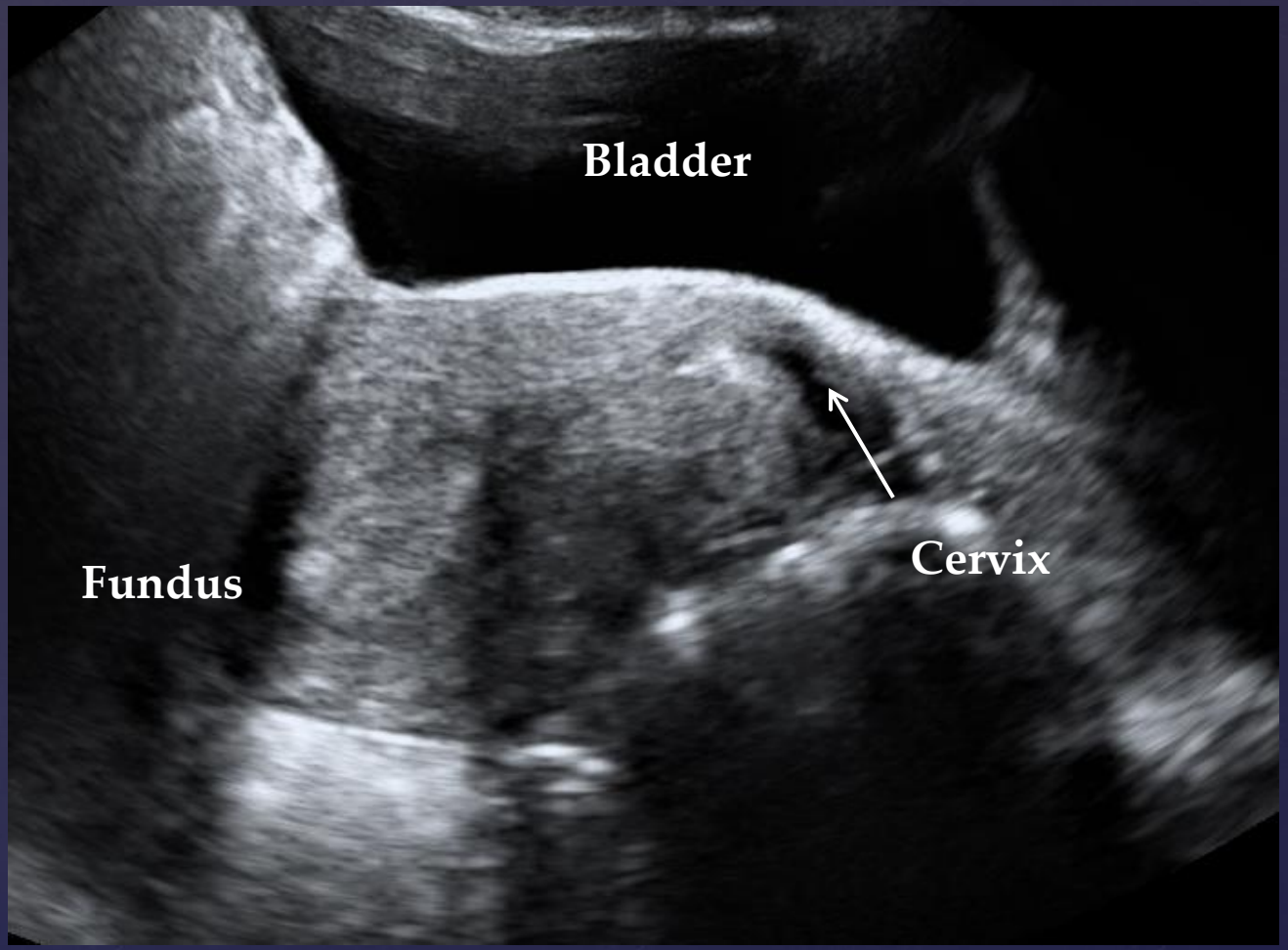


TA scan showing an anteverted-anteflexed uterus.

Uterine Orientation

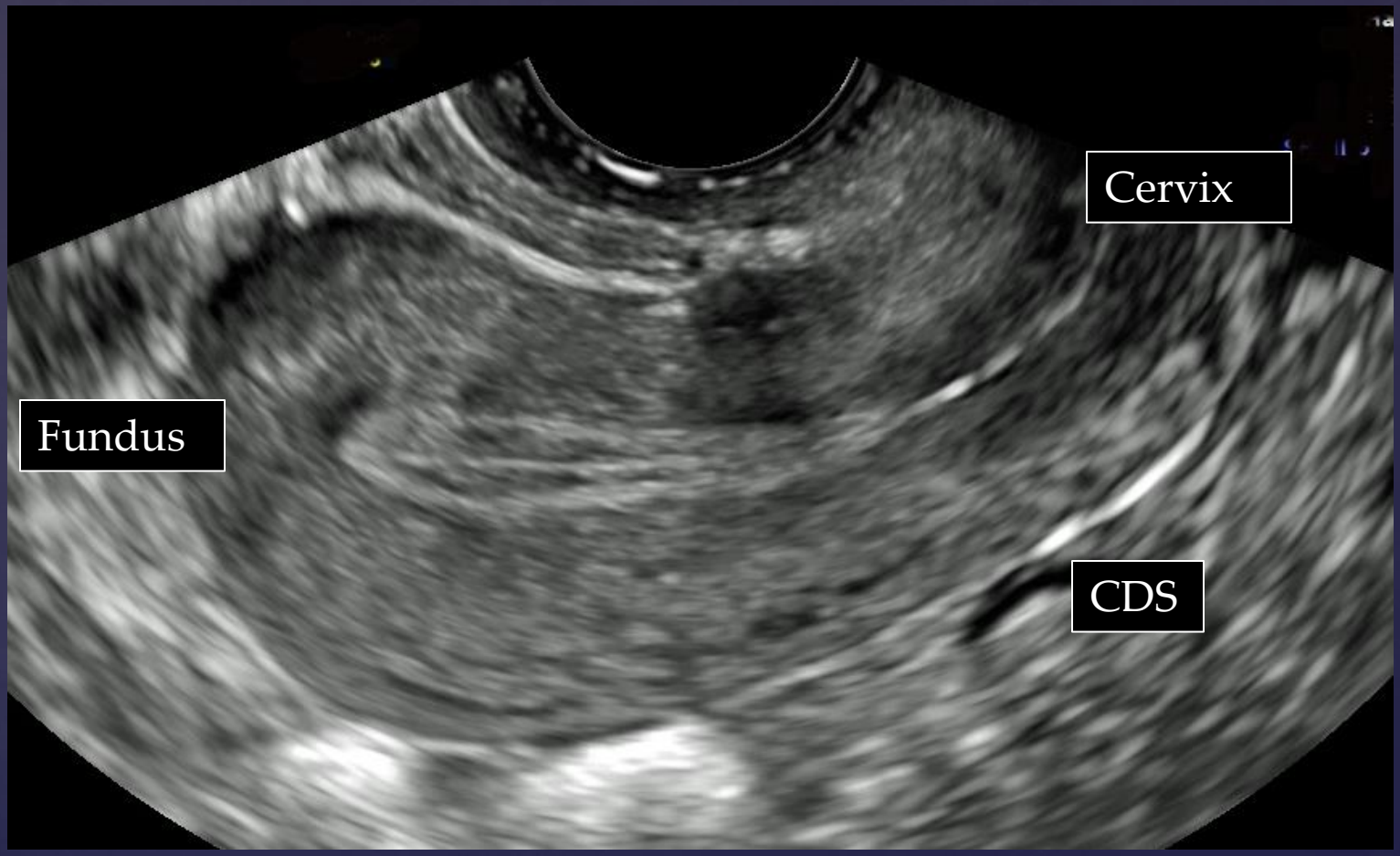
TA scan showing an anteverted uterus.

Uterine Orientation



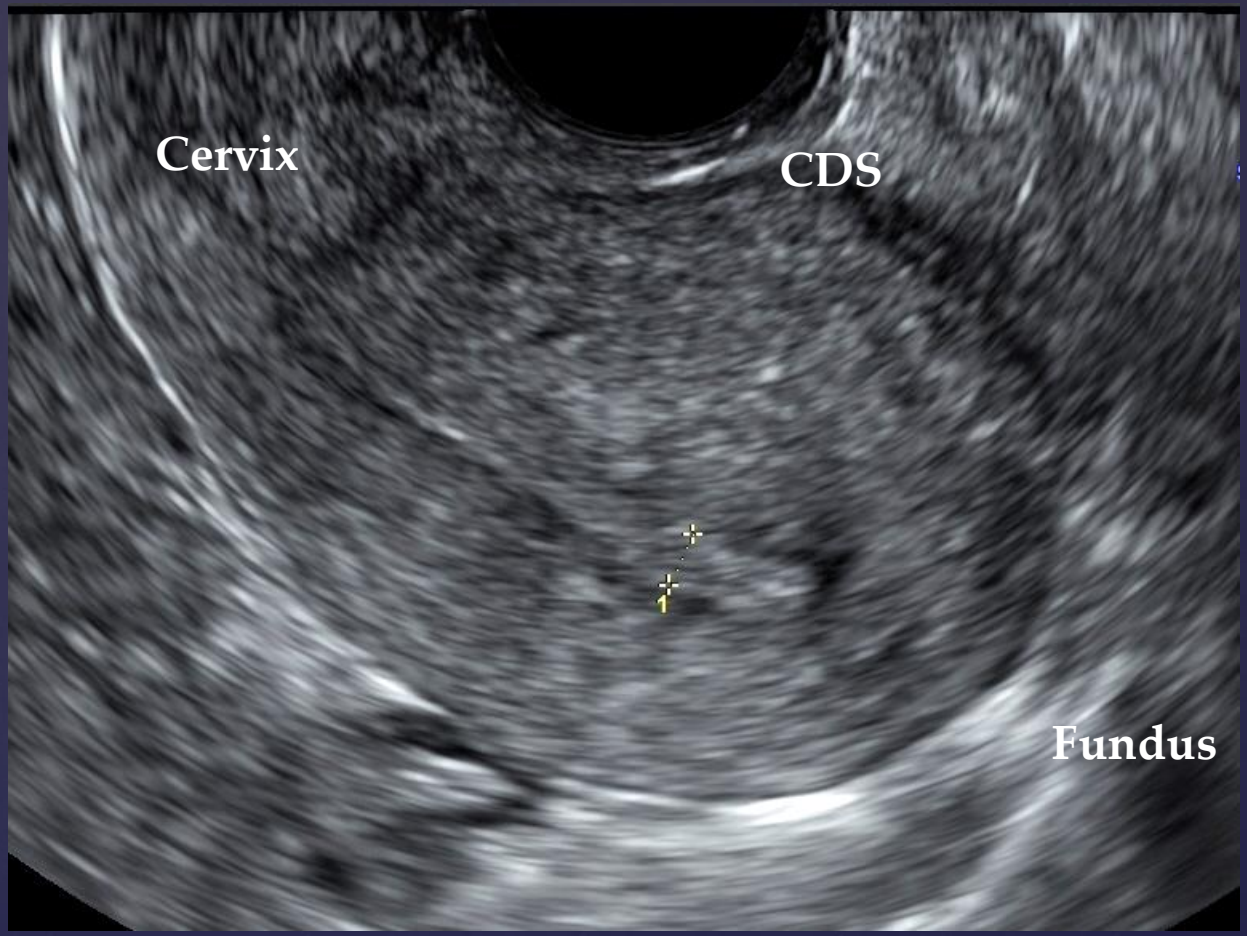
Transabdominal scan showing retroverted uterus

Uterine Orientation



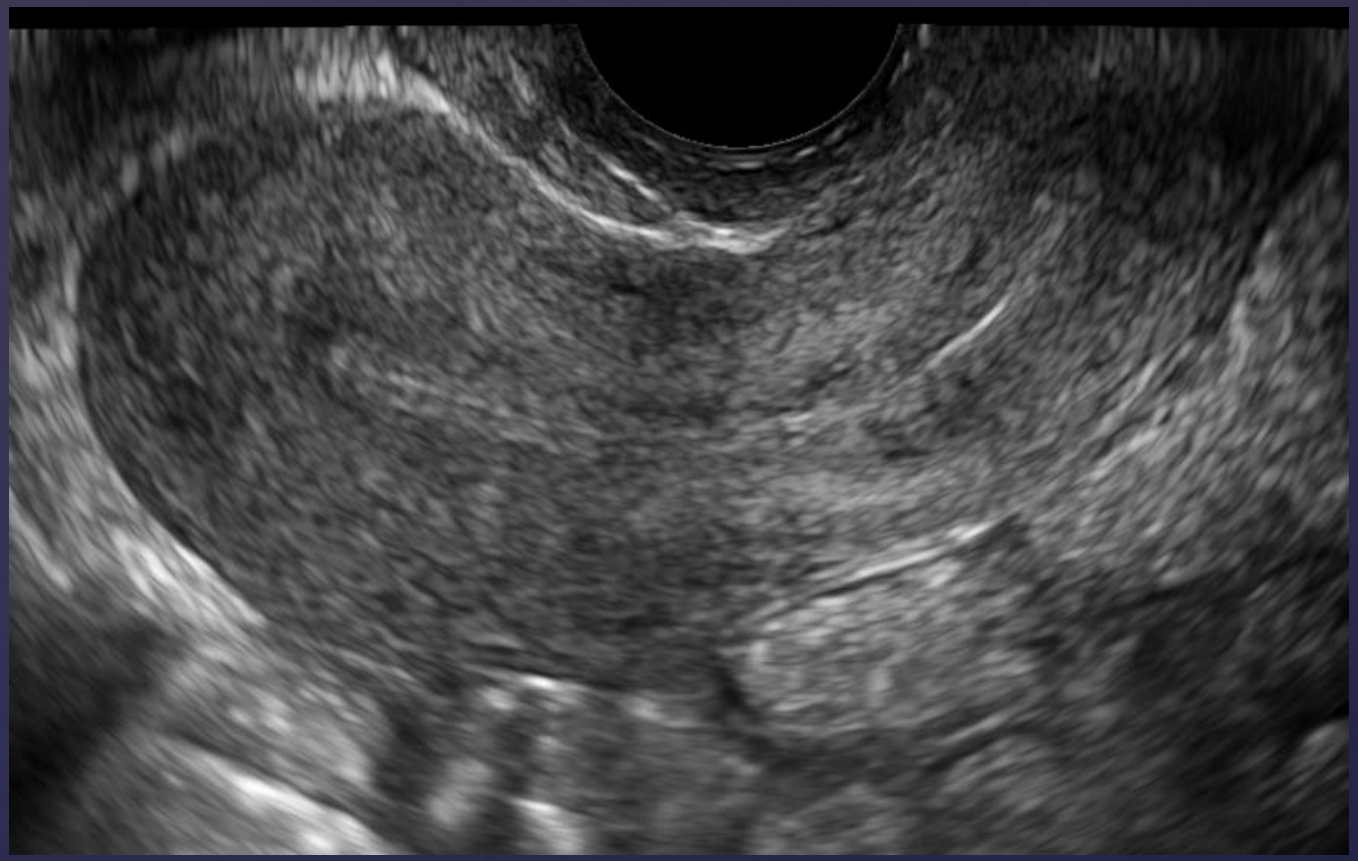
TV scan demonstrating an anteverted uterus.

Uterine Orientation



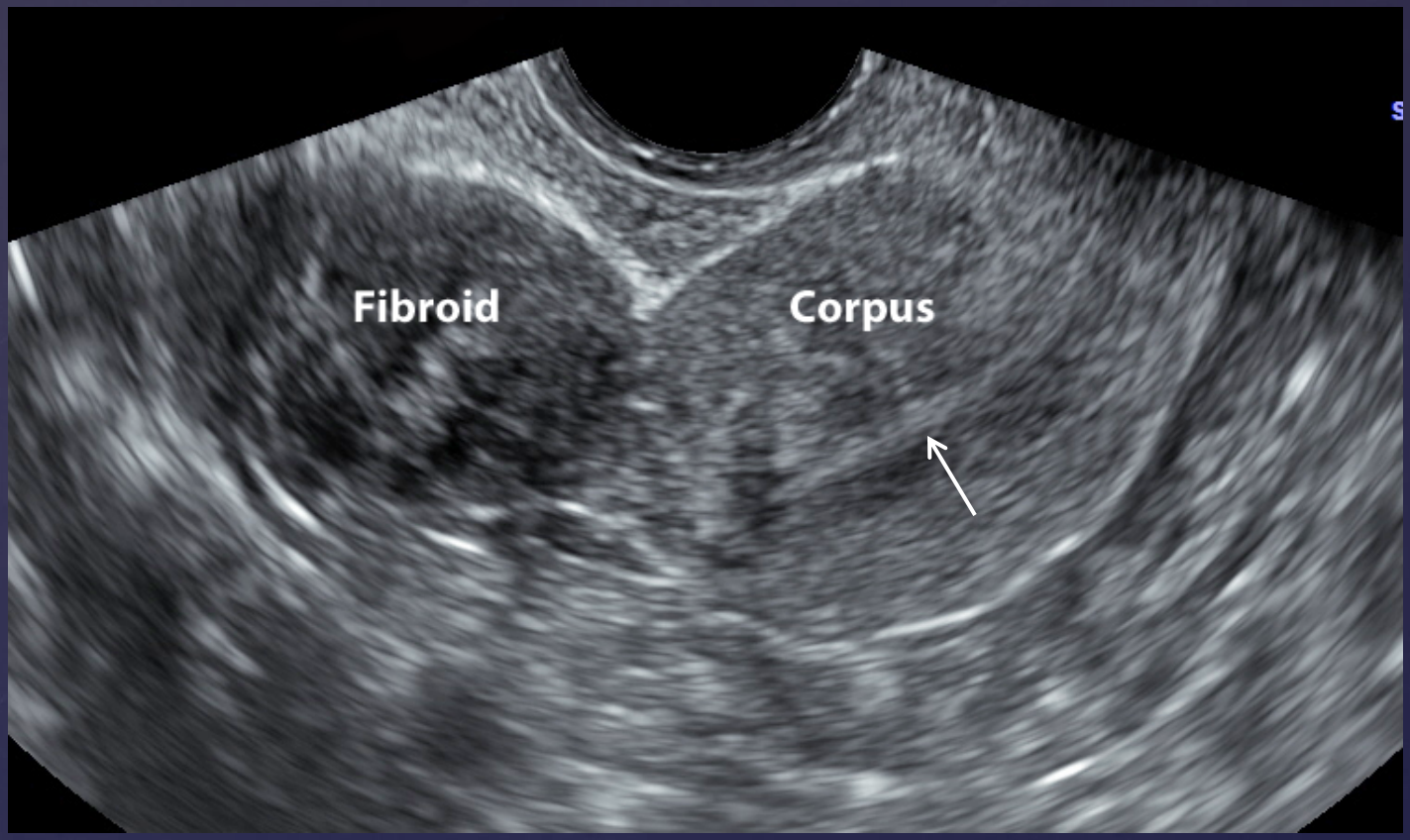
TV scan showing a retroverted uterus.
The calipers measure the endometrium.

Myometrium



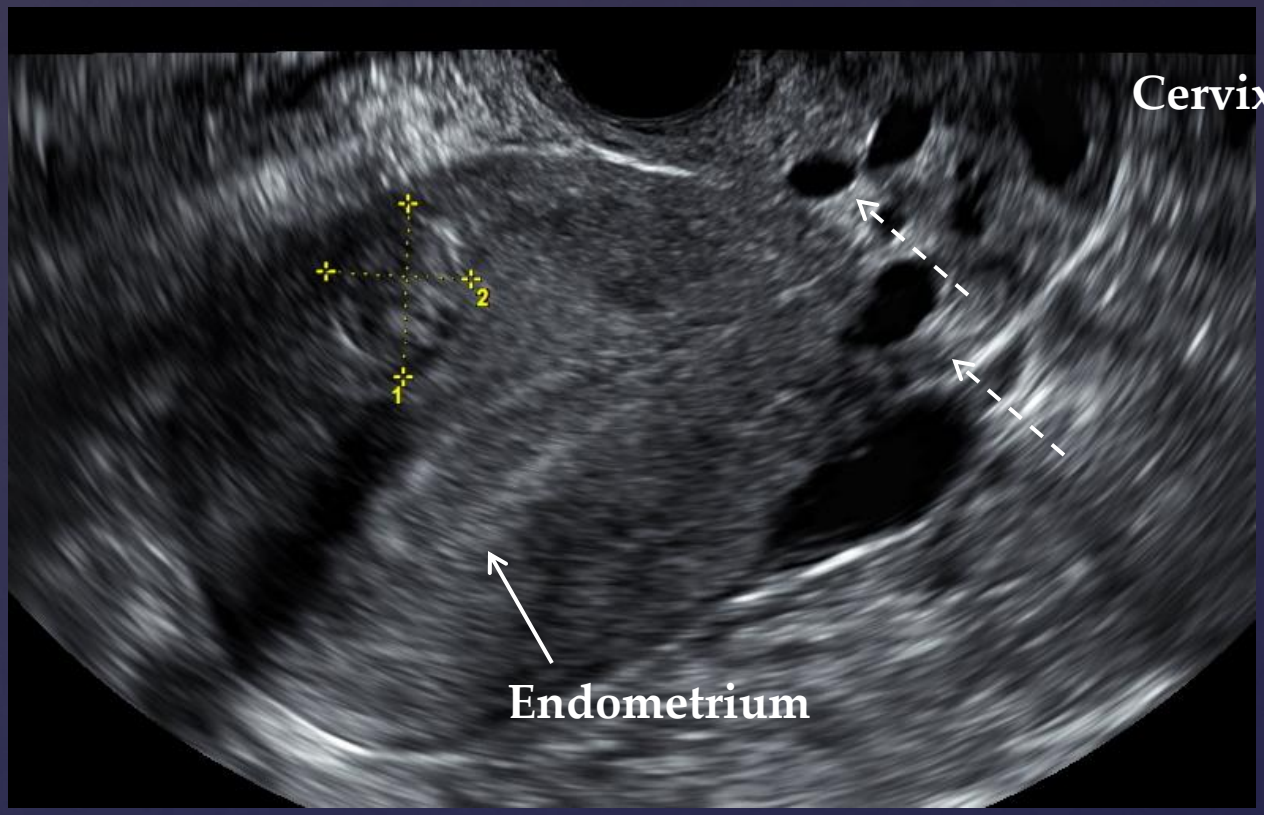
TV sagittal view of an anteverted uterus with a normal myometrium.

