



**XXXVII Reunión de la  
Sociedad de Obstetricia y  
Ginecología de Castilla y León**  
20 y 21 de octubre  
Burgos 2023

**Programa**

 **SOGICYL**  
Sociedad de Obstetricia  
y Ginecología de  
Castilla y León

**SOGICYL**

[www.reunionsogicyl.com](http://www.reunionsogicyl.com)

• **12:10 – 14:10:** Endometriosis (Moderador Dra MJ Velasco Martín).

- Diagnóstico ecográfico de la endometriosis y de la adenomiosis.

Dr. Jose Manuel Puente Águeda. Especialista en Obstetricia y Ginecología.

- El papel de la RNM en el diagnóstico de la endometriosis profunda y de la adenomiosis.

Dra. Silvia Martínez Blanco. Especialista en Radiodiagnóstico.

- Manejo de la paciente con endometriosis sintomática. ç

Dr. María López Menéndez Arqueros. Especialista en Obstetricia y Ginecología.

- Tratamiento quirúrgico de la endometriosis sintomática.

Dra. Alicia Hernández Gutiérrez. Especialista en Obstetricia y Ginecología.

- Manejo de la mujer en edad fértil con endometriosis y/o adenomiosis.

Dr. Luis Rodríguez Tabernero Especialista en Obstetricia y Ginecología.

- Debate: las unidades de endometriosis en la CCAA de Castilla y León, una o varias.

• **14:10 – 14:30:** Defensa Posters Premiados

• **14.30 – 14.35:** Clausura de la jornada.

Dra Guerrero Ibáñez. Presidenta Comité organizador

2000. IOTA

Ultrasound Obstet Gynecol 2000; 16: 500-503.

## Terms, definitions and measurements to describe the sonographic features of adnexal tumors: a consensus opinion from the International Ovarian Tumor Analysis (IOTA) group

D. TIMMERMAN, L. VALENTIN\*, T. H. BOURNE†, W. P. COLLINS‡, H. VERRELST§ and I. VERGOTE

Department of Obstetrics and Gynaecology, University Hospitals KU Leuven, Leuven, Belgium, \*Department of Obstetrics and Gynaecology, University Hospital, Malmo, Sweden, †Department of Obstetrics and Gynaecology, St George's Hospital Medical School, University of London, London, UK, ‡King's College, University of London, UK and §Department of Electrical Engineering, ESAT-SISTA, Katholieke Universiteit Leuven, Belgium

2010. IETA

Ultrasound Obstet Gynecol 2010; 35: 103-112  
Published online 15 December 2009 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/oug.7487

## Terms, definitions and measurements to describe the sonographic features of the endometrium and intrauterine lesions: a consensus opinion from the International Endometrial Tumor Analysis (IETA) group

F. P. G. LEONE\*, D. TIMMERMAN†, T. BOURNE‡, L. VALENTIN§, E. EPSTEIN¶, S. R. GOLDSTEIN\*\*, H. MARRET††, A. K. PARSONS‡‡, B. GULL§§, O. ISTRÉ¶¶, W. SEPULVEDA\*\*\*, E. FERRAZZI††† and T. VAN DEN BOSCH†

2014. MUSA

## TERMS AND DEFINITIONS FOR DESCRIBING MYOMETRIAL PATHOLOGY USING ULTRASONOGRAPHY

<sup>1</sup>Thierry Van den Bosch, <sup>2</sup>Margit Dueholm (joint first author), <sup>3</sup>Francesco Paolo Giuseppe Leone, <sup>4</sup>Lil Valentin, <sup>5</sup>Christina Kjaergaard Rasmussen, <sup>6</sup>Angelo Votino, <sup>7</sup>Dominique Van Schoubroeck, <sup>8</sup>Chiara Landolfo, <sup>9</sup>Arnaud JF Installé, <sup>10</sup>Stefano Guerriero, <sup>11</sup>Caterina Exacoustos, <sup>12</sup>Stephan Gordts, <sup>13</sup>Beryl Benacerraf, <sup>14</sup>Thomas D'Hooghe, <sup>15</sup>Bart De Moor, <sup>16</sup>Hans Brölmann, <sup>17</sup>Steven Goldstein, <sup>18</sup>Elisabeth Epstein, <sup>19</sup>Tom Bourne, <sup>20</sup>Dirk Timmerman

Ultrasound Obstet Gynecol 2016; 48: 318-332  
Published online 28 June 2016 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/oug.15955

## Systematic approach to sonographic evaluation of the pelvis in women with suspected endometriosis, including terms, definitions and measurements: a consensus opinion from the International Deep Endometriosis Analysis (IDEA) group

S. GUERRIERO<sup>1</sup>#, G. CONDOUS<sup>2</sup>#, T. VAN DEN BOSCH<sup>3</sup>, L. VALENTIN<sup>4</sup>, F. P. G. LEONE<sup>5</sup>, D. VAN SCHOUBROECK<sup>6</sup>, C. EXACOUSTOS<sup>7</sup>, A. J. F. INSTALLÉ<sup>8</sup>, W. P. MARTINS<sup>9</sup>, M. S. ABRAO<sup>9</sup>, G. HUDELIST<sup>10</sup>, M. BAZOT<sup>11</sup>, J. L. ALCAZAR<sup>12</sup>, M. O. GONCALVES<sup>13</sup>, M. A. PASCUAL<sup>14</sup>, S. AJOSSA<sup>1</sup>, L. SAVELLI<sup>15</sup>, R. DUNHAM<sup>16</sup>, S. REID<sup>17</sup>, U. MENAKAYA<sup>18</sup>, T. BOURNE<sup>19</sup>, S. FERRERO<sup>20</sup>, M. LEON<sup>21</sup>, T. BIGNARDI<sup>22</sup>, T. HOLLAND<sup>23</sup>, D. JURKOVIC<sup>23</sup>, B. BENACERRAF<sup>24</sup>, Y. OSUGA<sup>25</sup>, E. SOMIGLIANA<sup>26</sup> and D. TIMMERMAN<sup>3</sup>

2016. IDEA

IOTA International Ovarian Tumour Analysis

Welcome Research Education Certified members News IOTA Online Course

### IOTA Case Examples Stream - Episode 3

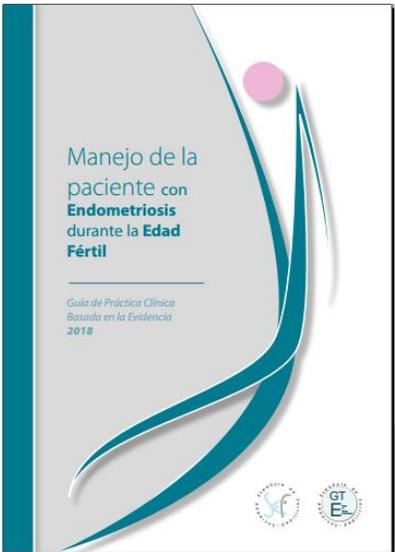
Wednesday 13th September 2023 - 13:00 CEST

Learn IOTA methods

Discuss your cases

**Crterios ecográficos 2 D de endometriosis**  
 imagen entre 1 y 4 lóculos  
 patrón ecográfico de “vidrio esmerilado”  
 ausencia de papilas con Doppler color detectable en ellas  
**IMPRESIÓN SUBJETIVA DE ECOGRAFISTA EXPERTO**

Guerriero S, et al The diagnosis of endometriomas using colour Doppler energy imaging. Hum Reprod 1998;  
 Van Holsbeke C, et al . Endometriomas: their ultrasound characteristics. Ultrasound Obstet Gynecol. 2010



**Coordinadora del Grupo de Trabajo**

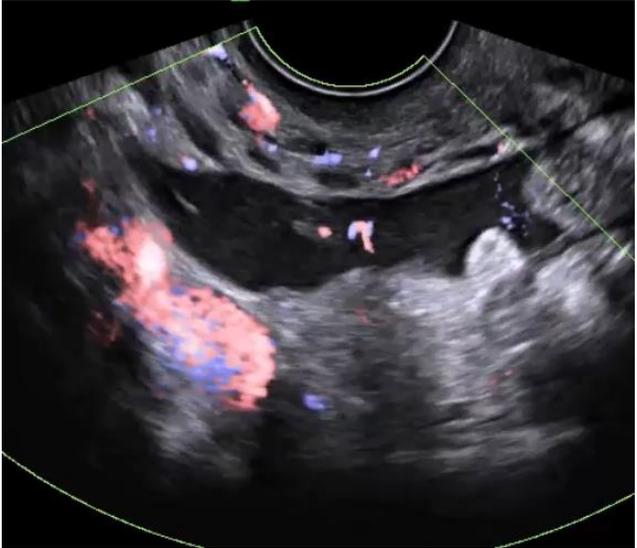
Dra. María Carrera | Ginecólogo especialista en Reproducción.  
 Hospital Universitario Doce de Octubre (Madrid).

**Miembros del Grupo de Trabajo**

- Dra. Carmen Álvarez | Ginecólogo, Unidad de Endometriosis. Hospital Universitario Doce de Octubre (Madrid).
- Dr. Miguel Caballero Campo | Ginecólogo especialista en Reproducción. Hospital General Universitario Gregorio Marañón (Madrid).
- Dr. José Antonio Domínguez | Ginecólogo especialista en Reproducción. Instituto Extremeño de Reproducción Asistida (Badajoz).
- Dr. Juan Antonio García Velasco | Ginecólogo especialista en Reproducción. IVIRMA ( Madrid).
- Dr. José María Gris Martínez | Ginecólogo especialista en Reproducción Hospital Universitari Vall d'Hebrón (Barcelona)
- Dra. Sílvia Iniesta | Ginecólogo especialista en Reproducción. Hospital Universitario La Paz (Madrid).
- Dra. Teresa Muñoz | Ginecólogo. Unidad de endometriosis. Hospital Universitario de Getafe
- Dr. Federico Pérez Milán | Ginecólogo especialista en Reproducción. Hospital General Universitario Gregorio Marañón (Madrid).
- Dr. José Manuel Puente | Ginecólogo. Unidad de Ecografía y Medicina Fetal. Hospital Universitario Doce de Octubre (Madrid)
- Dra. Elisabetta Ricciarelli | Ginecólogo especialista en reproducción. Clínica FIV Madrid.
- Dra. Carmen Segura | Ginecólogo especialista en reproducción. Unidad de Reproducción Moncloa (Madrid)

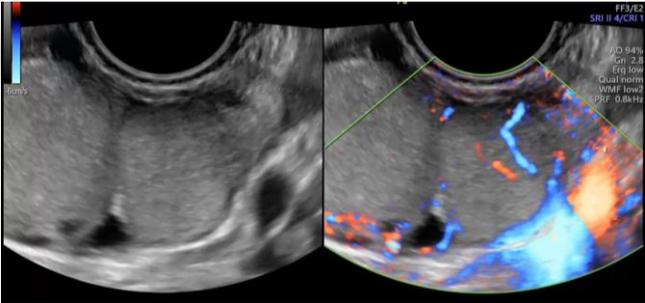
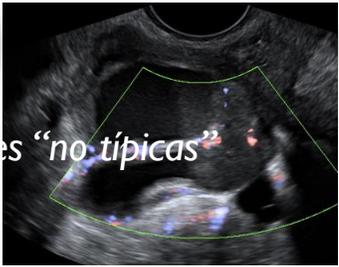
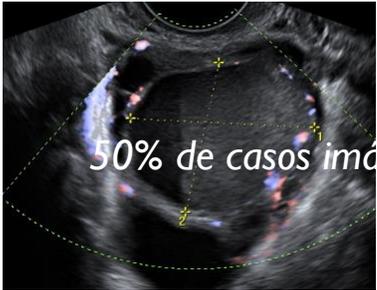
**Metodólogo**

Dr. Javier Júdez



**III. Diagnóstico mediante técnicas de imagen**

En toda paciente con sospecha clínica de endometriosis ovárica se debe realizar una exploración ecográfica transvaginal para su diagnóstico por imagen.	<b>FUERTE</b>	⊕⊕○○
Es necesario realizar el estudio Doppler (Power Doppler o Doppler de alta definición) como prueba adicional en endometriomas de patrón atípico en el diagnóstico ecográfico de endometriosis ovárica para mejorar la precisión diagnóstica.	<b>FUERTE</b>	⊕⊕○○





gapSEGO



Ecografía

## EVALUACIÓN ECOGRÁFICA EN LA ENDOMETRIOSIS PÉLVICA PROFUNDA

Guía de Asistencia Práctica de la sección de Ecografía Obstétrico-ginecológica de la SEGO. Publicada en octubre de 2020

Realización: Dr. Juan Luis Alcázar Zambrano, Dr. José Manuel Puente Águeda, Dr. Roberto Rodríguez González, Dra. Cristina Ros Cerro.  
Revisión: Junta SESEGO. Dra. Eugenia Antolín Alvarado, Dr. Javier Arenas Ramírez, Dra. Nerea Maiz Elizaran, Dr. José Manuel Puente Águeda, Dr. José Antonio Sainz Bueno y Dr. Juan Luis Alcázar Zambrano.