Myometrium



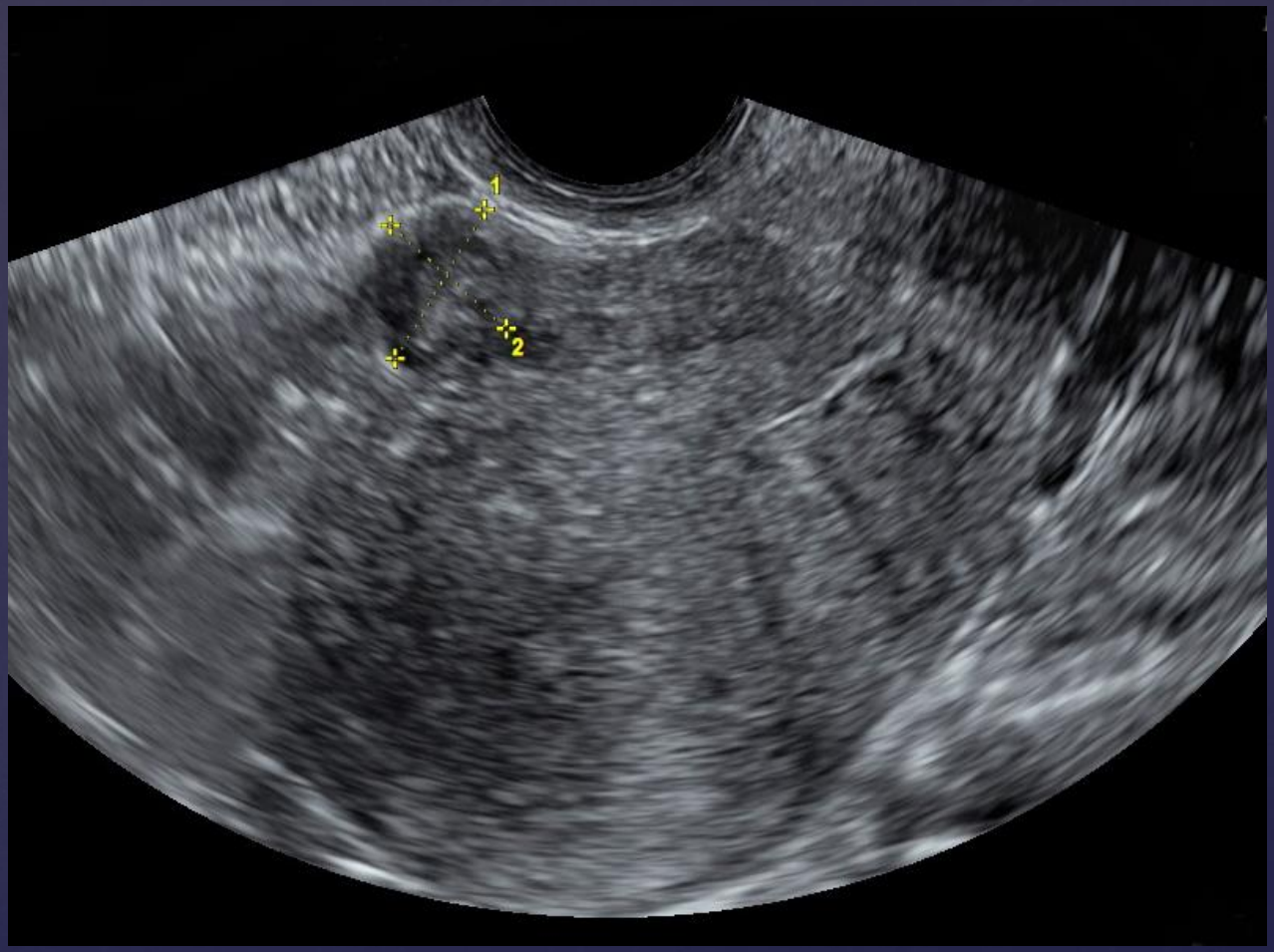
TV scan showing a pedunculated fundal fibroid.
Note the normal endometrium (arrow).

Myometrium



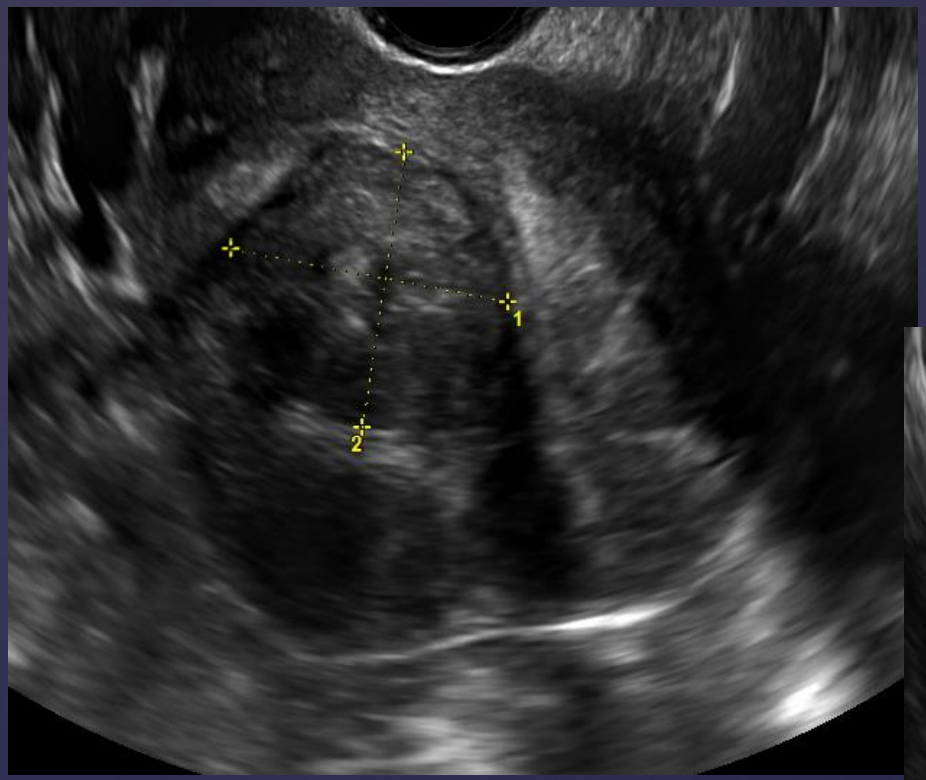
TV sagittal view of the uterus showing an anterior intramural fibroid (calipers). Note the Nabothian cysts (dashed arrows) in the cervix.

Myometrium

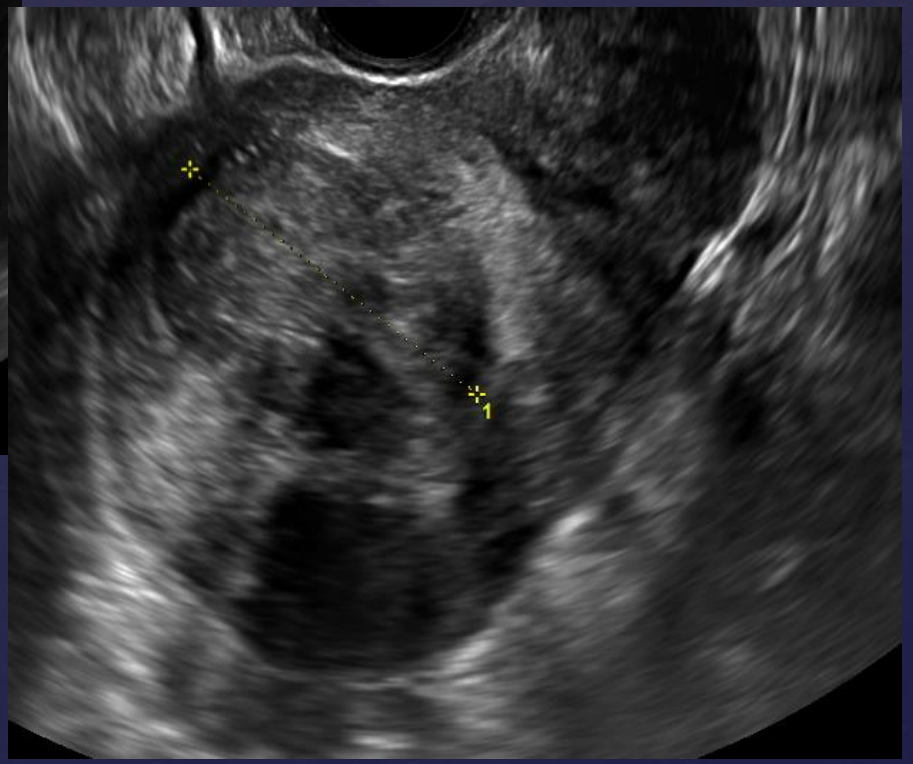


TV sagittal scan of a uterus with a small subserosal fibroid (calipers).

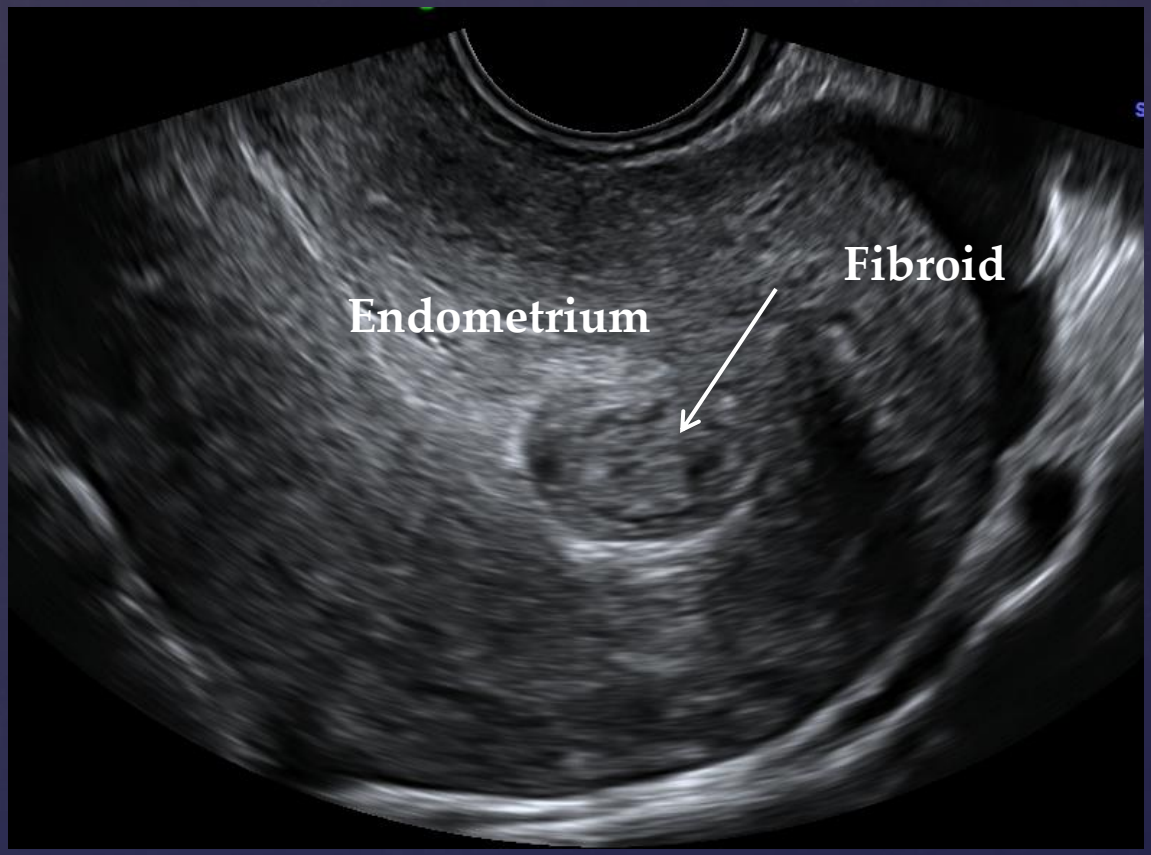
Myometrium



Uterus with several intramural fibroids. The largest fibroids should be measured in at least 2 planes.

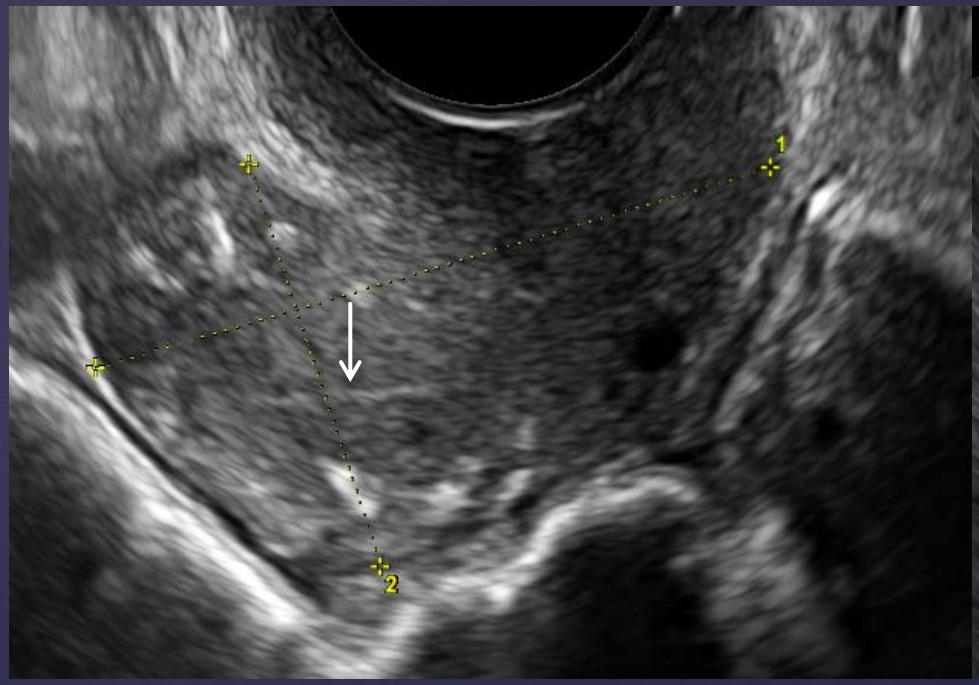


Myometrium

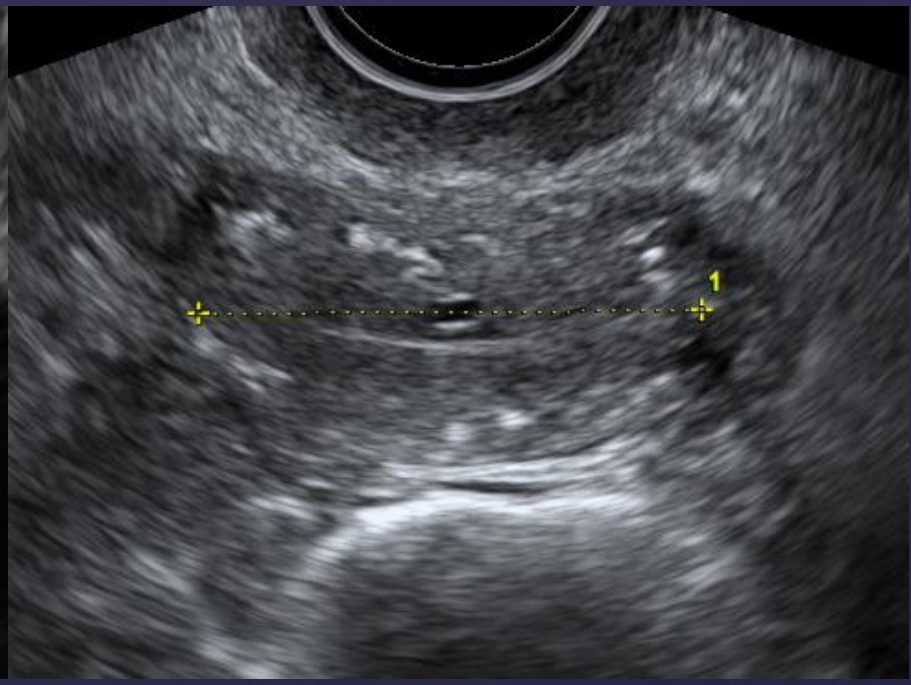


TV scan of a retroverted uterus showing a hypoechoic mass (arrow) originating from the posterior myometrium and protruding into the endometrium, characteristic of a submucosal fibroid.

Myometrium



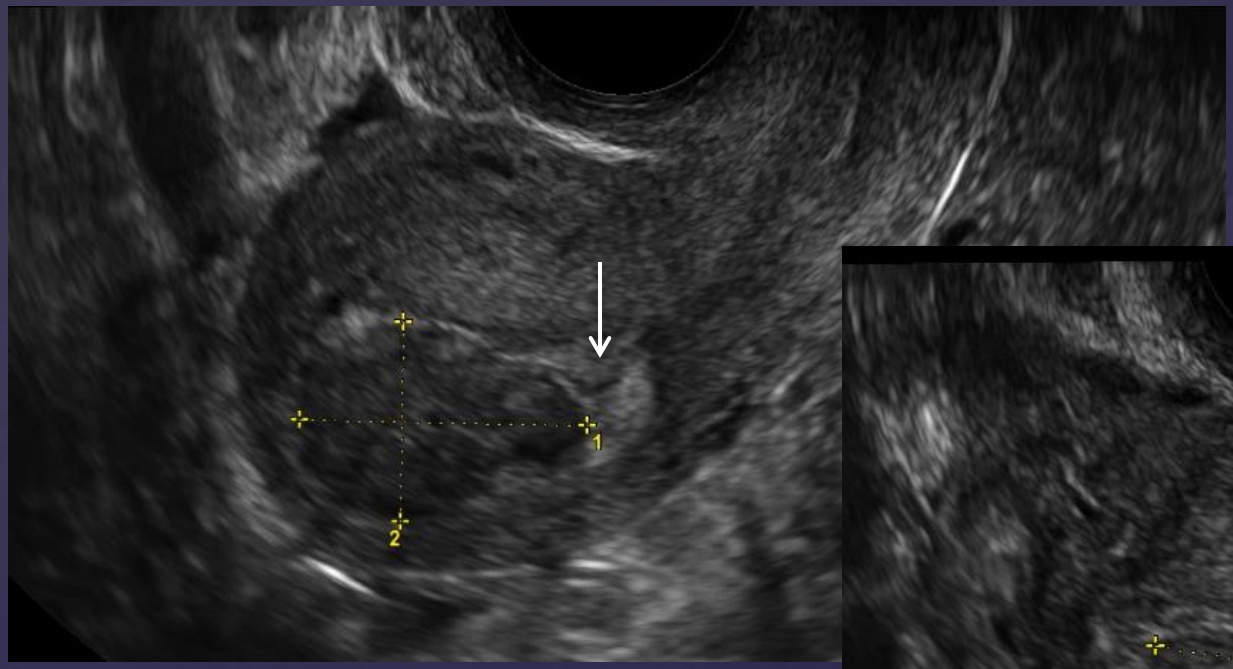
Sagittal

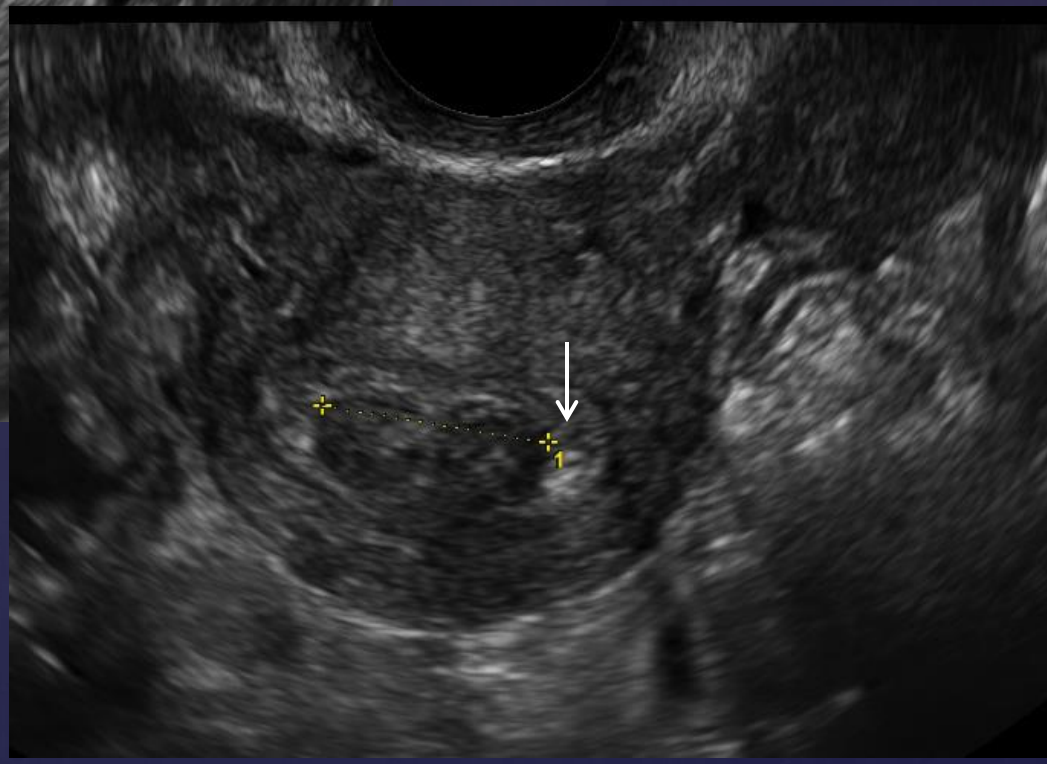


Transverse

TV scan of a uterus in a postmenopausal patient with calcified arcuate vessels. Note the thin endometrium demonstrated on the sagittal image (arrow).