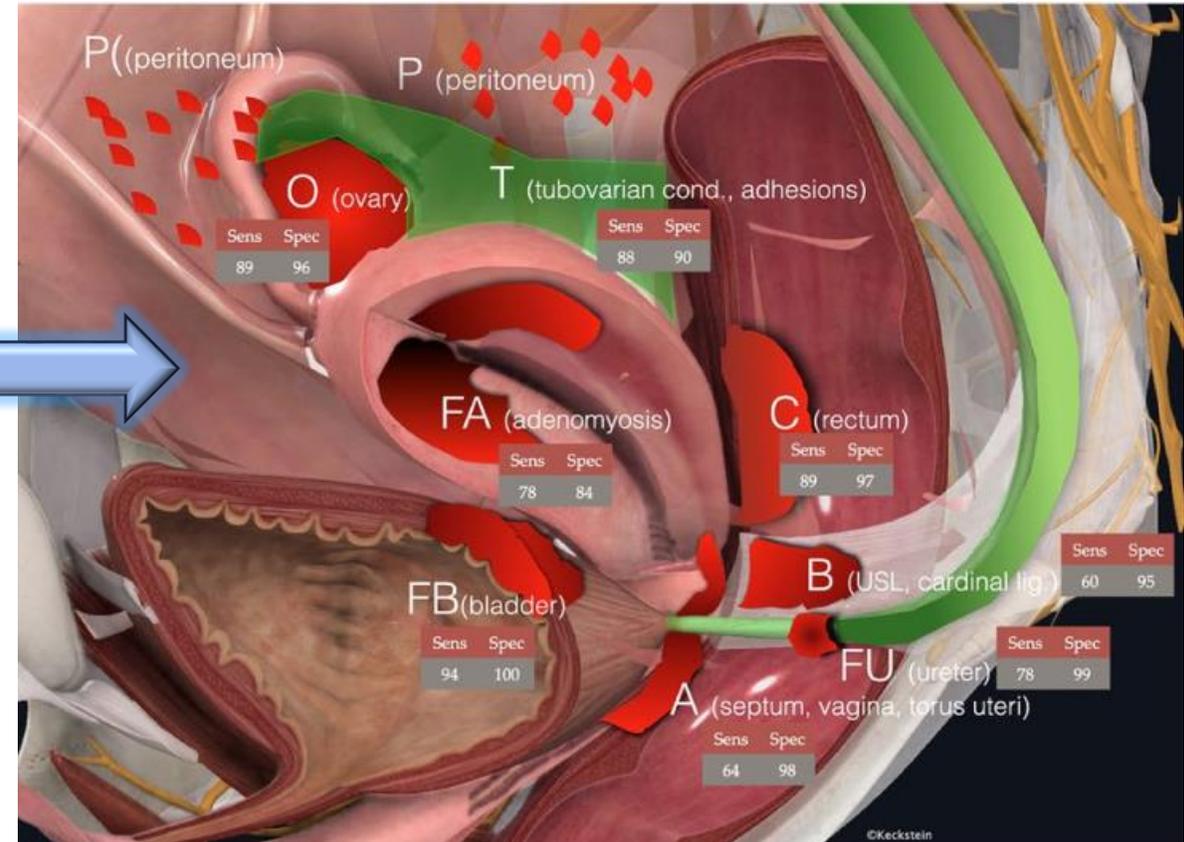
Archives of Gynecology and Obstetrics (2023) 307:5–19  
<https://doi.org/10.1007/s00404-022-06766-z>

### REVIEW



## Expert opinion on the use of transvaginal sonography for presurgical staging and classification of endometriosis

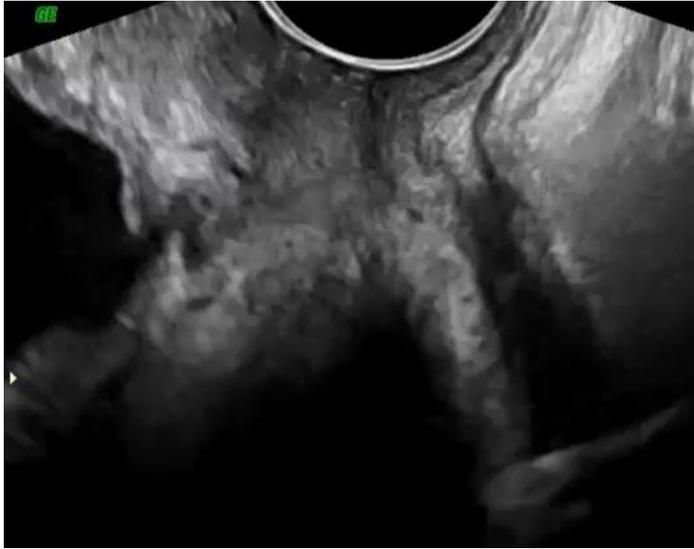
J. Keckstein<sup>1,2,14,15,18</sup> · M. Hoopmann<sup>3</sup> · E. Merz<sup>4</sup> · D. Grab<sup>2</sup> · J. Weichert<sup>5</sup> · S. Helmy-Bader<sup>6,16</sup> · M. Wölfler<sup>7,14,16</sup> · M. Bajka<sup>8,17</sup> · S. Mechsner<sup>9,14,15</sup> · S. Schäfer<sup>10,14,15,18</sup> · H. Krentel<sup>11,14,15,18</sup> · G. Hudelist<sup>12,13,14,16,18</sup>