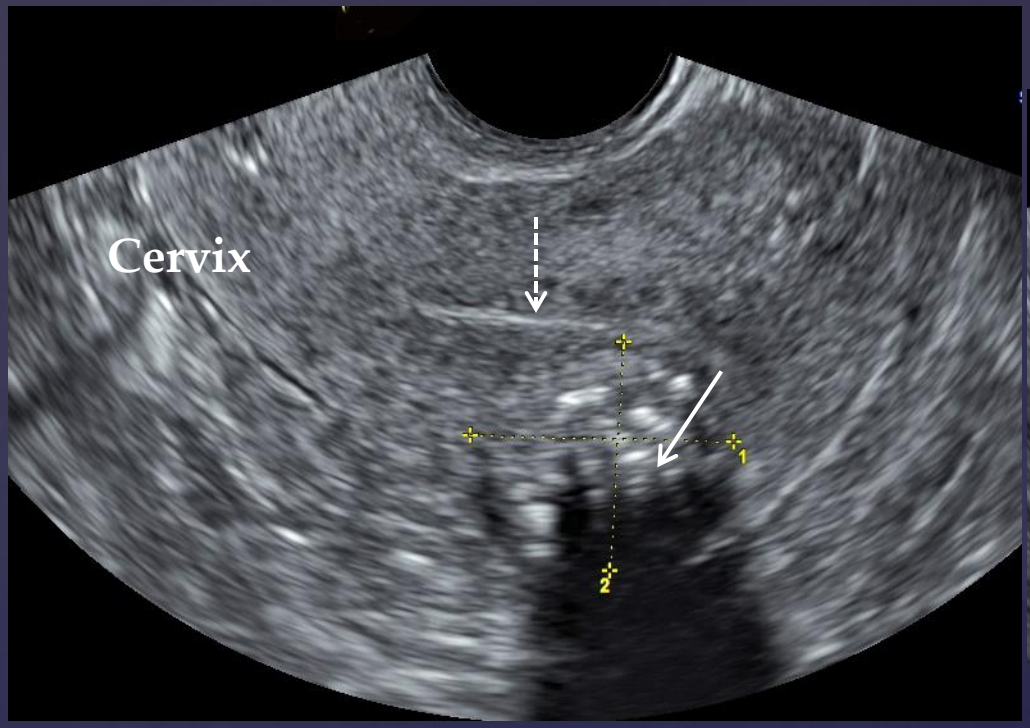
Myometrium

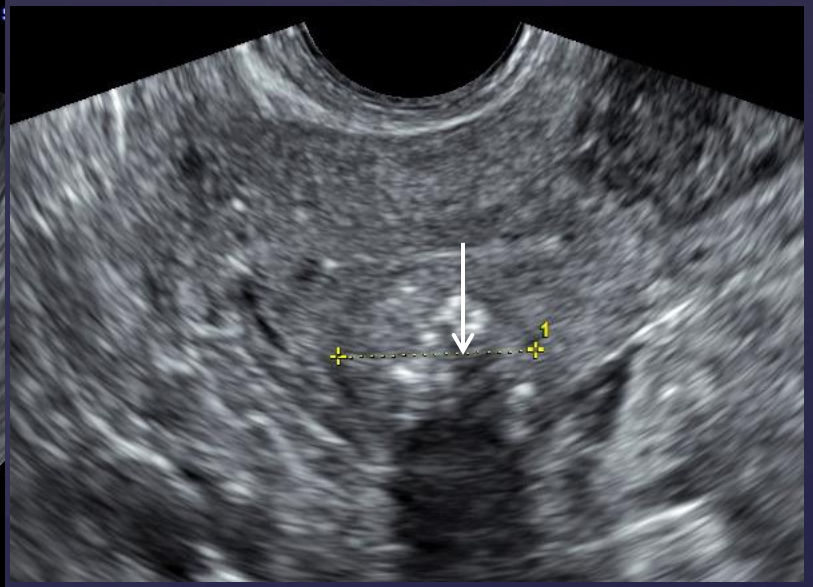




Sagittal and transverse views of the uterus demonstrating a large submucosal fibroid (+ calipers). Note the more echogenic endometrium (arrow).

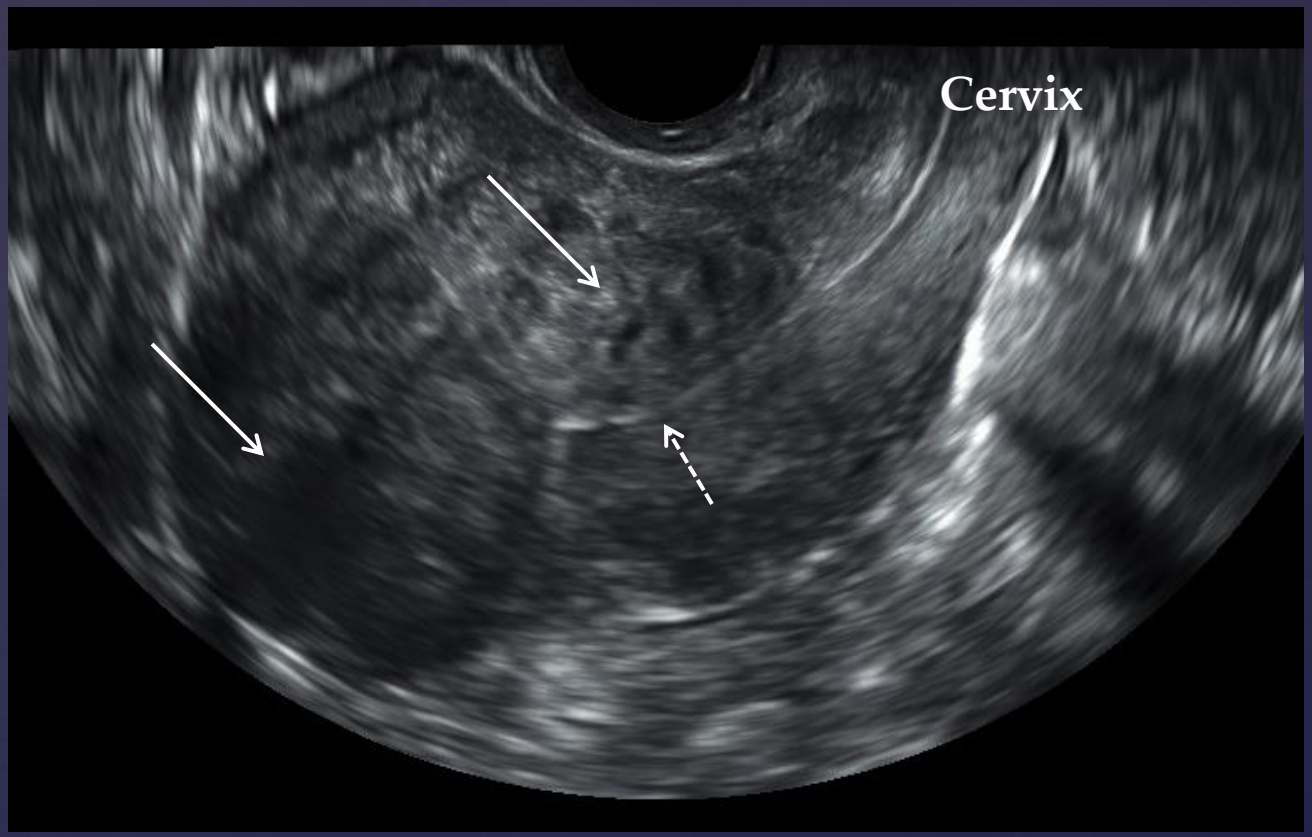
Myometrium





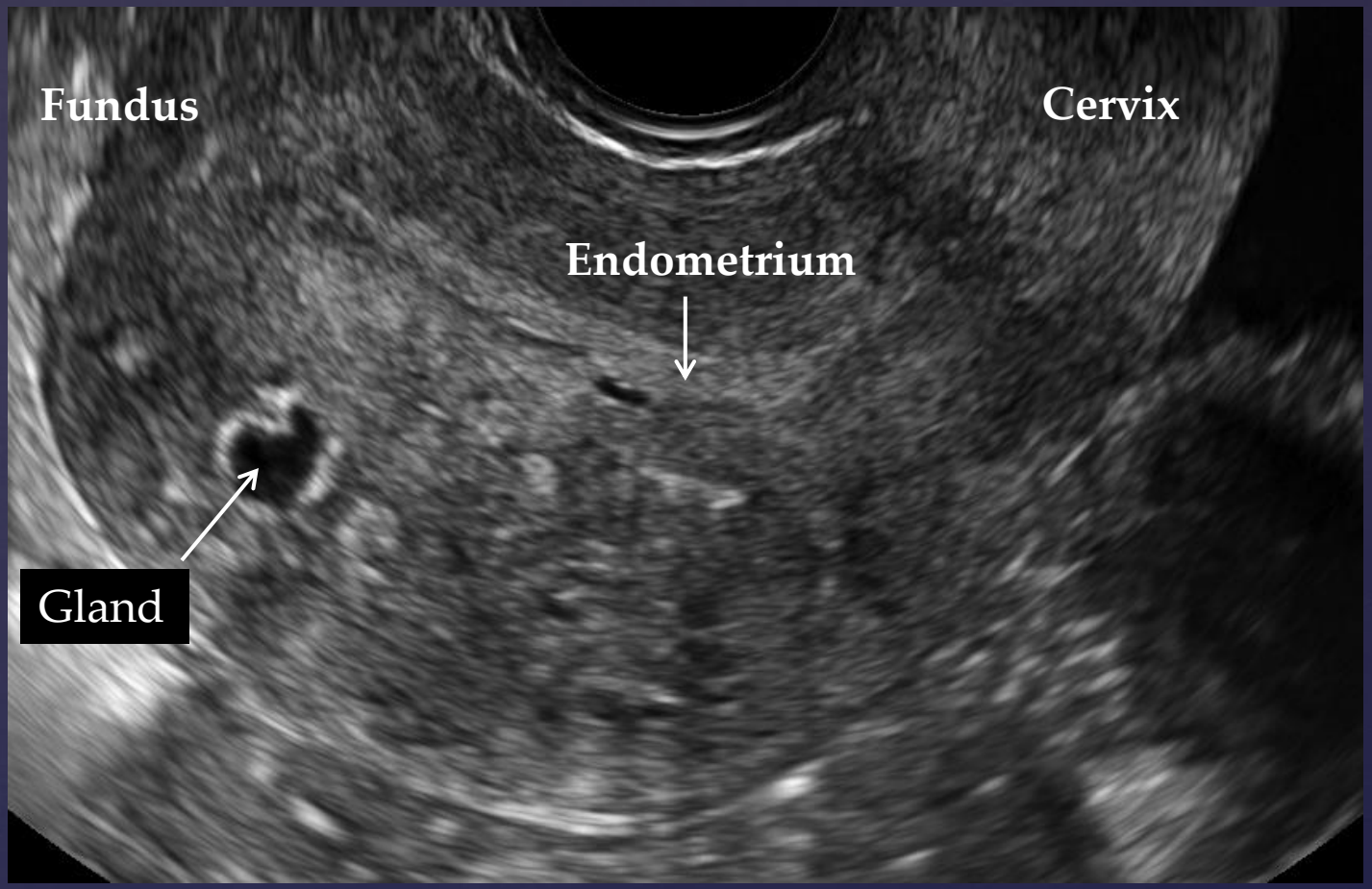
TV scan of a retroverted uterus showing a speckled mass (arrow) in the anterior myometrium characteristic of a calcified fibroid. Note the thin endometrium (dashed arrow) in this postmenopausal patient.

Myometrium



TV scan of an anteverted uterus with multiple confluent fibroids (arrows). The endometrium (dashed arrow) is partially obscured by the fibroids.

Myometrium

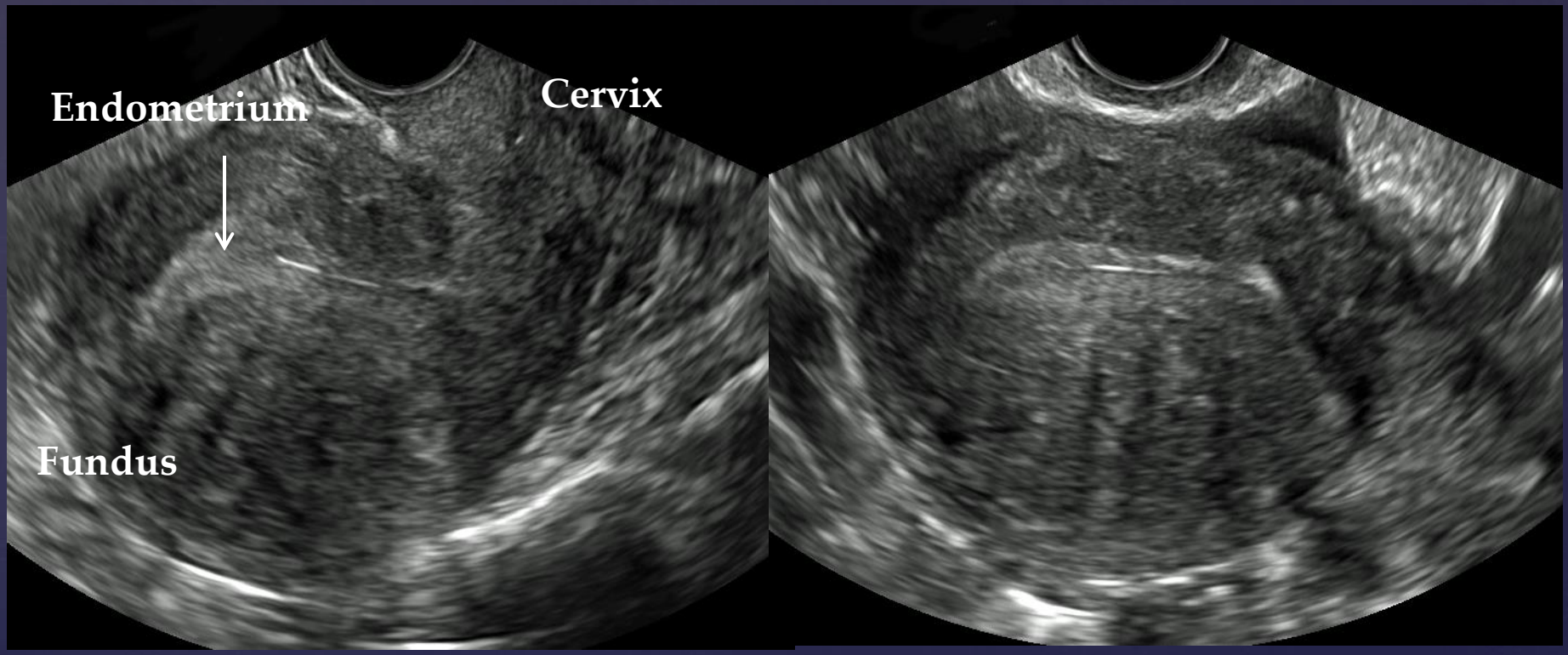


TV scan of a globular asymmetric uterus with cystic areas characteristic of adenomyosis. The cystic areas represent endometrial glands.

Myometrium

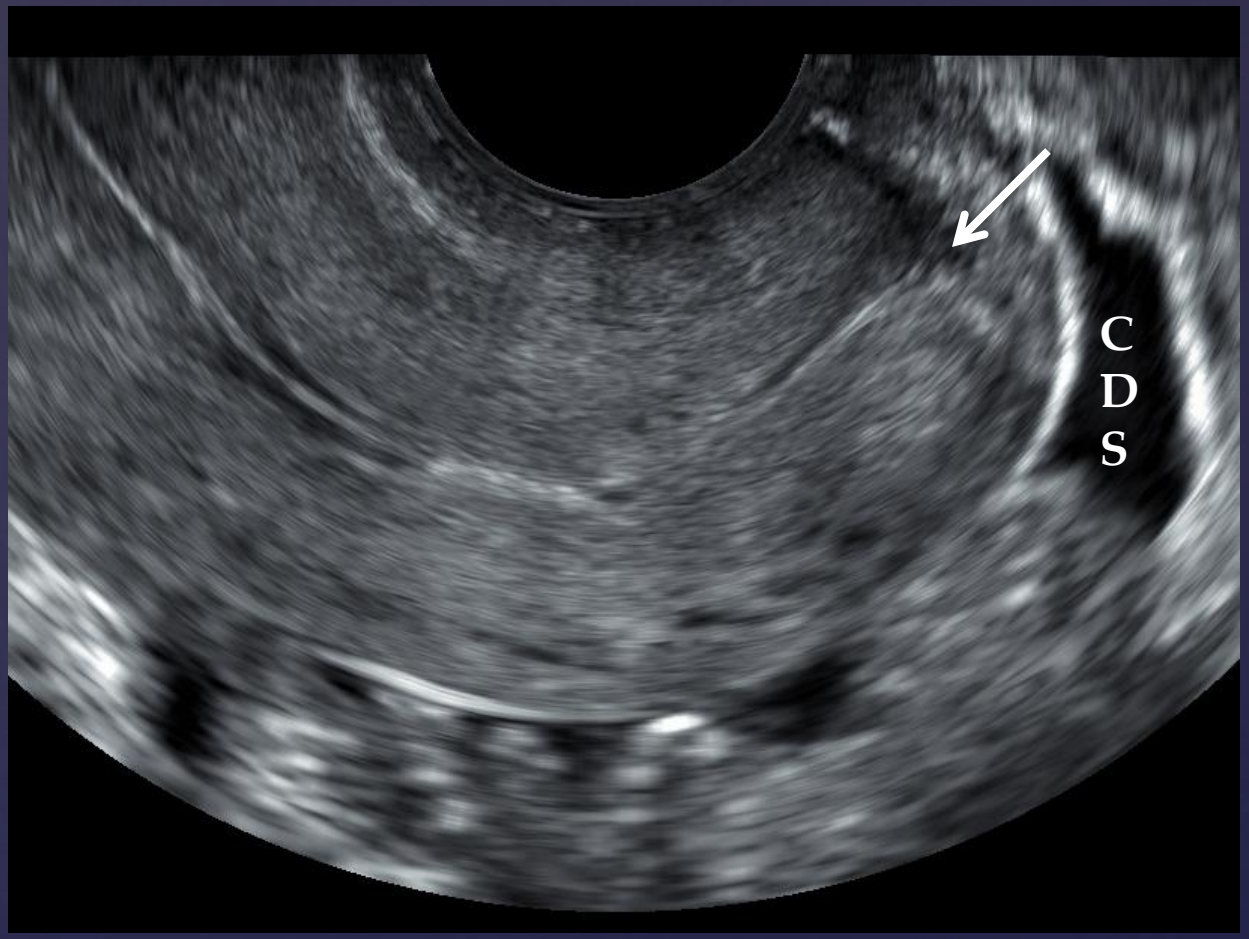
Sagittal

Transverse



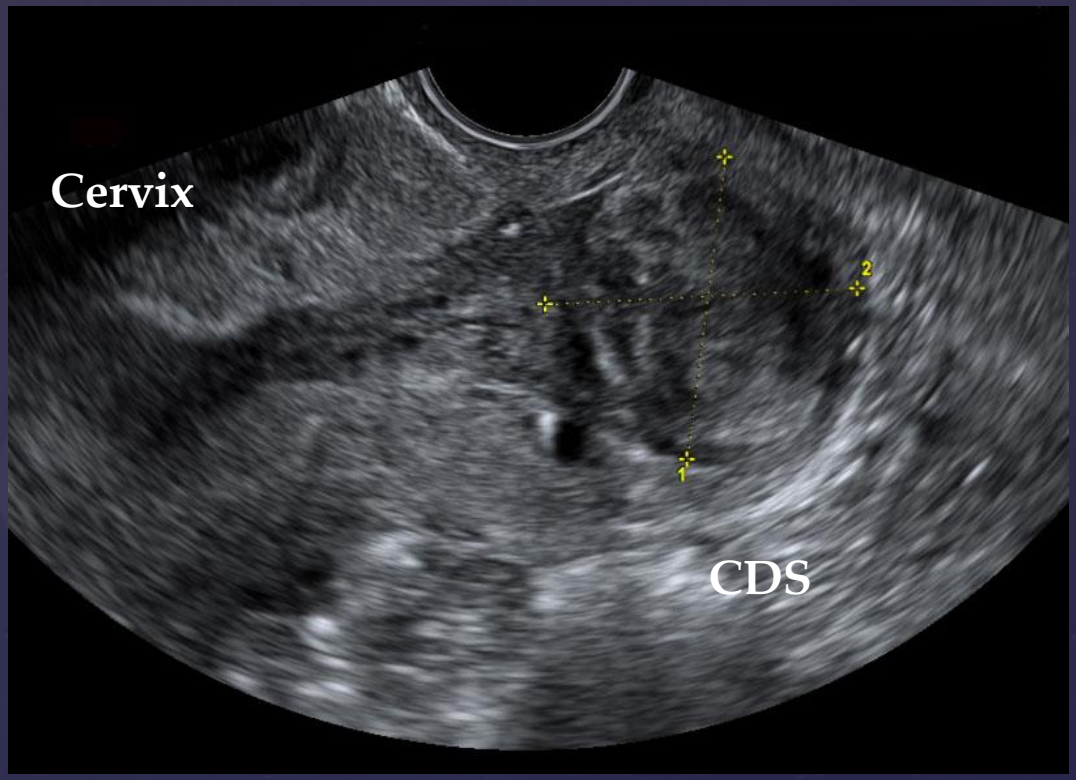
TV scan demonstrating sagittal and transverse views of a uterus. The mottled, asymmetric myometrium is characteristic of adenomyosis.

Uterine Cervix



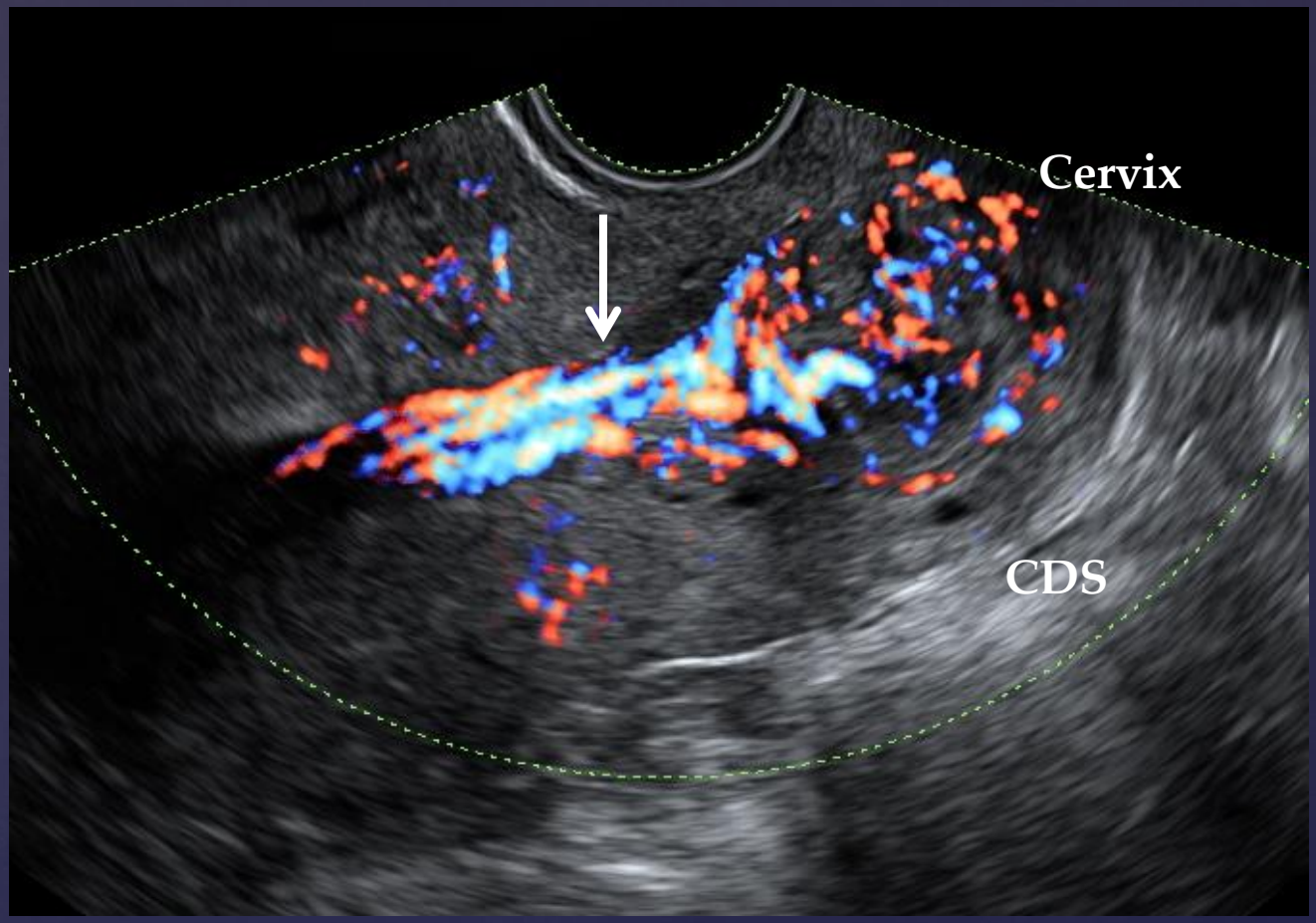
TV scan showing the cervix. The external os is demonstrated with an arrow. The corpus is not imaged in this view. There is fluid in the cul-de-sac.

Uterine Cervix



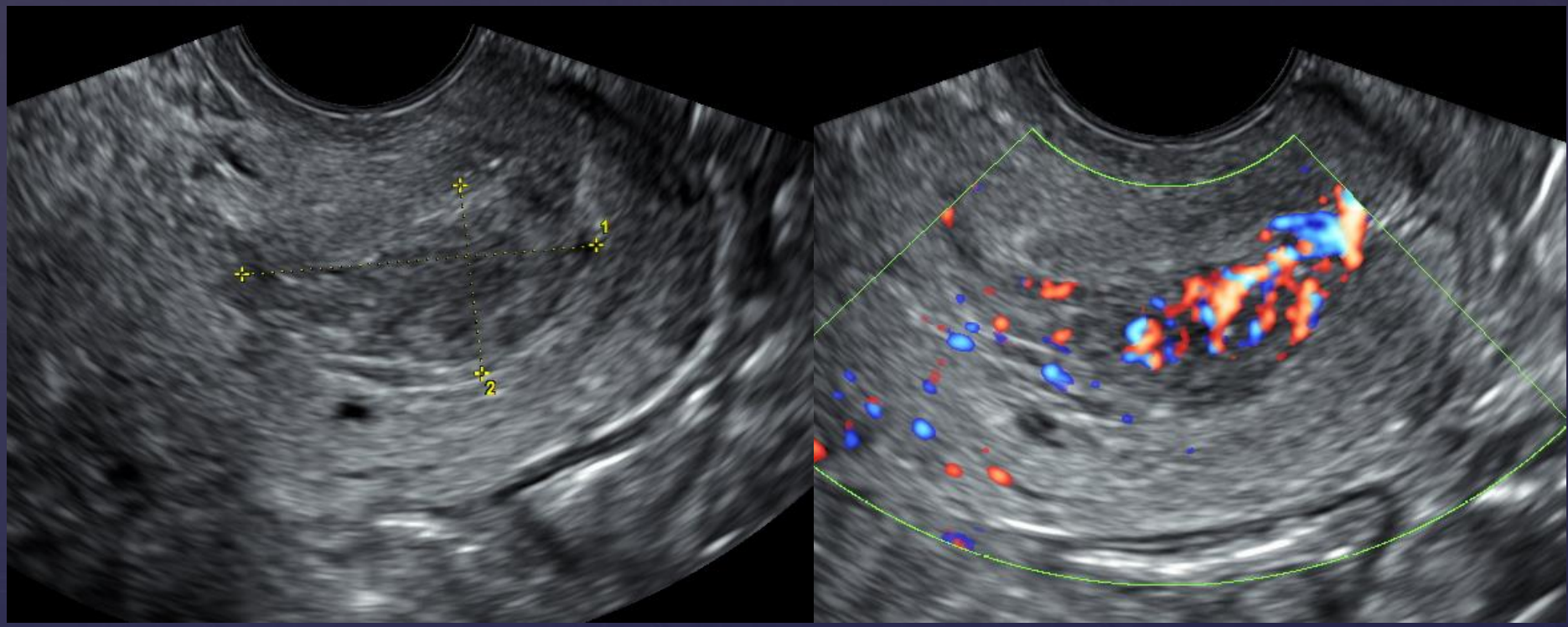
TV scan of the uterine cervix. The corpus of the uterus is not shown in the image. There is a solid mass protruding through the endocervical canal into the vagina (calipers). This mass was pathologically confirmed to be a fibroid.

Uterine Cervix



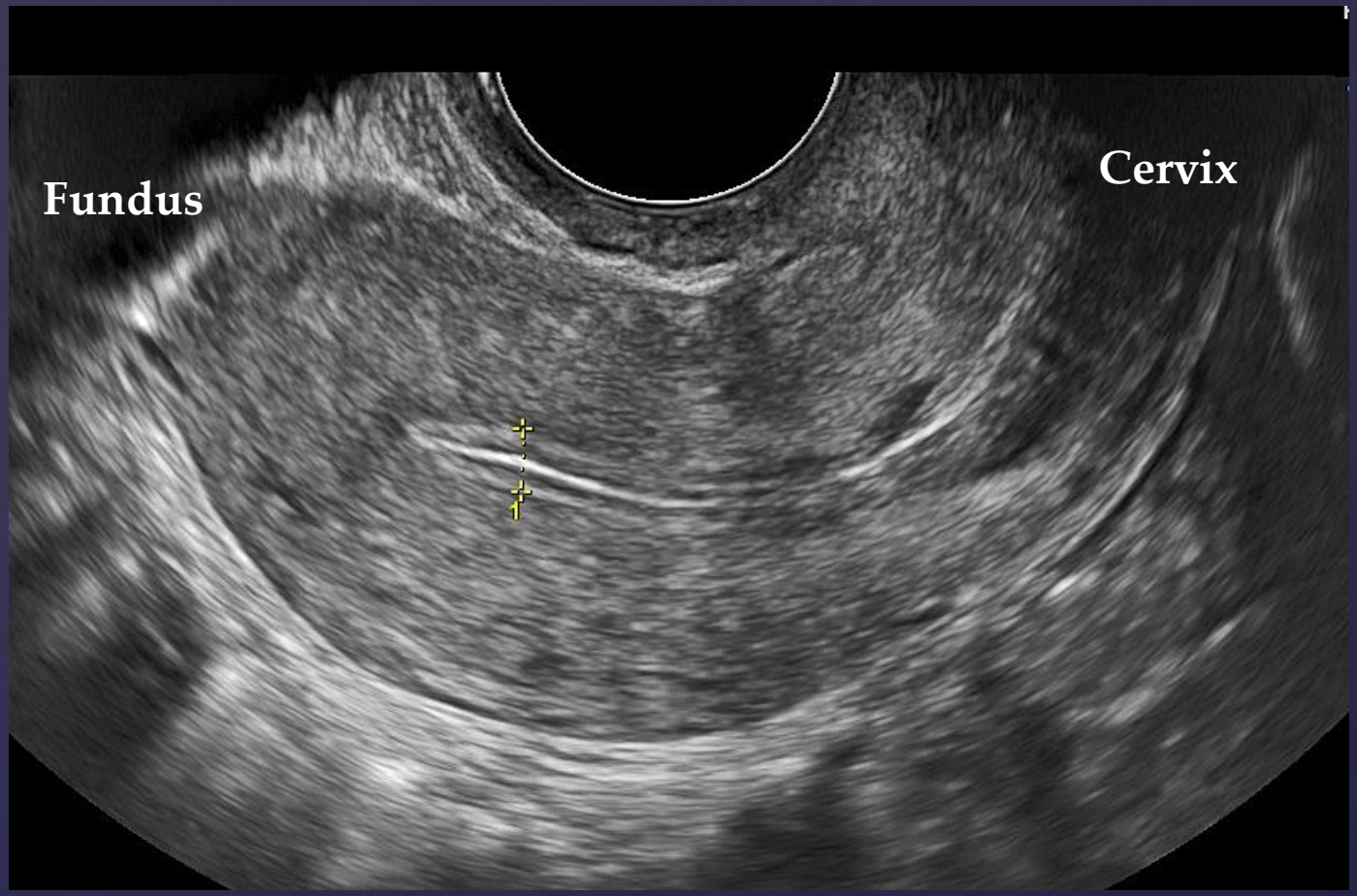
TV scan of the fibroid in the prior slide, demonstrating the vascular stalk (arrow) by color flow imaging.

Uterine Cervix



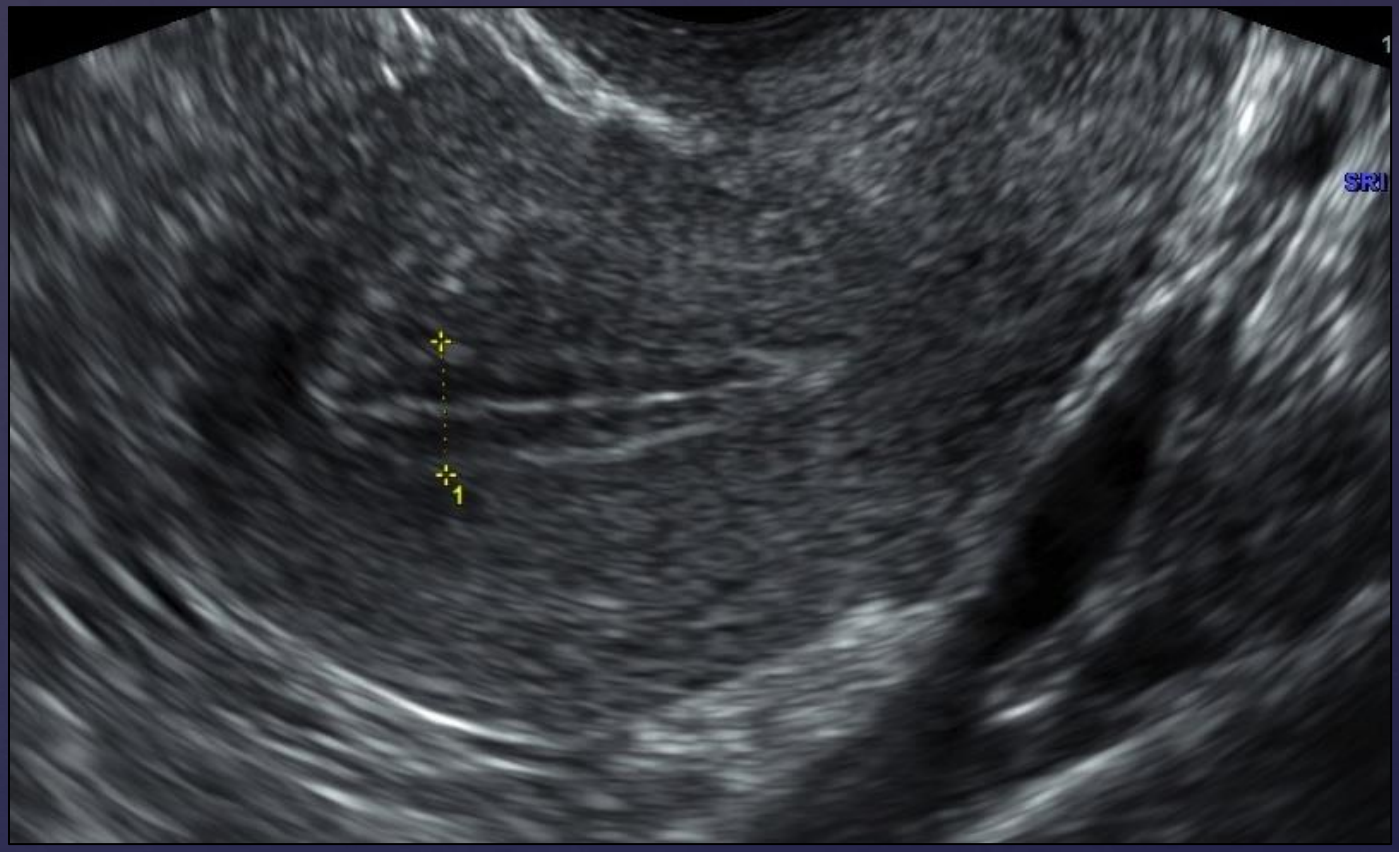
TV scan of the cervix demonstrating a hypoechoic mass (calipers) within the endocervical canal. Color flow demonstrates the vascular nature of this mass. The mass was pathologically shown to be an adenomyoma. The corpus of the uterus is not in the image.

Endometrium



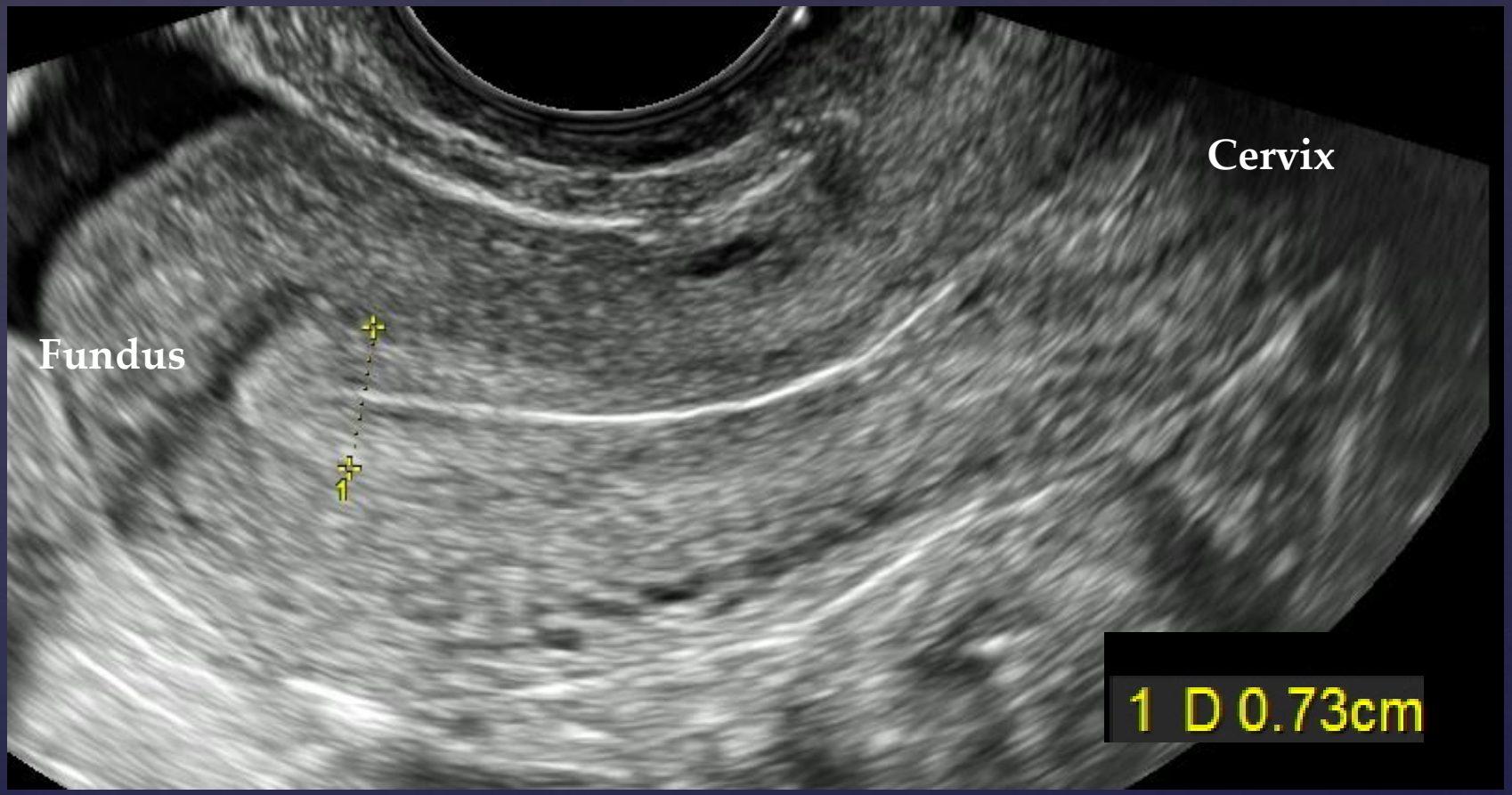
TV scan showing a thin endometrium in a young patient on oral contraceptives. Note the anteverted uterine position.

Endometrium



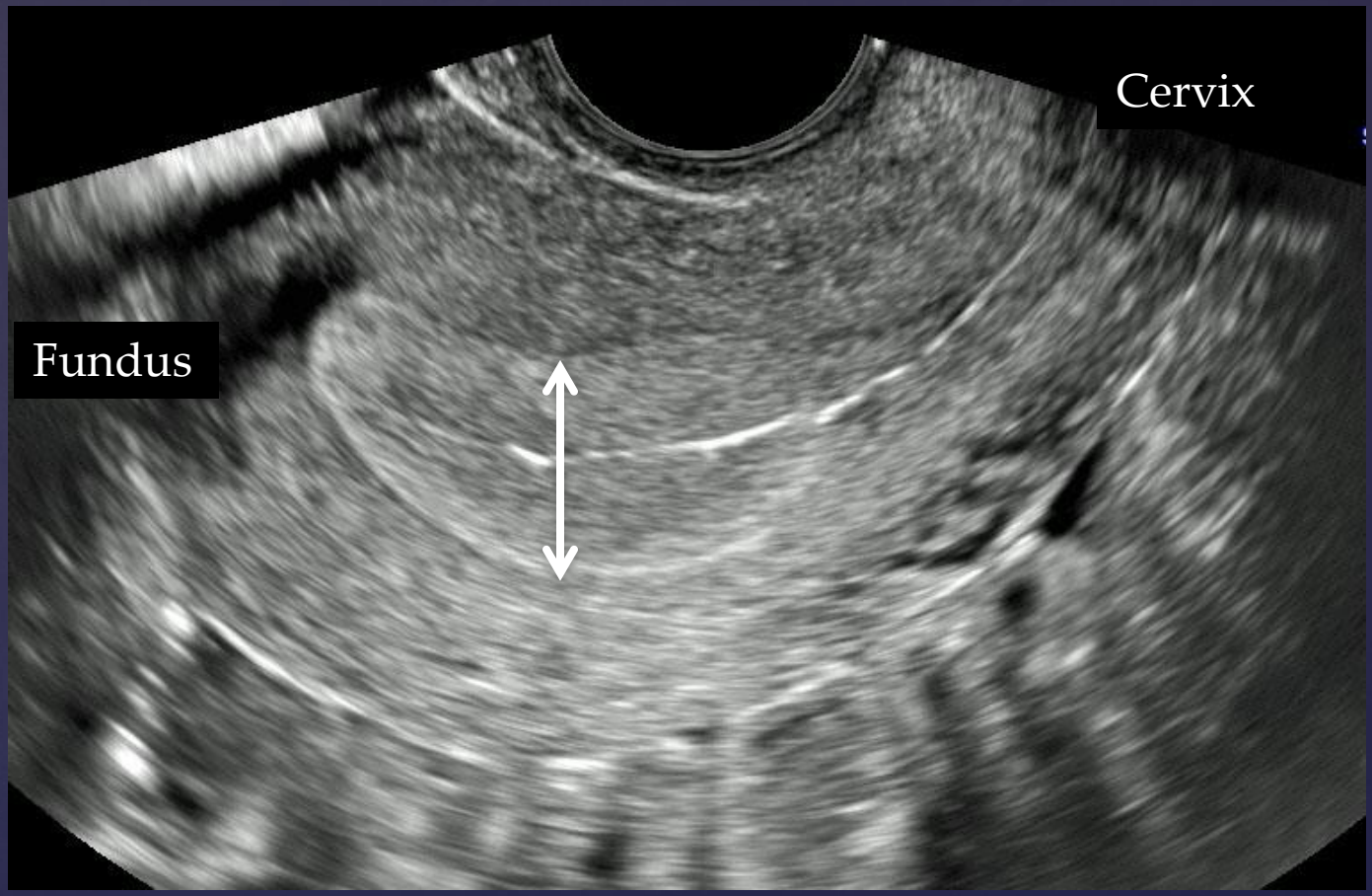
TV scan showing a trilaminar endometrium early in the menstrual cycle.