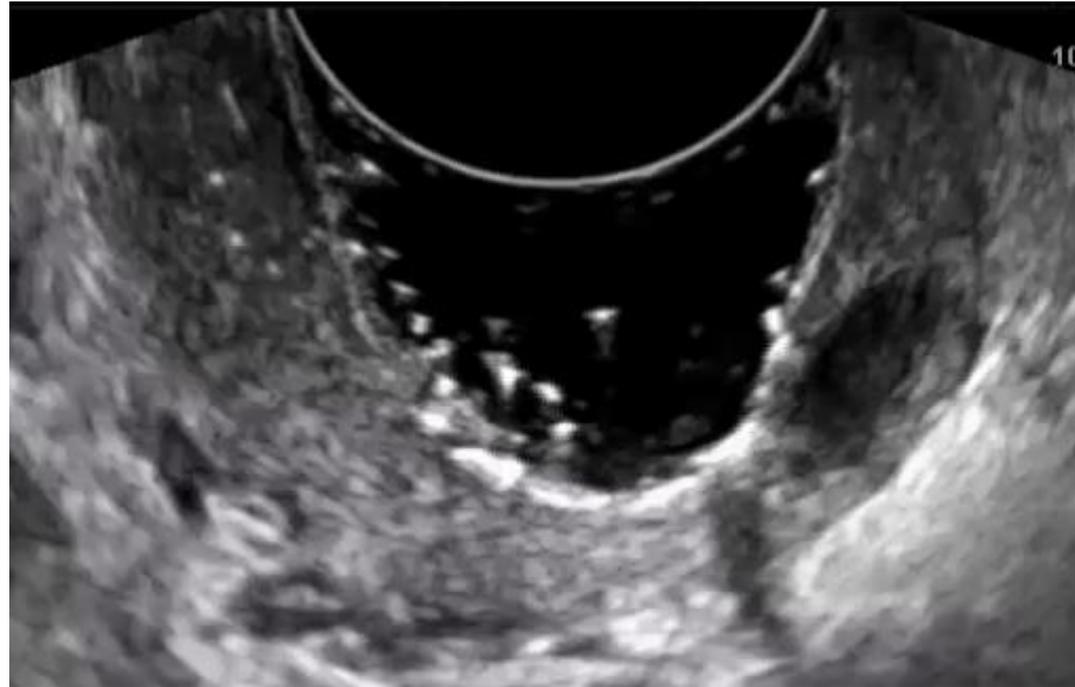
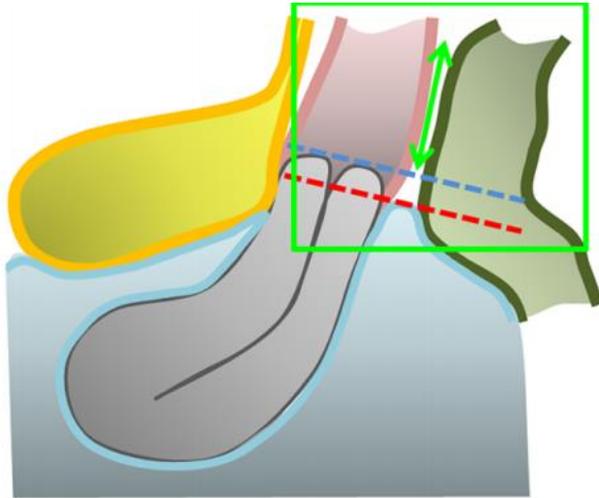
1. Exploración sistemática del útero y anejos
2. Evaluación de la movilidad uterina y ovárica  
Marcadores "blandos"
3. Deslizamientos anterior y posterior
4. Detección de nódulos de endometriosis profunda



La movilización de estructuras y la percepción (dolorosa) por parte de la paciente nos acerca al diagnóstico y nos permite comprender las repercusiones clínicas de la patología



## TABIQUE RECTOVAGINAL



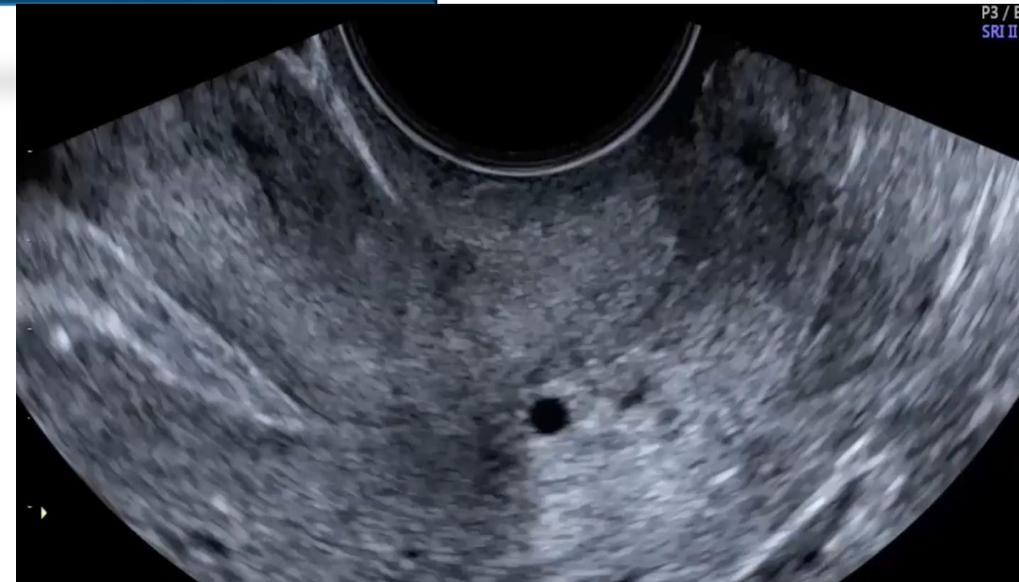
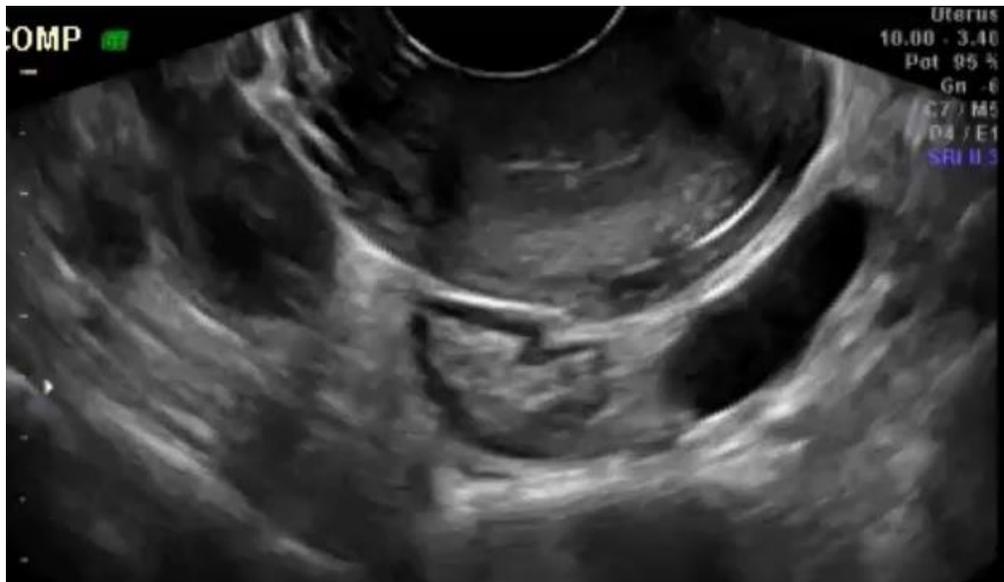
Ultrasound Obstet Gynecol 2016; 48: 318–332  
Published online 28 June 2016 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/uoq.15955