Endometrium



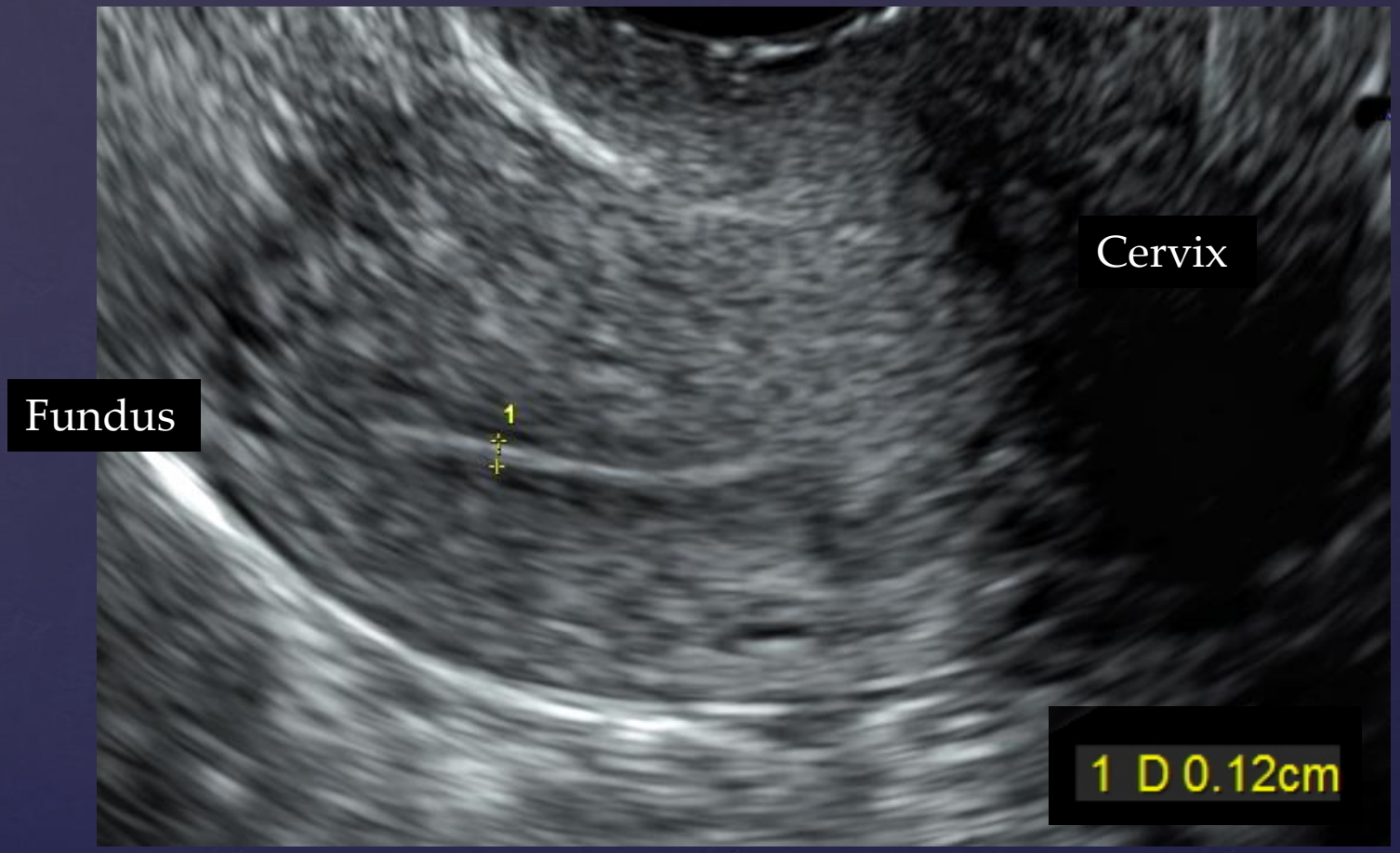
TV scan showing the endometrium in the mid-cycle.
Note the small amount of free fluid at the fundus.

Endometrium



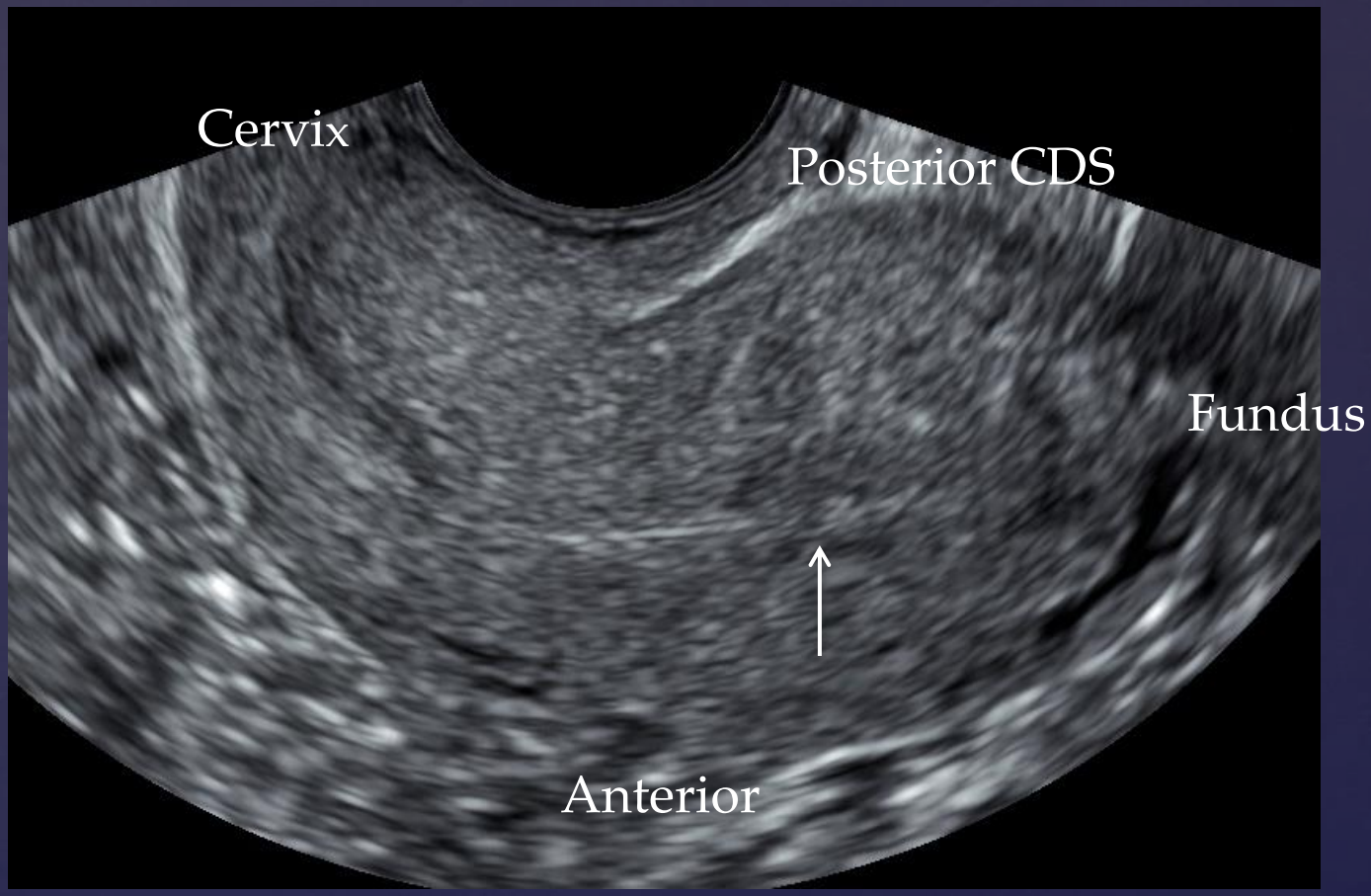
TV scan in the late luteal phase of the menstrual cycle demonstrating a homogeneous endometrium.

Endometrium



TV scan in a postmenopausal patient demonstrating a thin endometrium.

Endometrium



TV scan of a retroverted, retroflexed uterus. The endometrium is very thin in this postmenopausal patient.

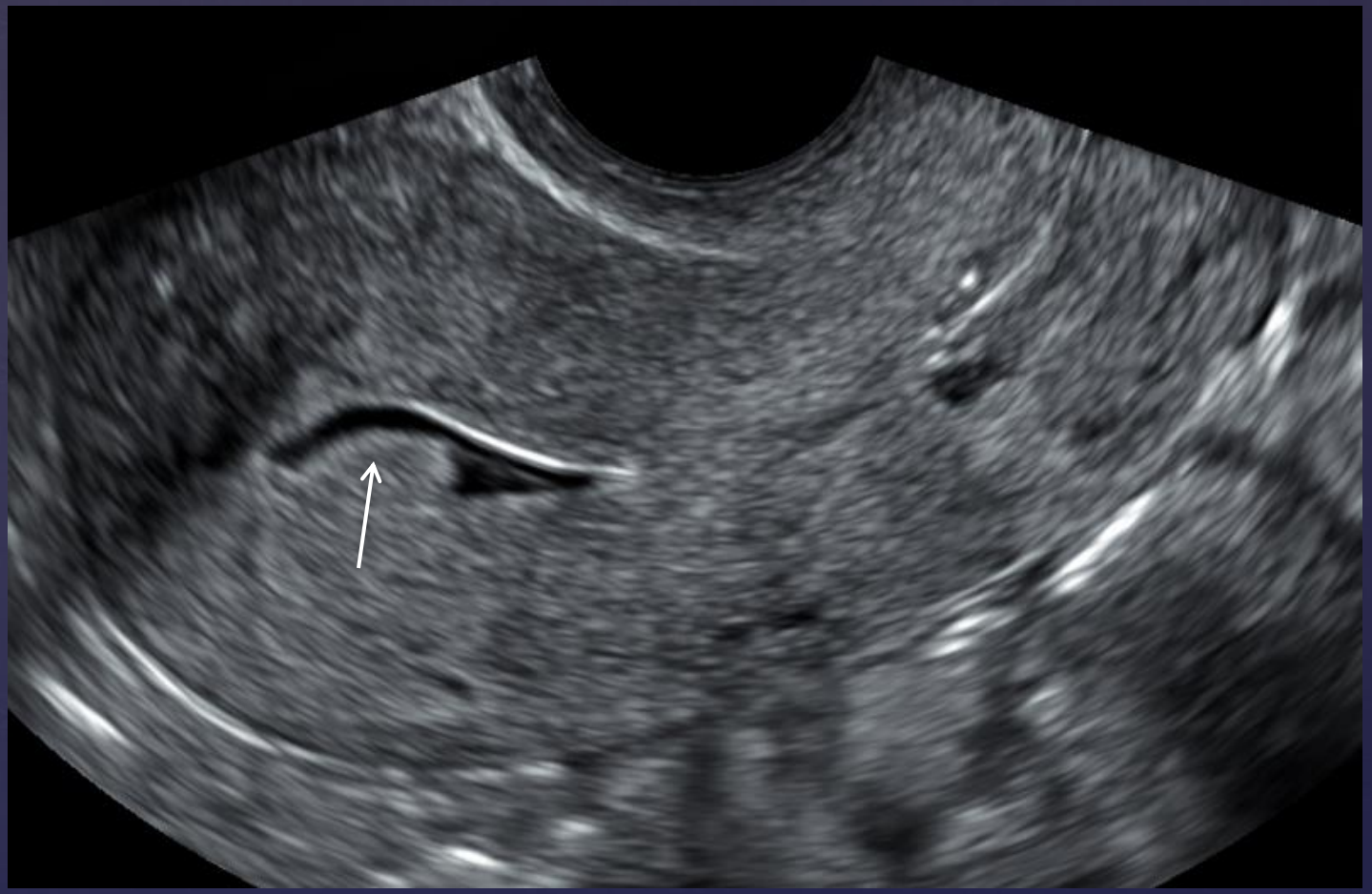
Endometrium

TV scan showing a sliver of fluid within the endometrium of a postmenopausal patient. Note that the endometrial measurement is comprised of the two single endometrial widths and does not include the fluid.

Endometrium

TV scan showing the uterus in sagittal position with an indistinct endometrium in a patient with menorrhagia.

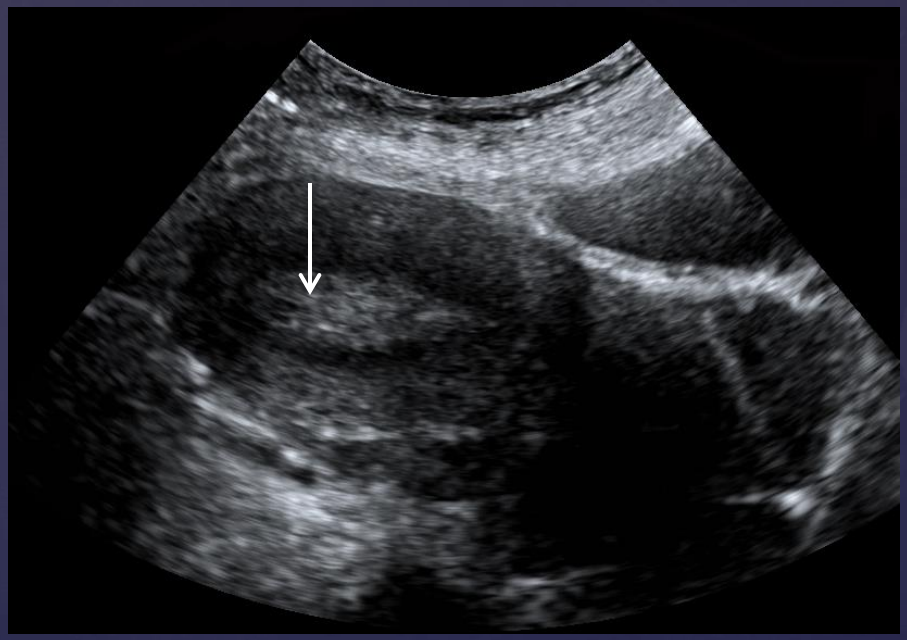
Endometrium



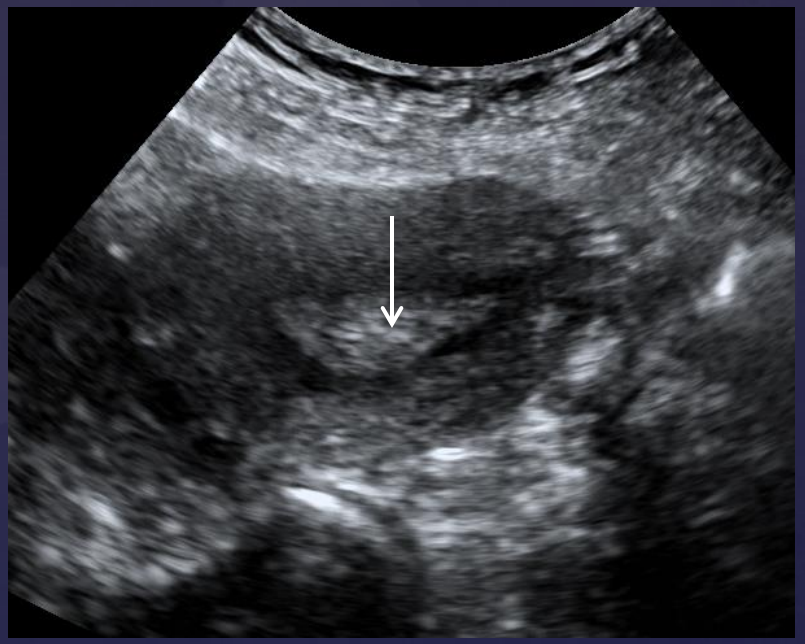
Sonohysterography was performed to evaluate the endometrium of the patient in the previous slide, revealing a polyp that was not seen during regular scanning.

Endometrium

Sagittal

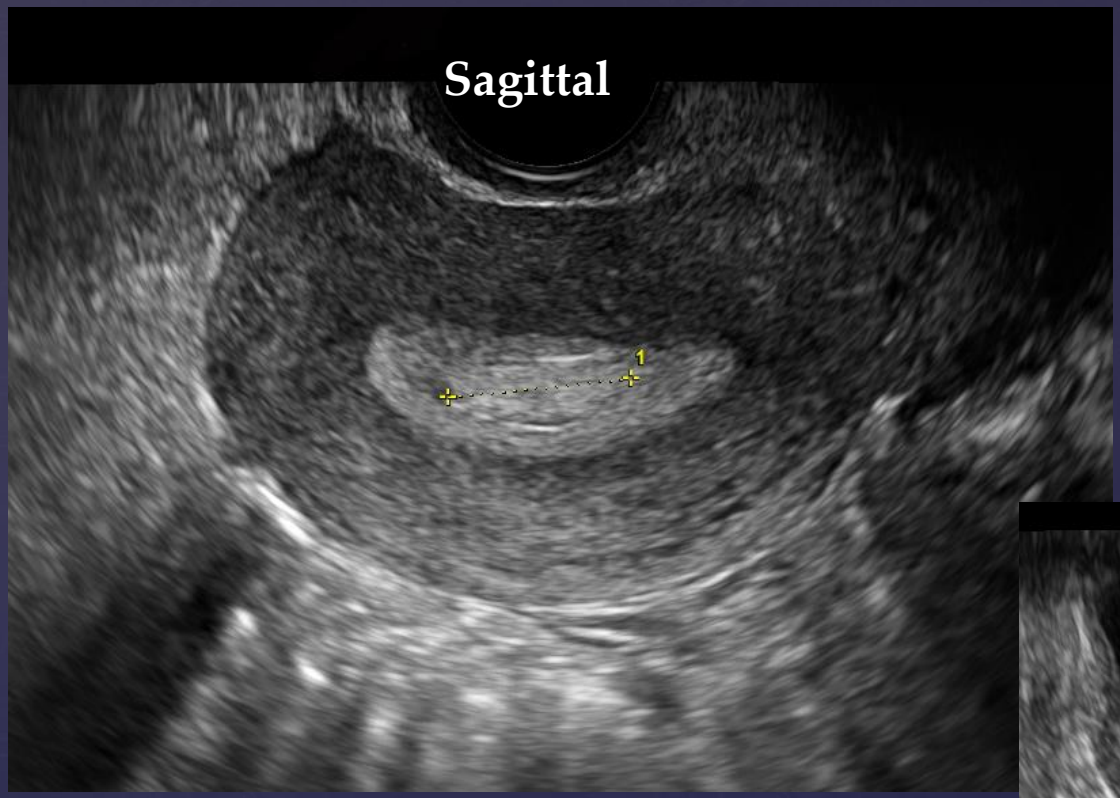


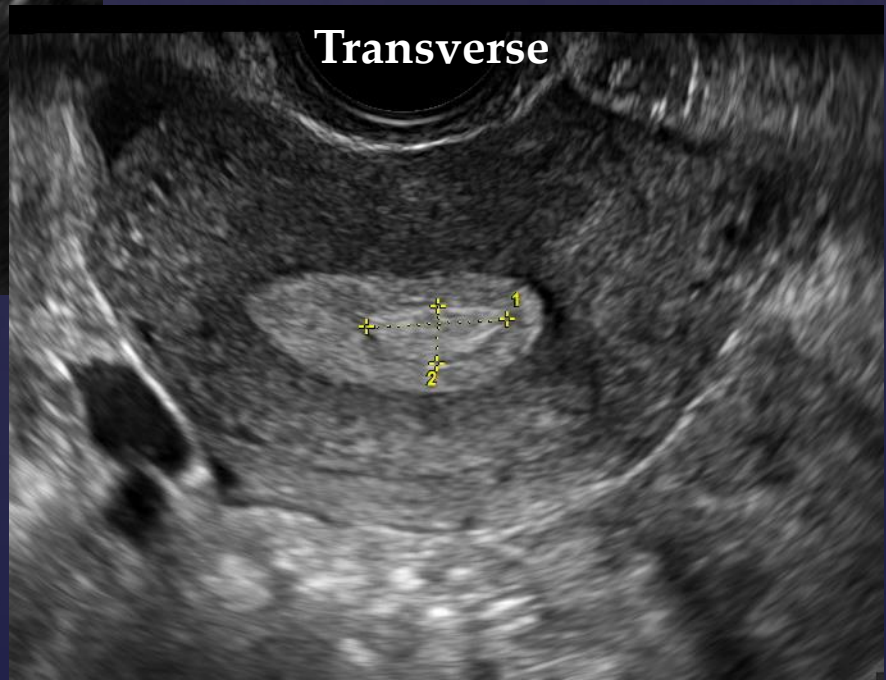
Transverse



TA scan of the uterus. Note the heterogeneity of the endometrium (arrows).