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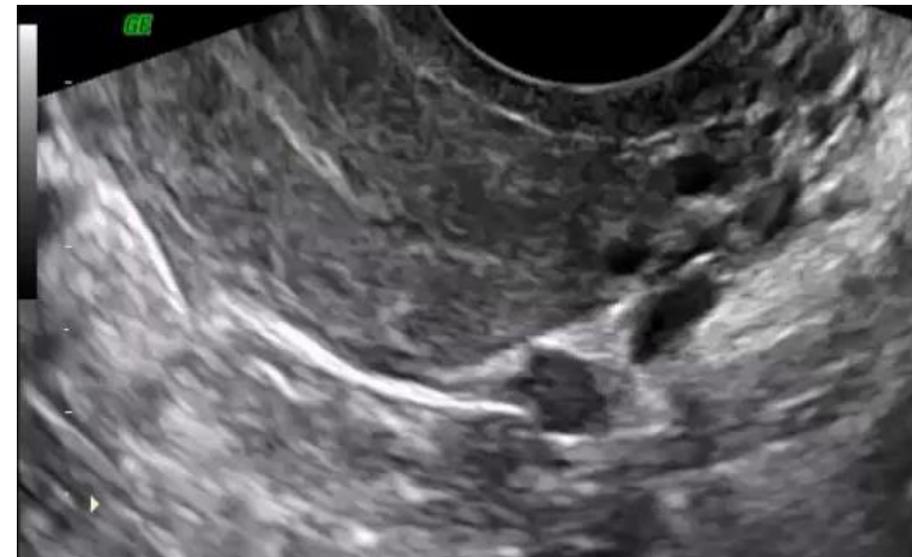
S. GUERRIERO<sup>1</sup>#, G. CONDOUS<sup>2</sup>#, T. VAN DEN BOSCH<sup>3</sup>, L. VALENTIN<sup>4</sup>, F. P. G. LEONE<sup>5</sup>, D. VAN SCHOUWBROECK<sup>3</sup>, C. EXACOUSTOS<sup>6</sup>, A. J. F. INSTALLÉ<sup>7</sup>, W. P. MARTINS<sup>8</sup>, M. S. ABRAO<sup>9</sup>, G. HUDELIST<sup>10</sup>, M. BAZOT<sup>11</sup>, J. L. ALCAZAR<sup>12</sup>, M. O. GONÇALVES<sup>13</sup>, M. A. PASCUAL<sup>14</sup>, S. AJOSSA<sup>1</sup>, L. SAVELLI<sup>15</sup>, R. DUNHAM<sup>16</sup>, S. REID<sup>17</sup>, U. MENAKAYA<sup>18</sup>, T. BOURNE<sup>19</sup>, S. FERRERO<sup>20</sup>, M. LEON<sup>21</sup>, T. BIGNARDI<sup>22</sup>, T. HOLLAND<sup>23</sup>, D. JURKOVIC<sup>23</sup>, B. BENACERRAF<sup>24</sup>, Y. OSUGA<sup>25</sup>, E. SOMIGLIANA<sup>26</sup> and D. TIMMERMAN<sup>3</sup>

UTEROSACROS, TORUS



Leonardi M, Martins WP, Espada M, Arianayagam M, Condous G. A proposed technique to visualize and classify uterosacral ligament deep endometriosis with and without infiltration into the parametrium or torus uterinus. *Ultrasound Obstet Gynecol.* 2019

Leonardi M, Espada M, Lu C, Stamatopoulos N, Condous G. A Novel Ultrasound Technique Called Saline Infusion SonoPODography to Visualize and Understand the Pouch of Douglas and Posterior Compartment Contents: A Feasibility Study. *J Ultrasound Med.* 2019



## Ultrasound Characteristics and Scanning Techniques of Uterosacral Ligaments for the Diagnosis of Endometriosis

A Systematic Review

Shae Maple B.MedRad, G.DipMedSon ✉, K Jane Chalmers B.Physio, PhD, Eva Bezak PhD, Katelyn Henry B.Physio, Nayana Parange MBBS, MS, PhD

First published: 21 November 2022 | <https://doi.org/10.1002/jum.16129>

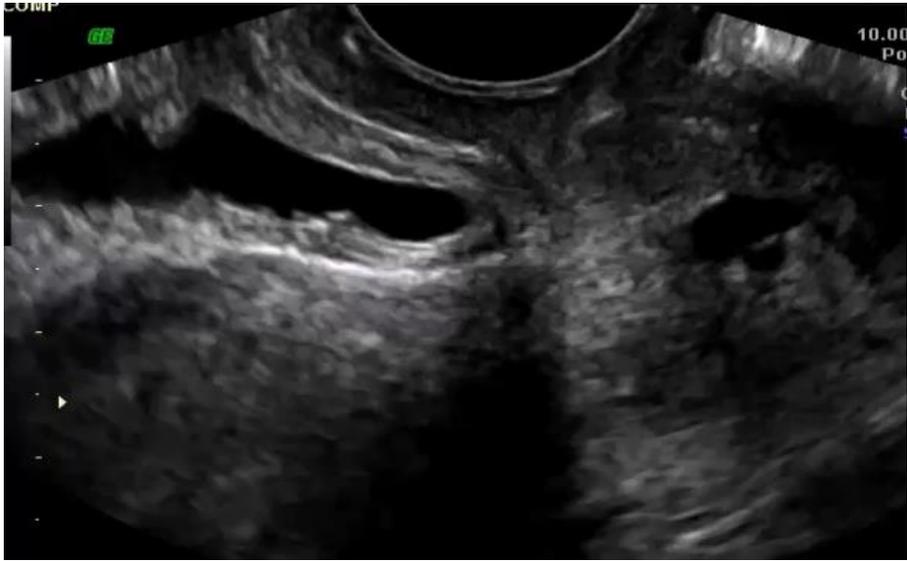
ment when it comes to measuring  
demonstrates that scanning the U  
thickening and endometriotic nodu  
niques and characteristics in this rev

**Table 6.** Findings of the Systematic Review of Ultrasound Techniques Compared to Leonardi et al,<sup>4</sup> the \*IDEA<sup>18</sup> Consensus and the Enzian Classification<sup>47</sup>

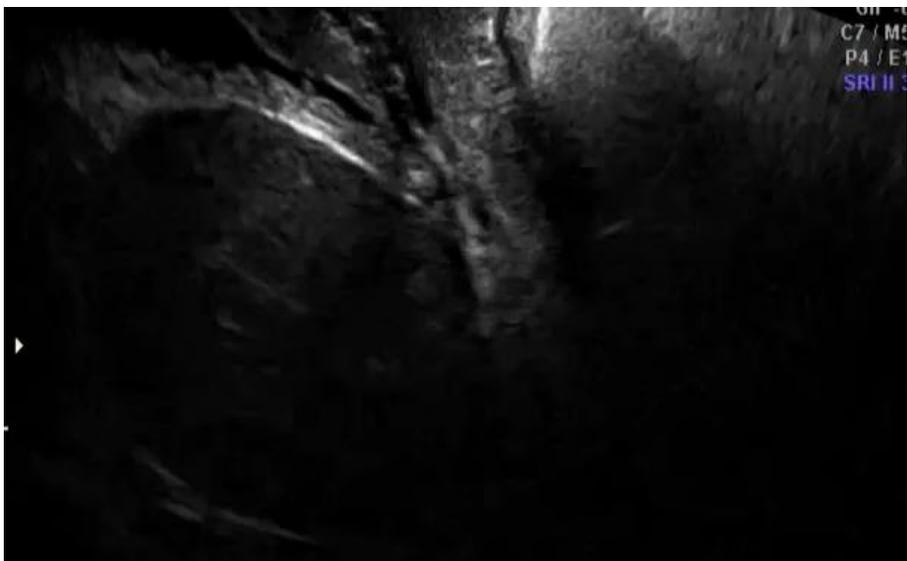
	Leonardi Education (2019) <sup>4</sup>	IDEA Consensus (2016) <sup>18</sup>	Enzian Classification (2021) <sup>47</sup>
<b>Ultrasound technique to visualize USLs:</b>			
1. Insert the TVS transducer into the posterior vaginal fornix <sup>1,4,14,18,26-30,33,47</sup>	√	√	√
2. Slowly withdrawn the transducer into the vagina to assess the visualization of the posterior compartment <sup>1,14,26,28-30,33</sup>	X	X	X
3. Optimize the image <sup>27</sup> : The USL is close to transducer so decrease the depth for a small depth of field and position the focal point at region of USL <sup>4</sup>	√	X	X
4. To visualize USL, keep the transducer in the longitudinal plane in the midsagittal position <sup>4,18,27,28,47</sup> angled inferolaterally to visualize the cervix <sup>4,18,47</sup> /posteriorly toward the rectum <sup>32</sup>	√	√	√
5. Slowly rotate to each side, <sup>18,28,29,47</sup> at approximately 45° from the midline <sup>4,24,27</sup>	√	√	√
6. The USL will be visualized as a hyperechoic line that begins to thicken as it comes into view <sup>4,27</sup>	√	X	X
7. Image the USL in sagittal section when the hyperechoic USL is thickest <sup>4,27</sup>	√	X	X
<b>When USL is abnormal:</b>			
8. Document any site-specific tenderness, <sup>4,28</sup> as directed and indicated by the patient <sup>18,29</sup>	√	√	X
9. Describe appearance of USL <sup>4,18,28</sup>	√	√	X
10. Measure USL thickness <sup>1,18,28,32,35,39</sup>	X	√	X
11. Measure any hypoechoic lesions within the hyperechoic USL in 3 orthogonal planes <sup>4,18,28</sup>	√	√	X
*11a. Identify the number and size of any USL nodules <sup>18</sup>	X	√	X
*11b. Describe anatomical location of any USL DE nodules including if lesion is isolated to USL or part of a larger nodule extending into the torus uterinus or surrounding structures <sup>4,18</sup>	√	√	X
*11c. Note the most lateral extension diameter of any USL nodule <sup>47</sup>	X	X	√
12. Evaluation of the ureters should be done for all patients found to have USL nodules <sup>4,34,43</sup>	√	X	X

\*Not suggested in any of the included papers, but are recommendations made by the industry standard references.