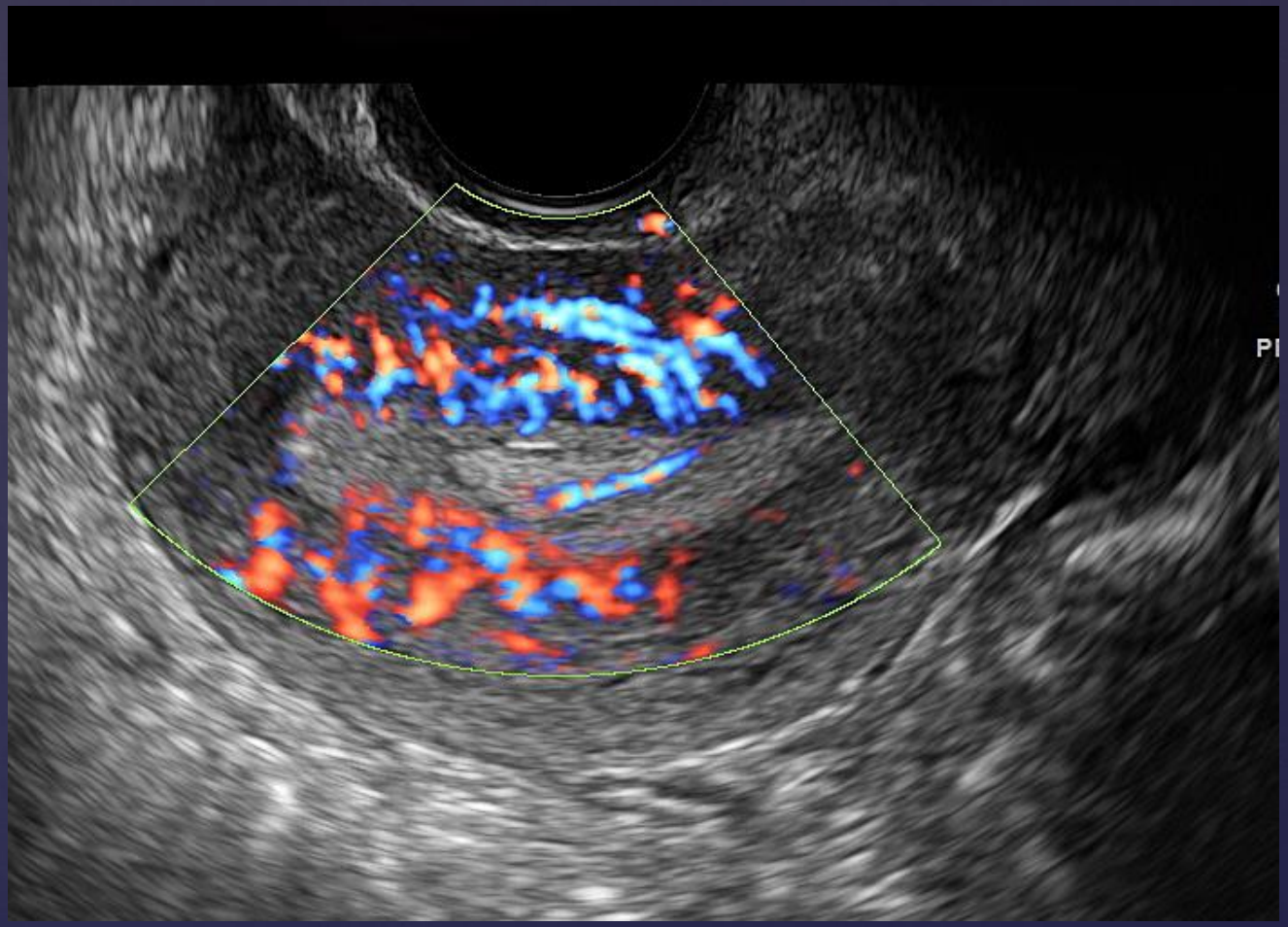
Endometrium





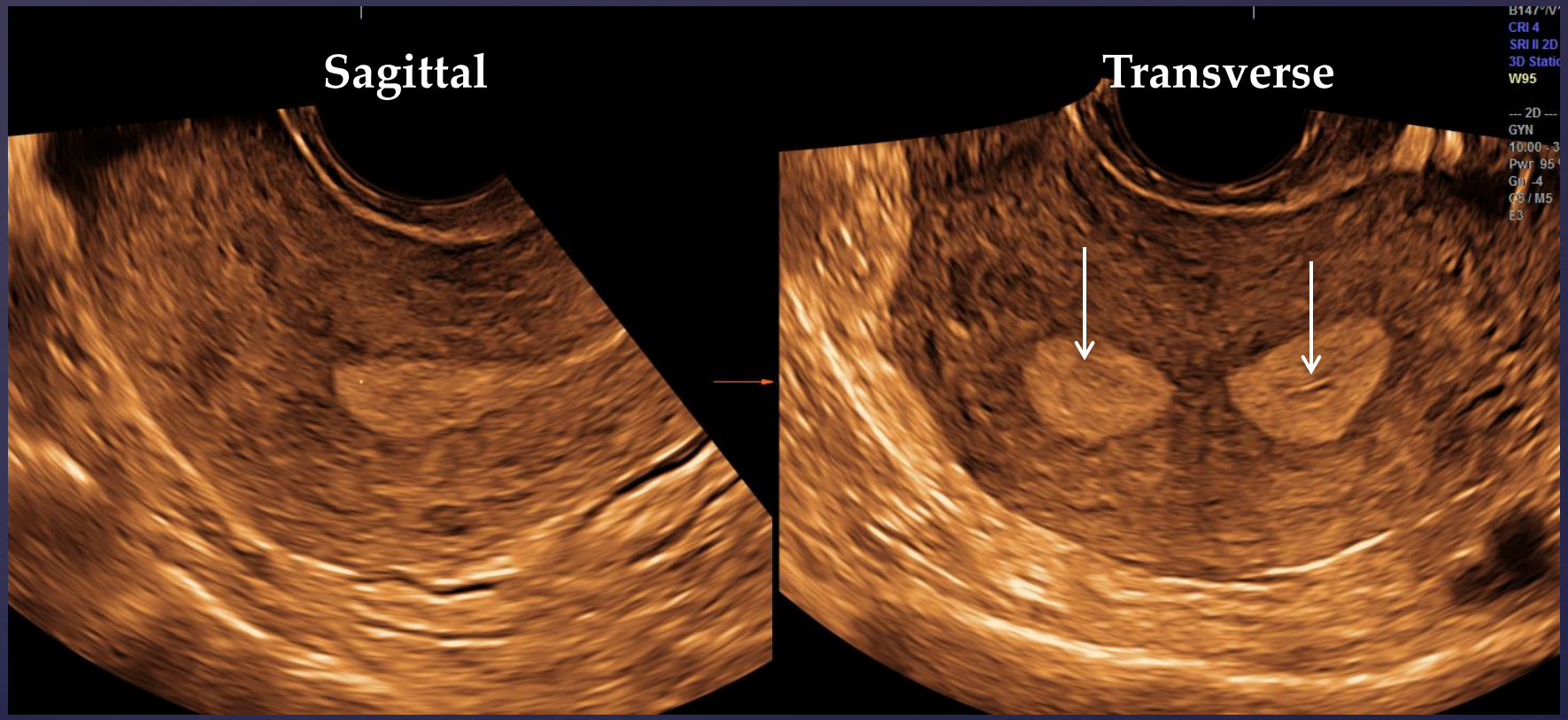
TV evaluation of the same patient as in the prior slide demonstrates a well-circumscribed echogenic area (+ calipers), suggestive of an endometrial polyp.

Endometrium



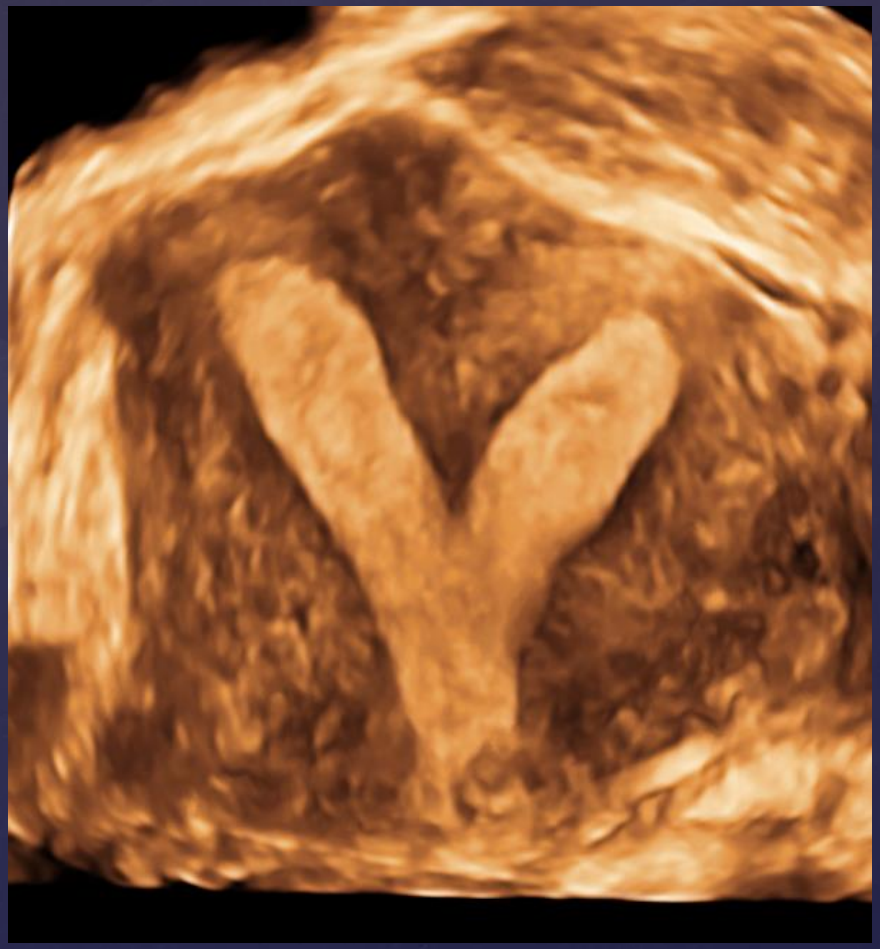
Further evaluation of the endometrial polyp with color flow Doppler demonstrates a feeder vessel.

Endometrium



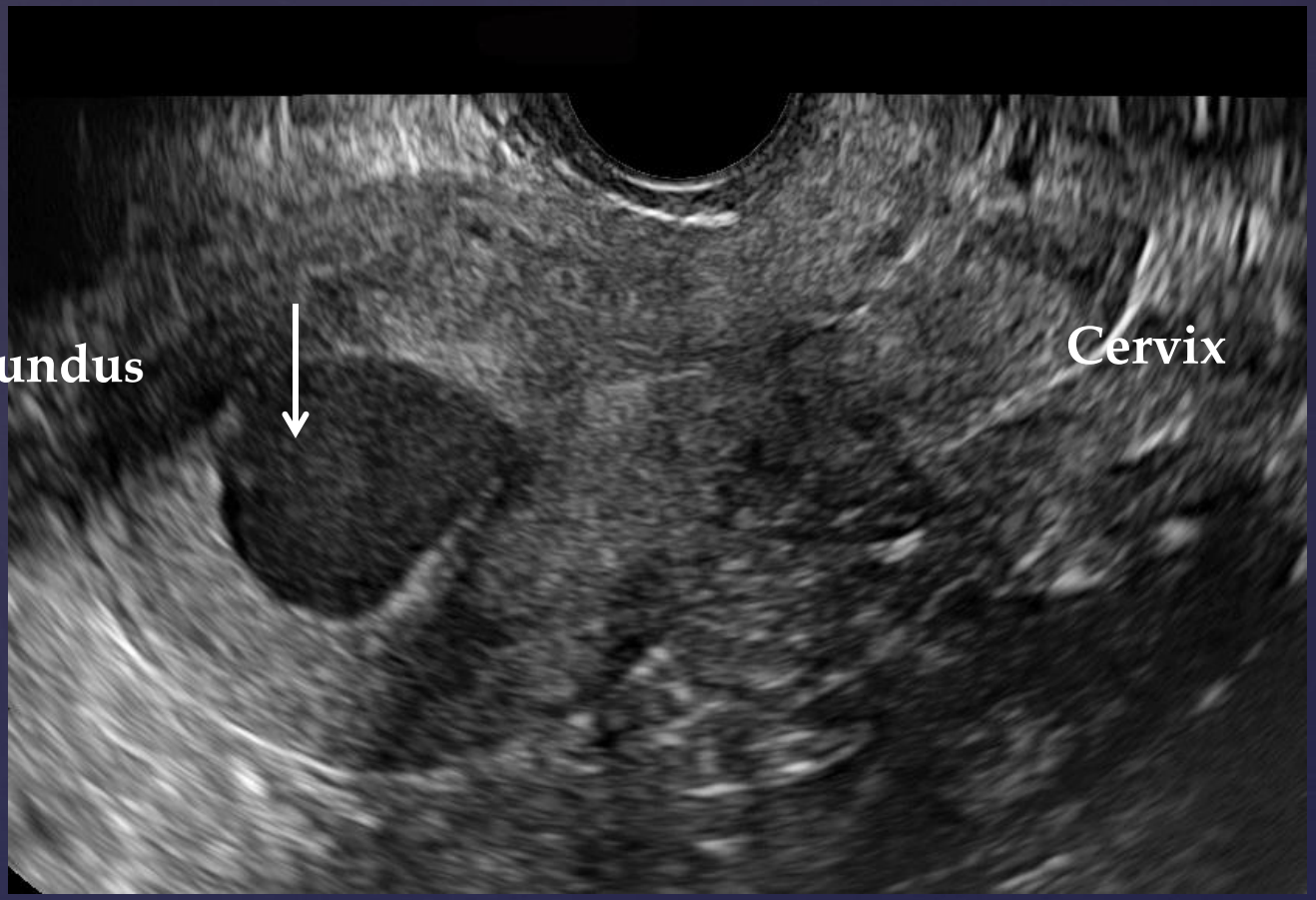
TV scan demonstrates a splayed endometrium on the transverse view (arrows), suggesting a uterine anomaly.

Endometrium



3D reconstruction of the uterus in the same patient reveals a subseptate uterus.

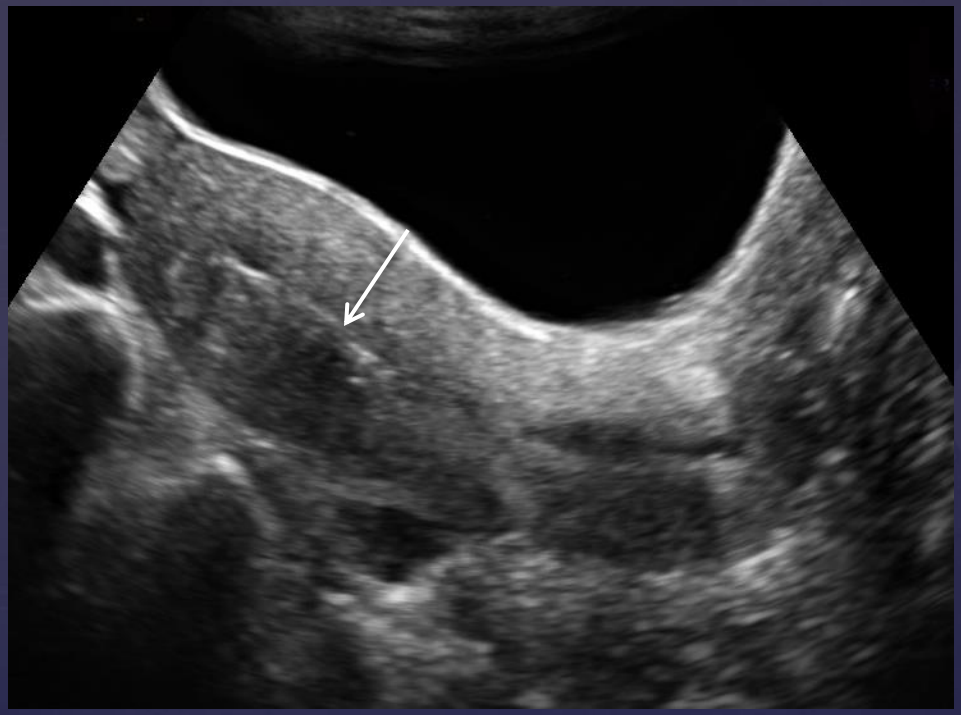
Endometrium



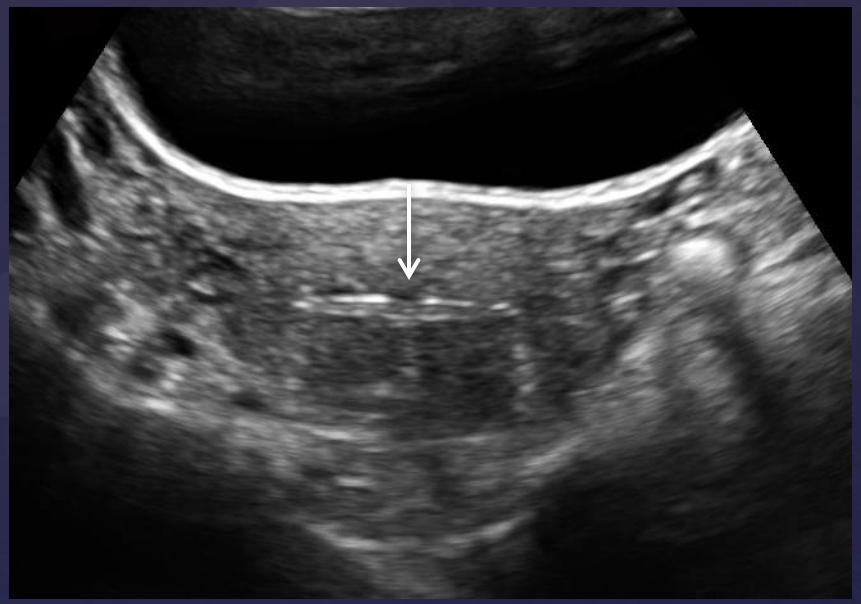
TV sagittal view of the uterus demonstrating a fluid collection with low-level echoes within the endometrial cavity (arrow) characteristic of a hematometra.

Intrauterine Contraceptive Device (IUCD)

Sagittal Uterus

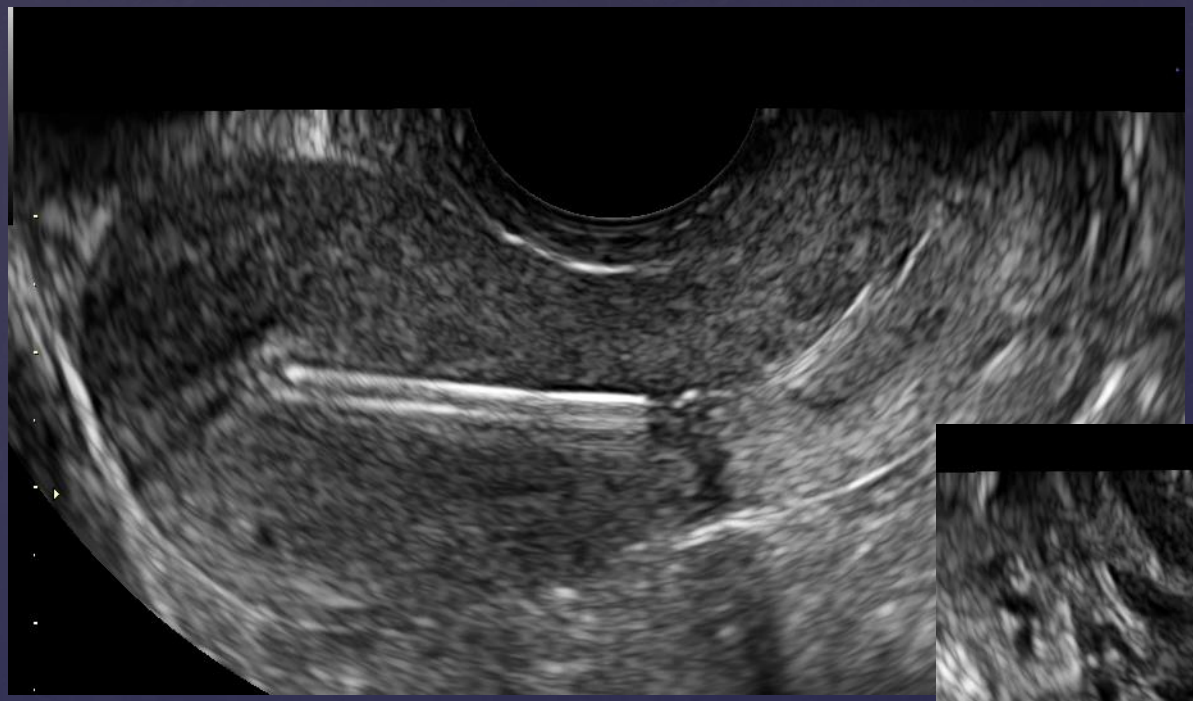


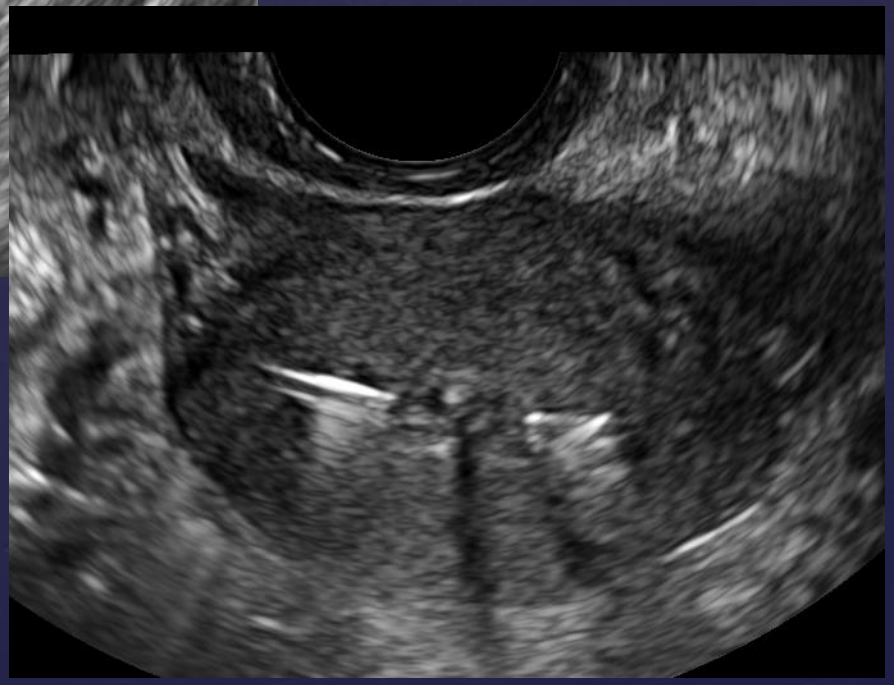
Transverse Uterus



TA scan showing an IUCD (arrow) within the endometrium.

Intrauterine Contraceptive Device



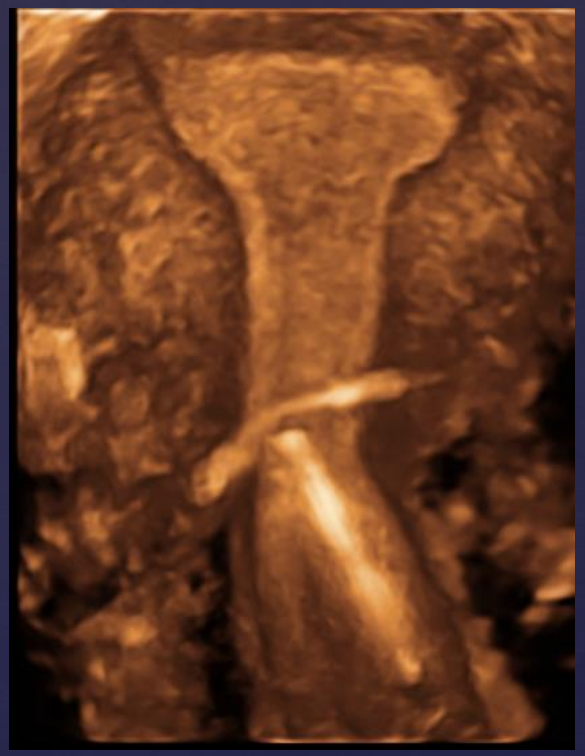


2D and 3D transvaginal scan showing an IUCD properly positioned in the endometrium.