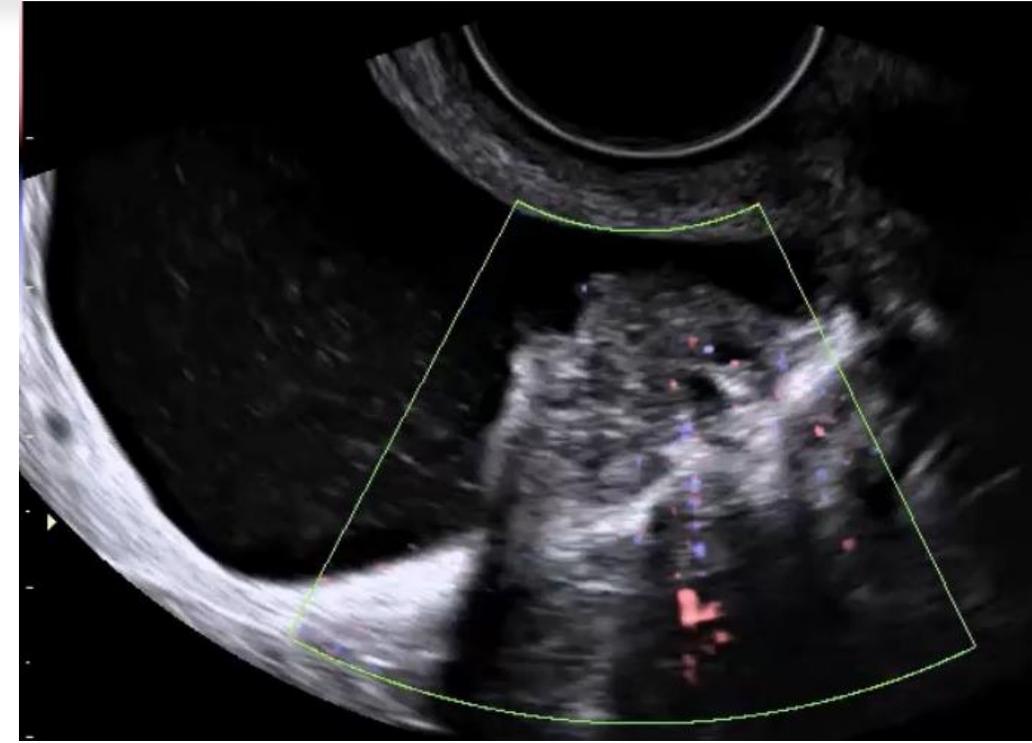
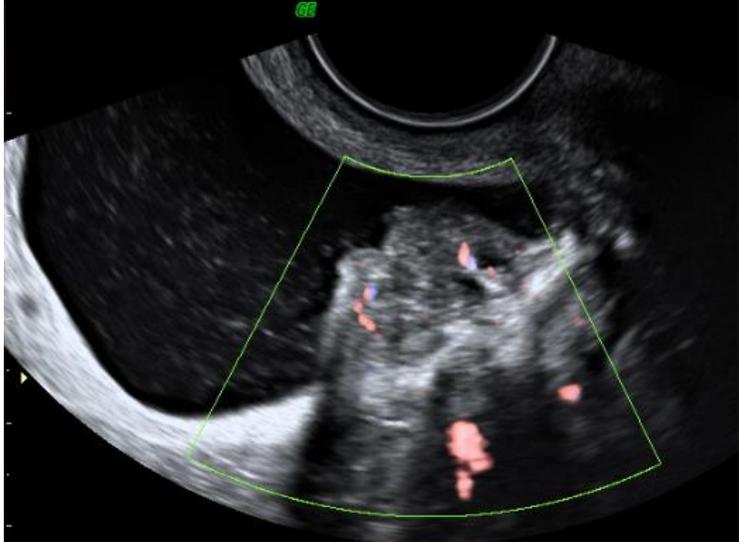
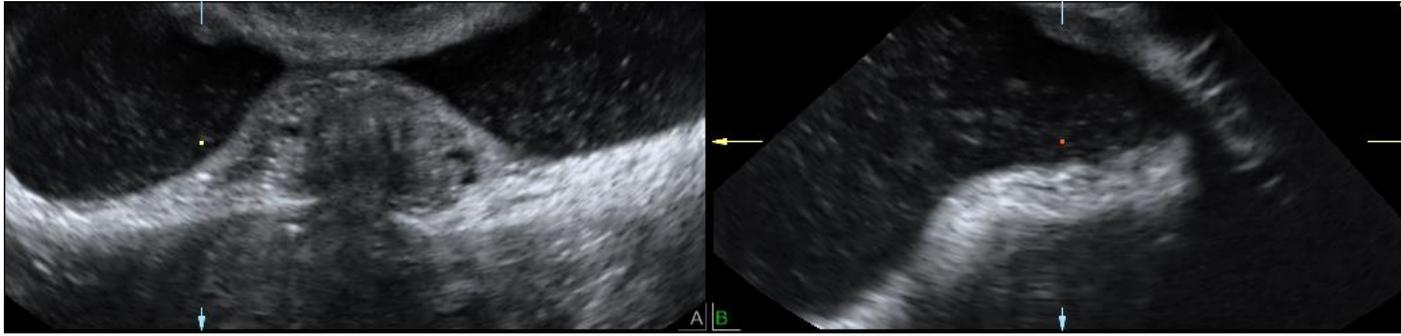
IDEA, International Deep Endometriosis Analysis; TVS, transvaginal ultrasound; USL, uterosacral ligament; X, paper did not use this step; √, paper used this step.



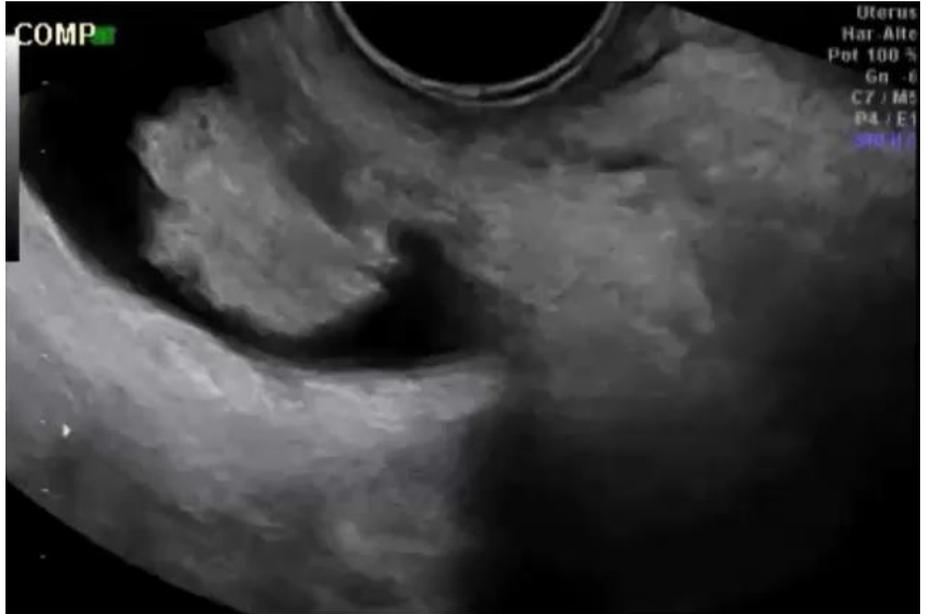
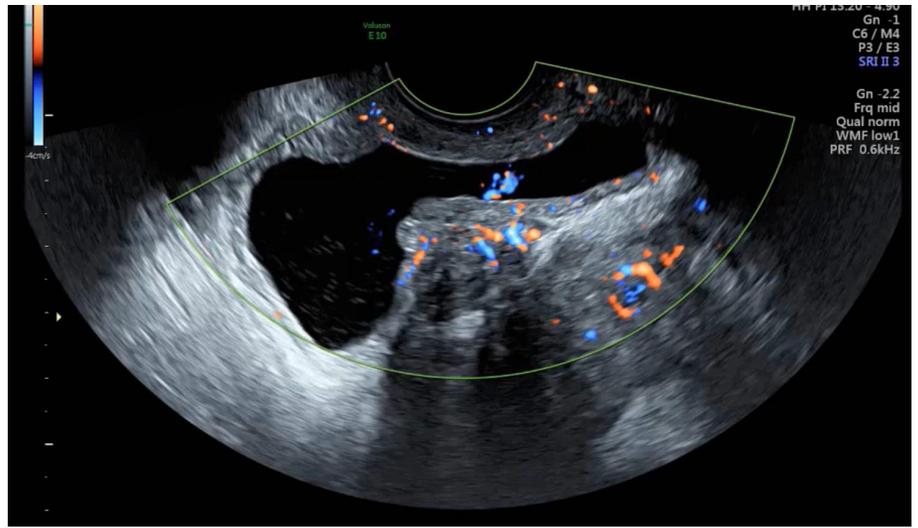
DESLIZAMIENTOS