Intrauterine Contraceptive Device

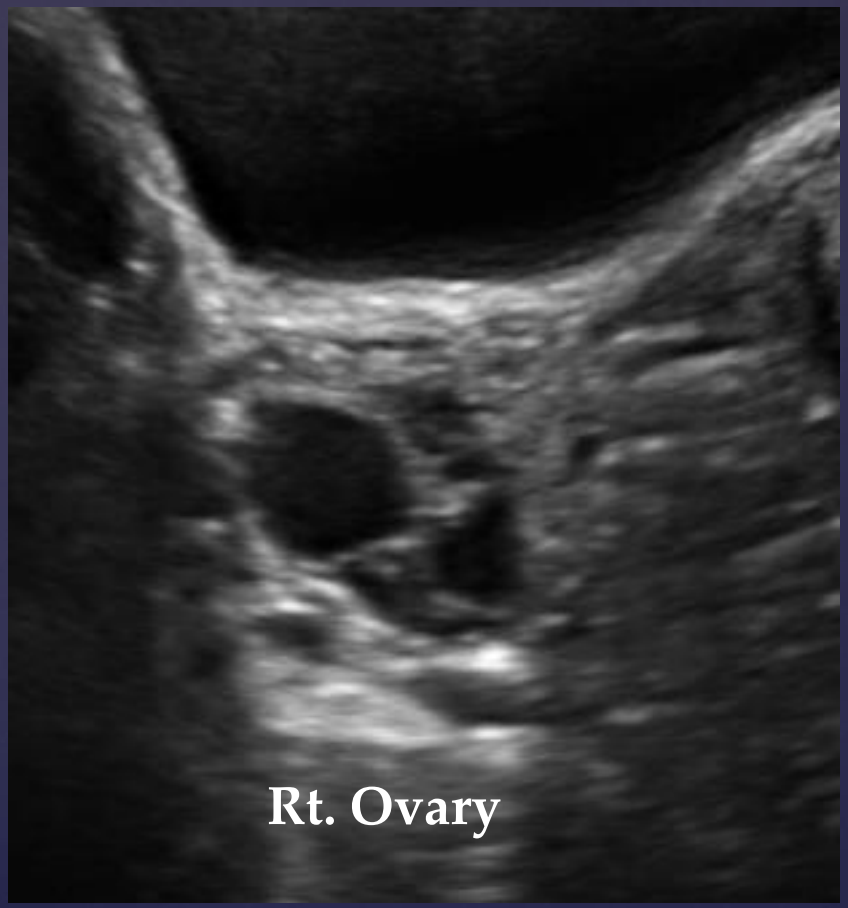
TV sagittal view of the uterus with an IUCD in the endocervical canal.

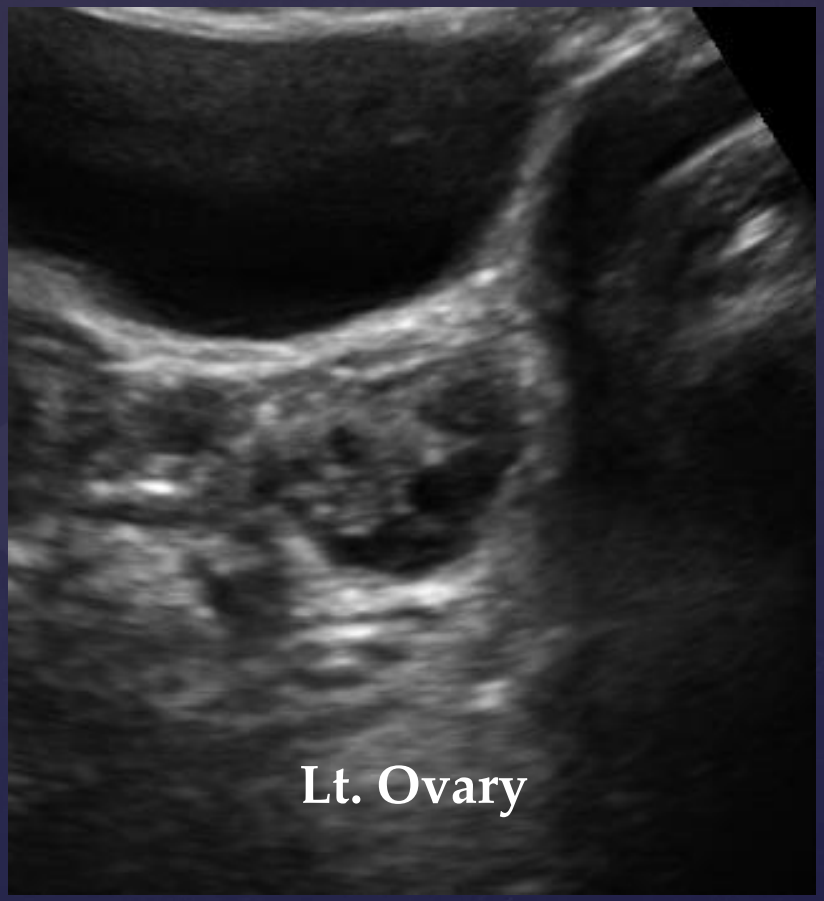
Intrauterine Contraceptive Device



TV scan of the same patient showing IUCD tines in an axial section of the upper cervix, and the corresponding rendered 3D image demonstrating embedded tines.

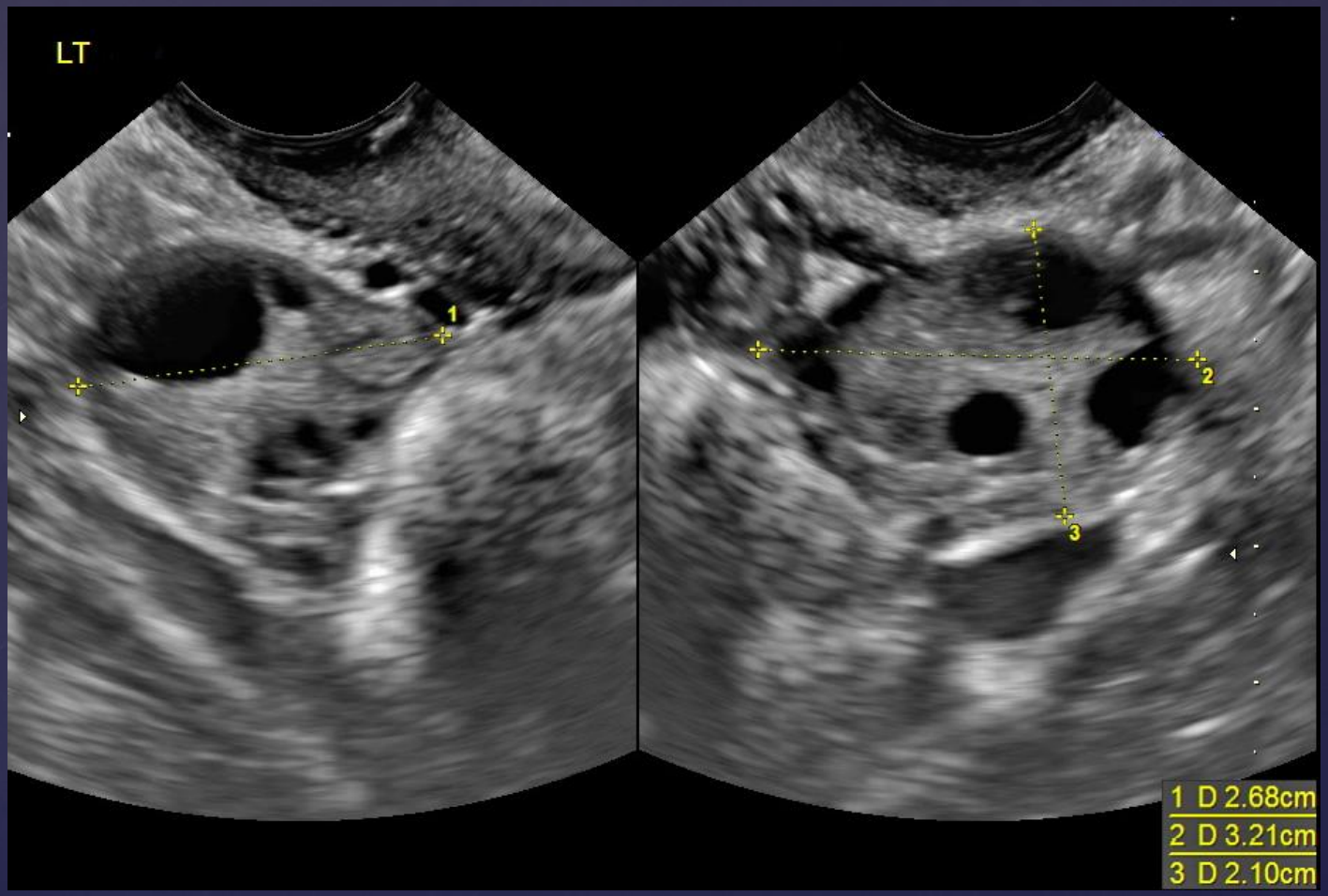
Ovaries





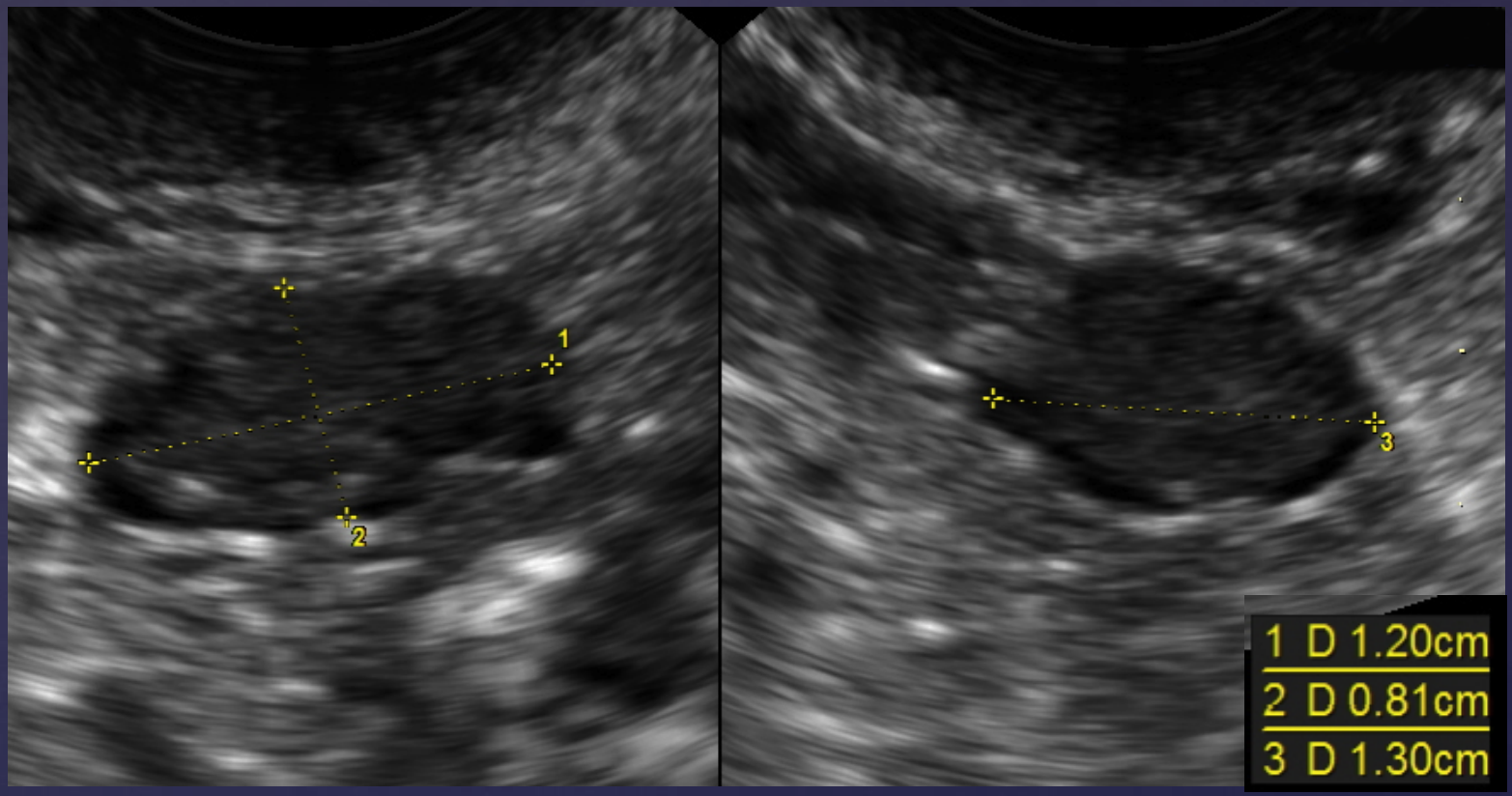
TA scan through a slightly distended bladder showing normal ovaries.

Ovaries



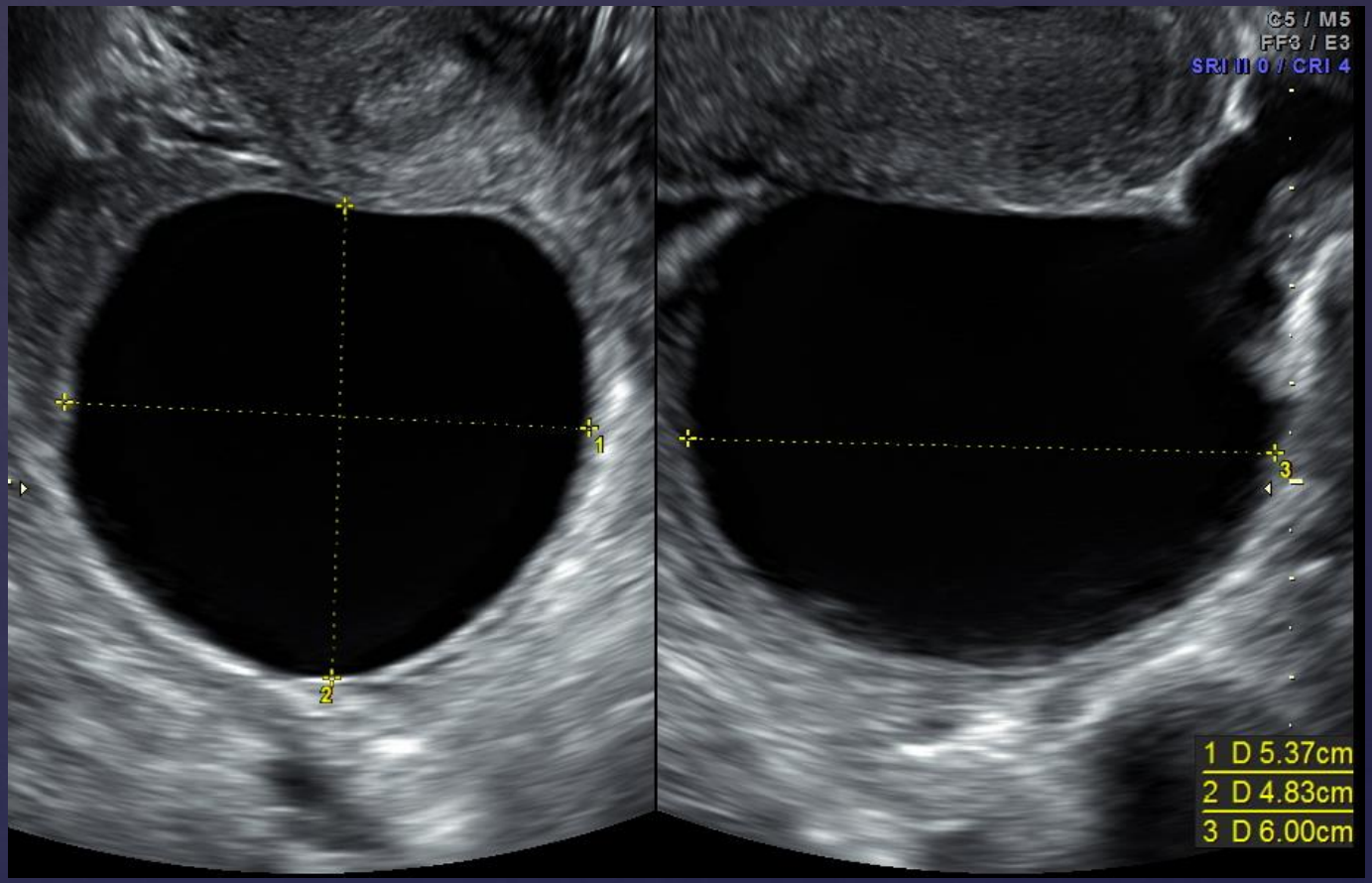
Normal left ovary measured in three orthogonal planes.

Ovaries



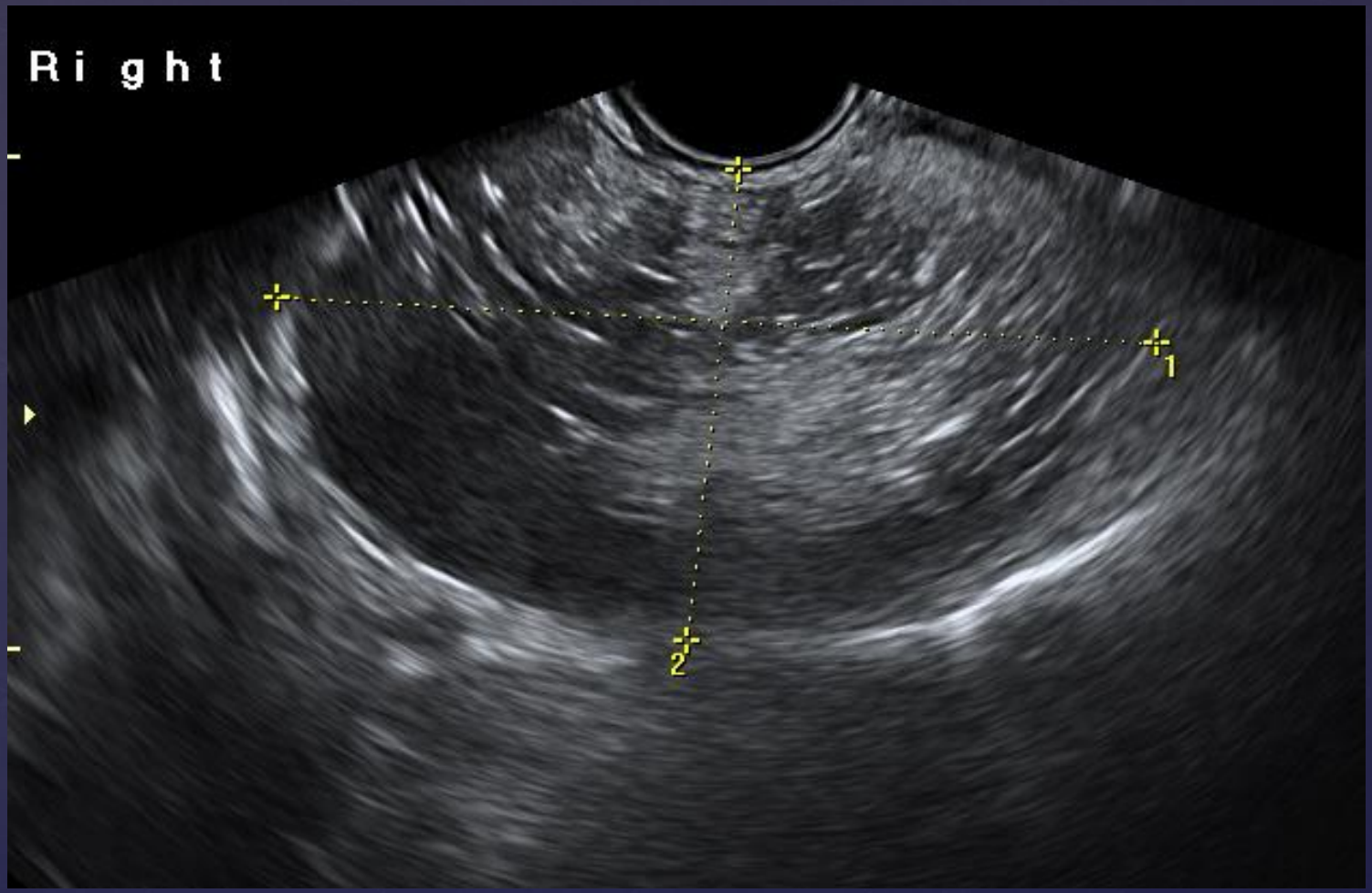
Normal ovary in a postmenopausal patient. Ovary measured in three orthogonal planes.

Ovaries



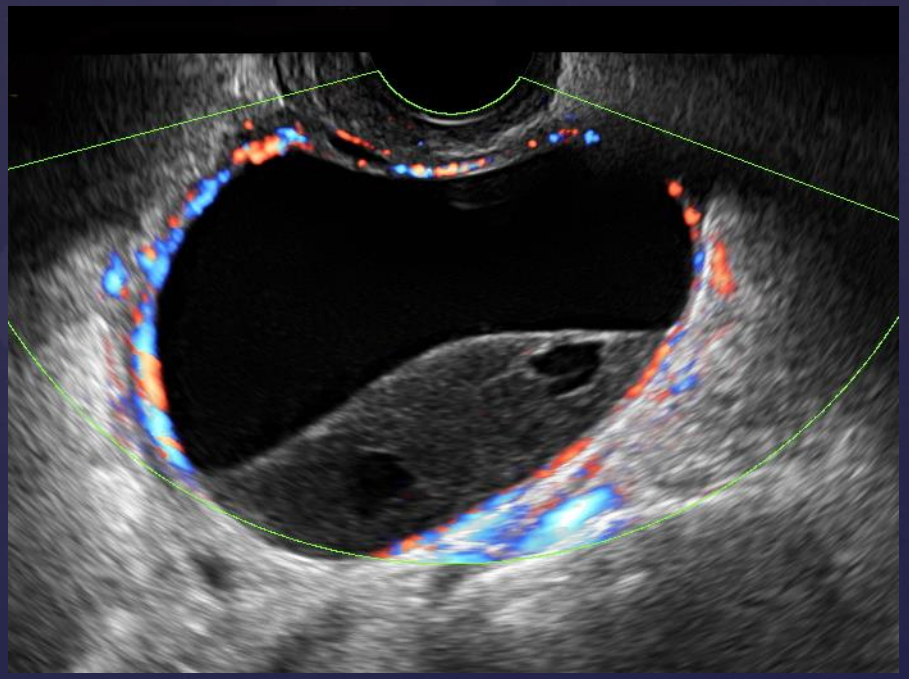
TV scan demonstrating the measurement of a follicle in three orthogonal planes.

Ovaries



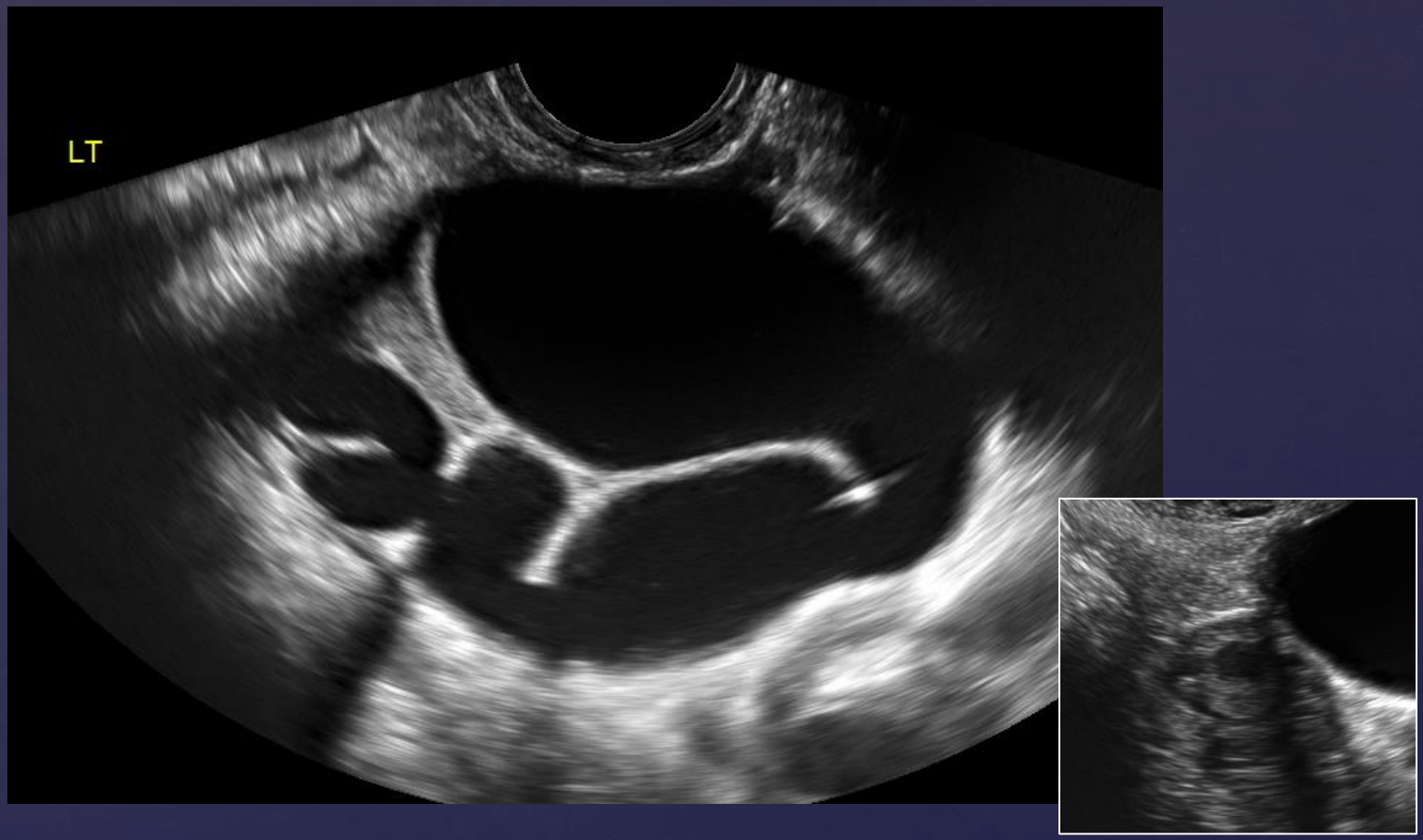
Echogenic mass in the right ovary with strandy echoes characteristic of a dermoid cyst. The strandy echoes represent hair.

Ovaries



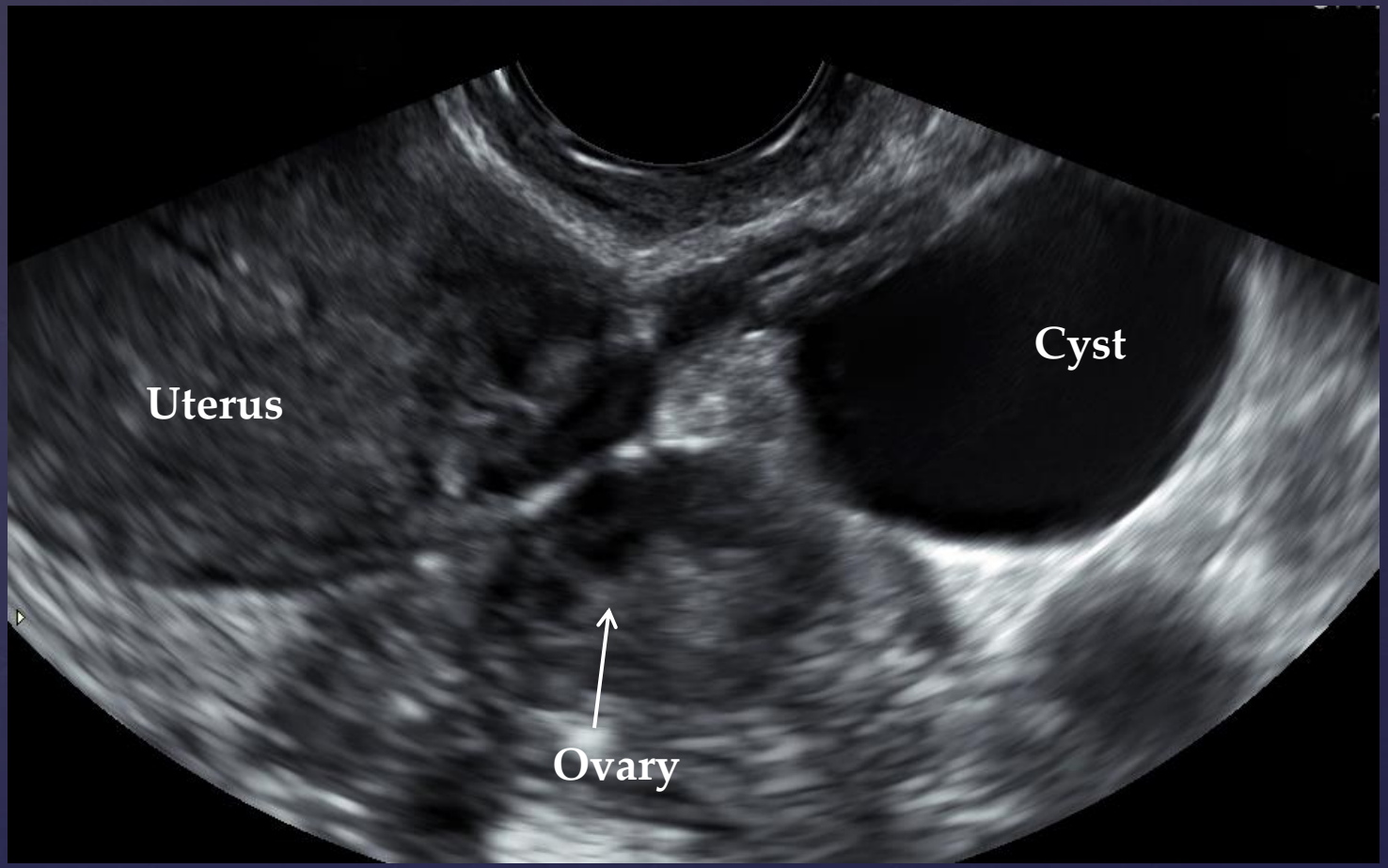
Cyst with strandy layered echoes and a smooth contour characteristic of a hemorrhagic cyst. Note the circumferential color flow with no flow to the internal echoes.

Adnexa- Hydrosalpinx



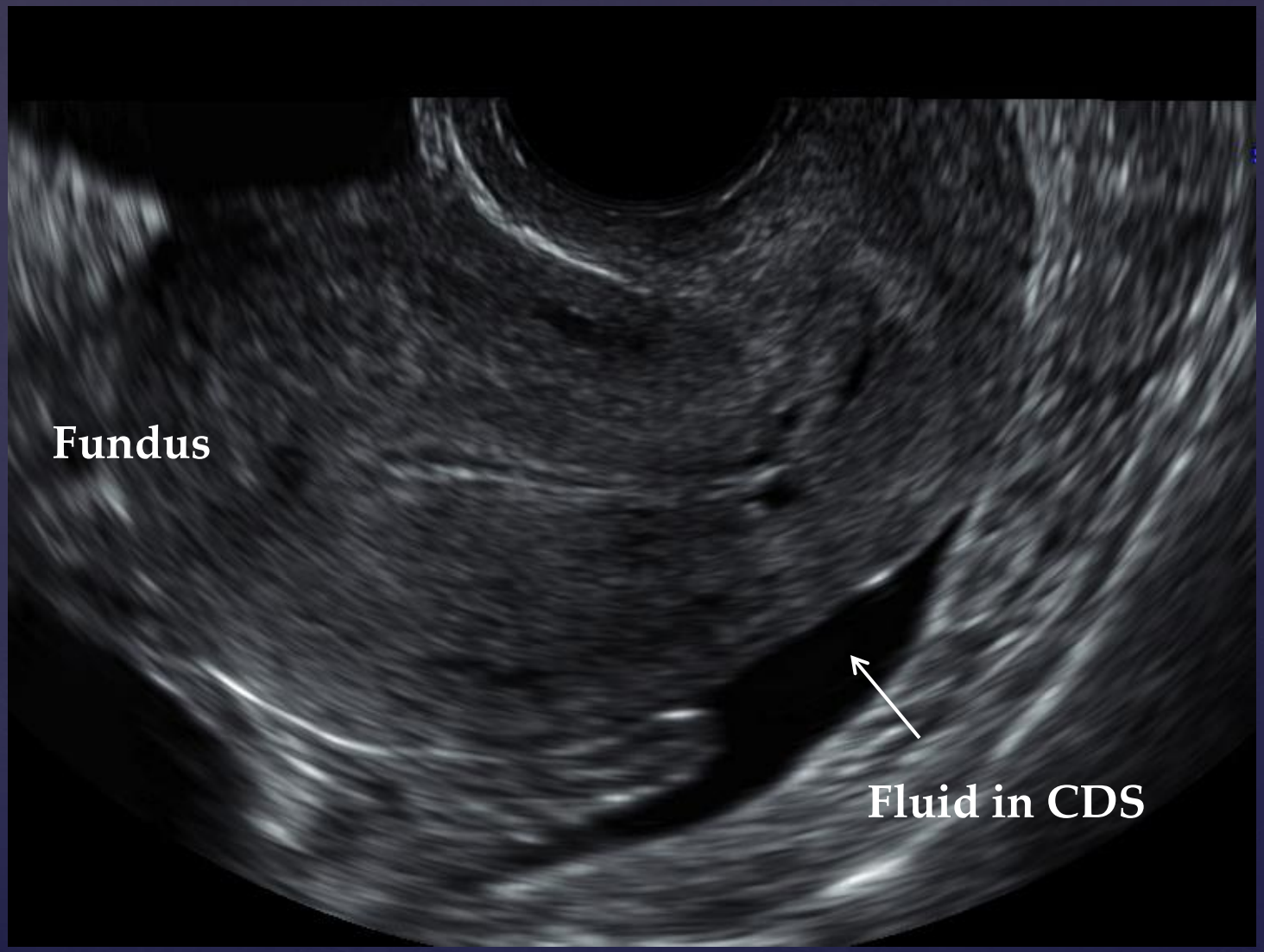
Left tubular fluid collection with incomplete septations characteristic of a hydrosalpinx. The normal left ovary is shown within the boxed image.

Adnexa- Para-Ovarian Cyst

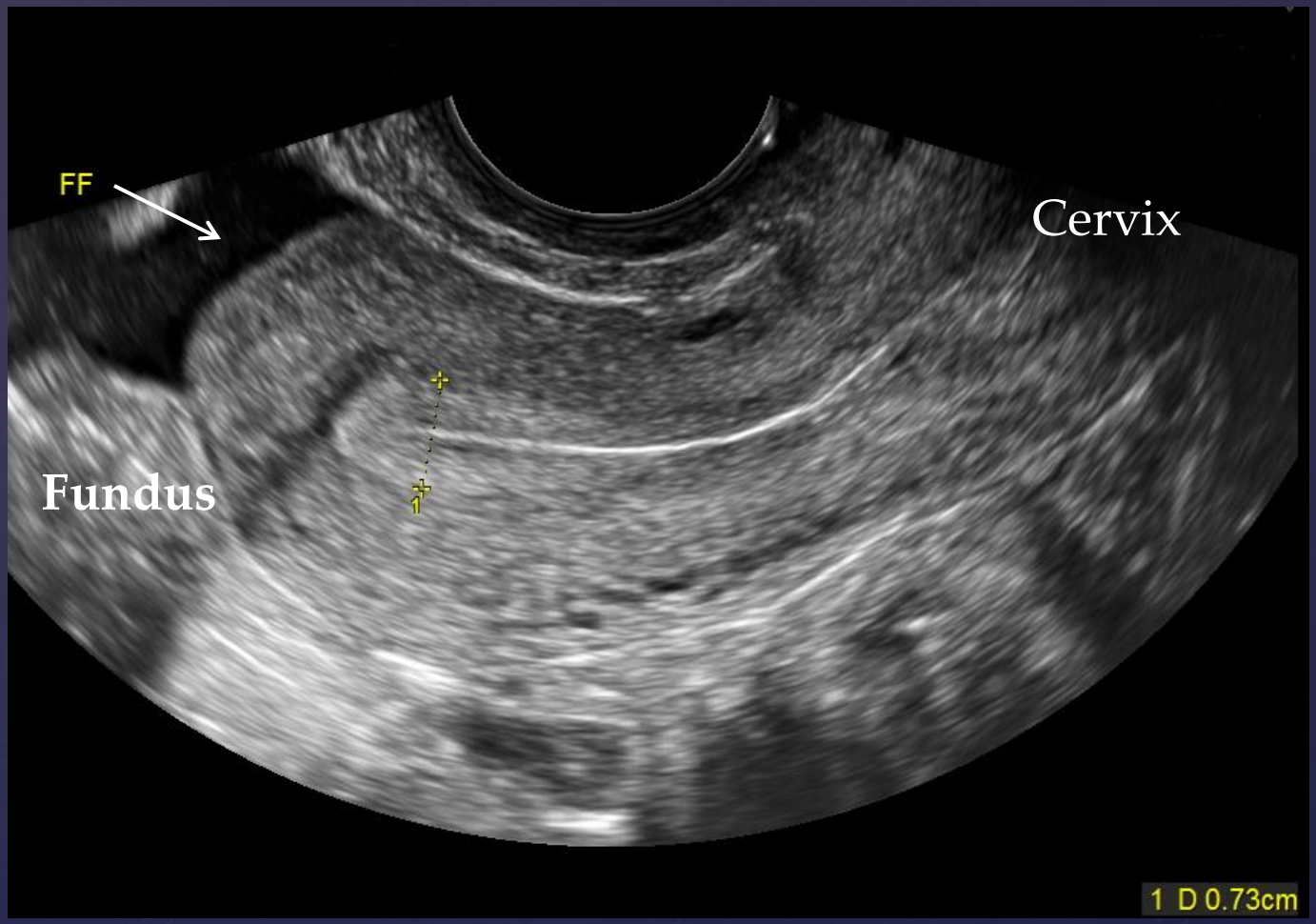


Left para-ovarian cyst. Note the adjacent normal ovary (arrow) and uterine fundus.

Cul-de-Sac

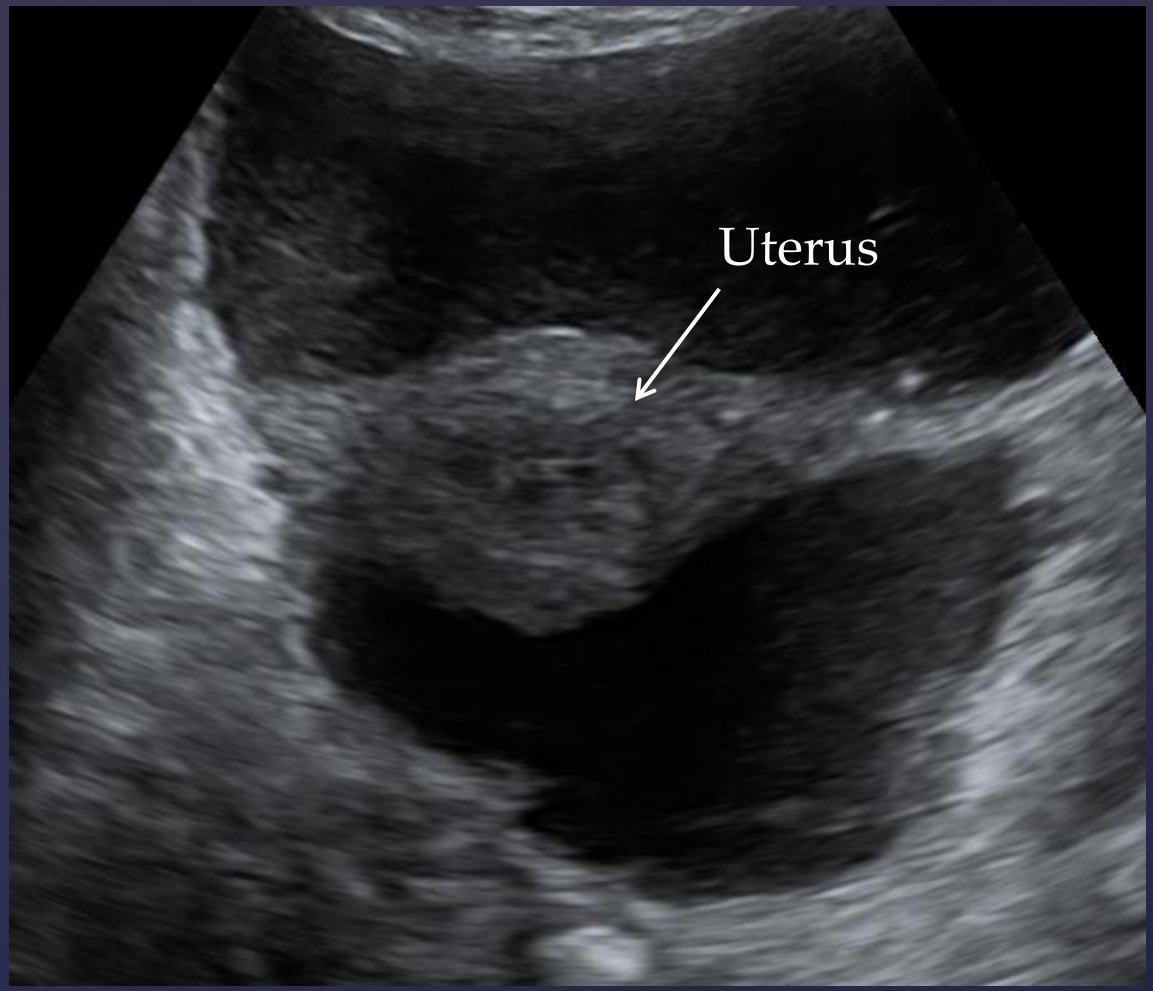


Free Fluid



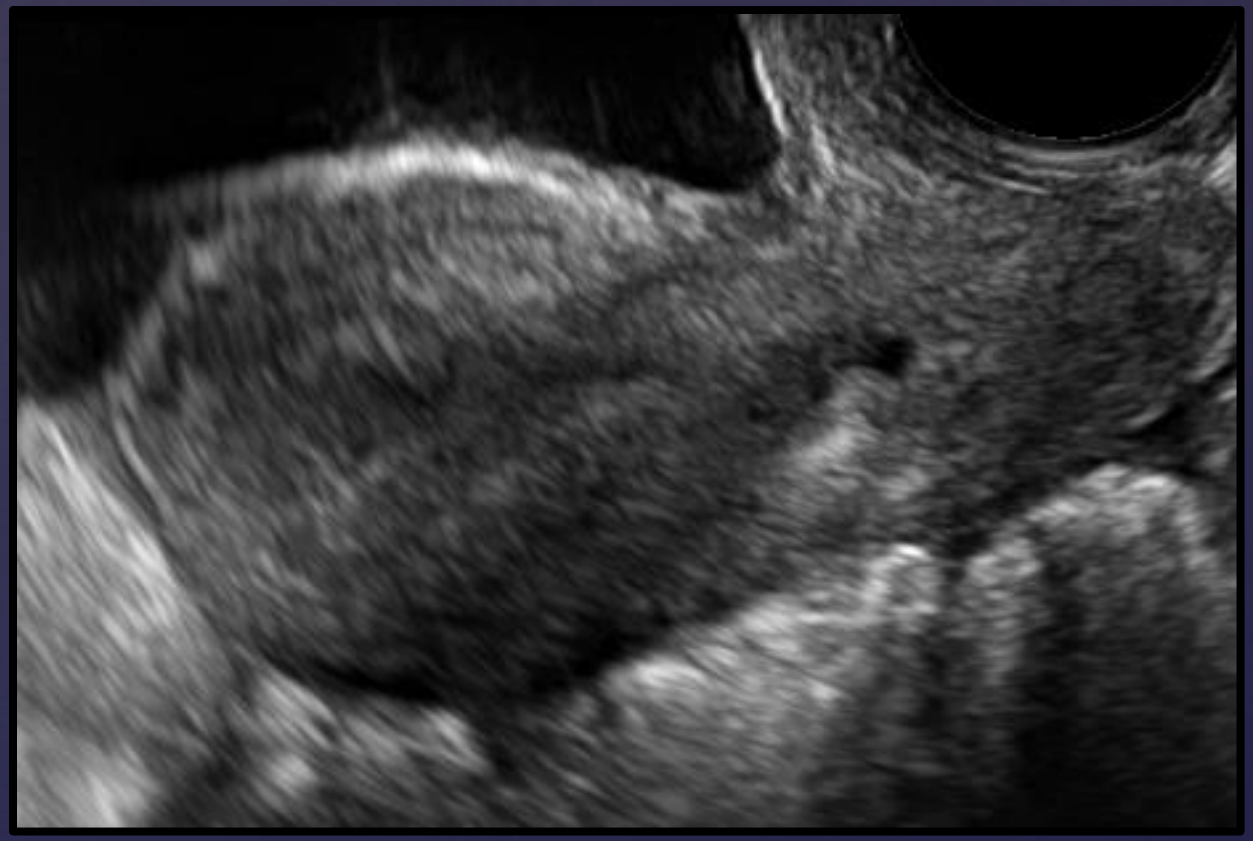
TV sagittal view of the uterus in the luteal phase showing a small amount of free fluid adjacent to the fundus.

Free Fluid-Ascites



TA view of a uterus surrounded by ascites in a patient with peritoneal carcinomatosis.

A transrectal or transperineal approach may be useful in patients who are not candidates for introduction of a vaginal probe.



Transrectal sagittal view of the uterus in a patient where the vaginal probe could not be introduced.