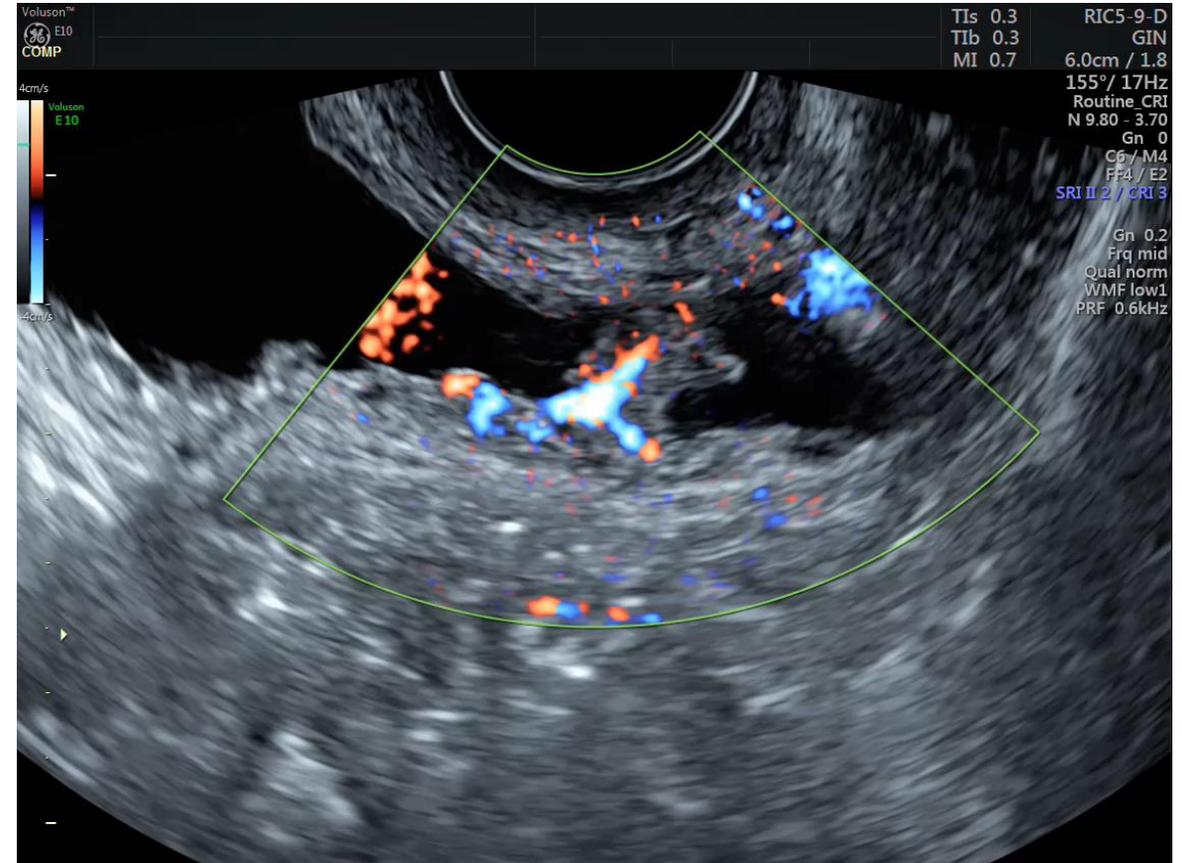
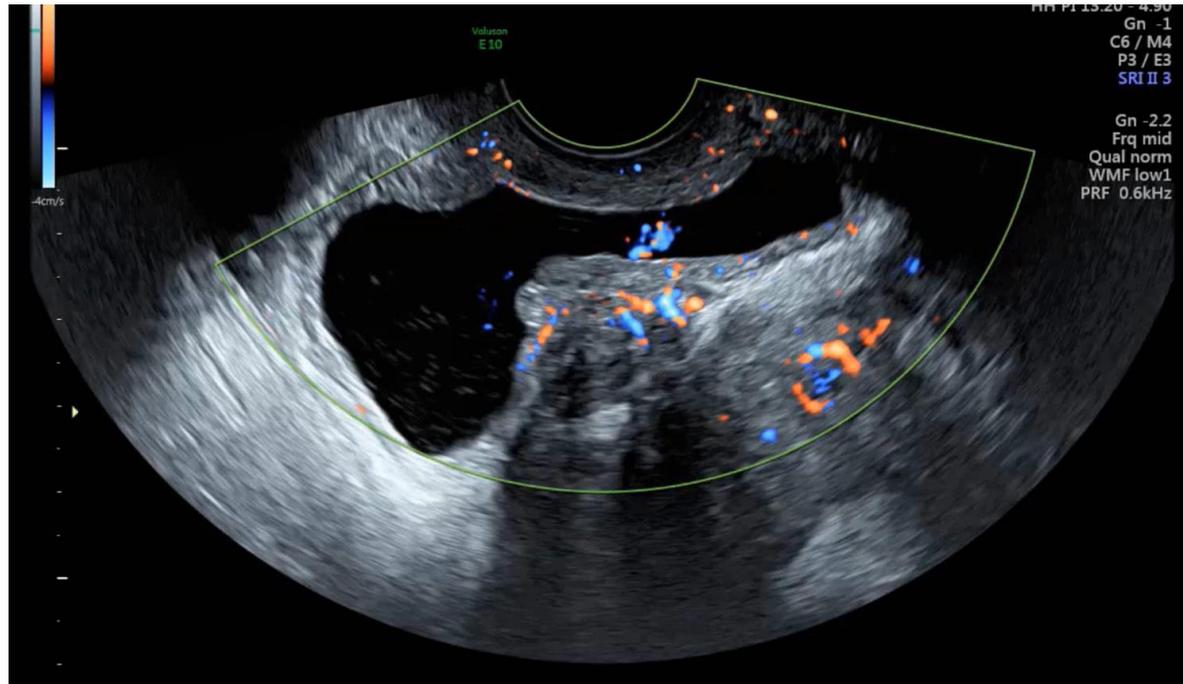


COMPARTIMENTO ANTERIOR. ENDOMETRIOSIS VESICAL . URÉTERES . HIDRONEFROSIS



# Diagnóstico ecográfico de la endometriosis y la adenomiosis

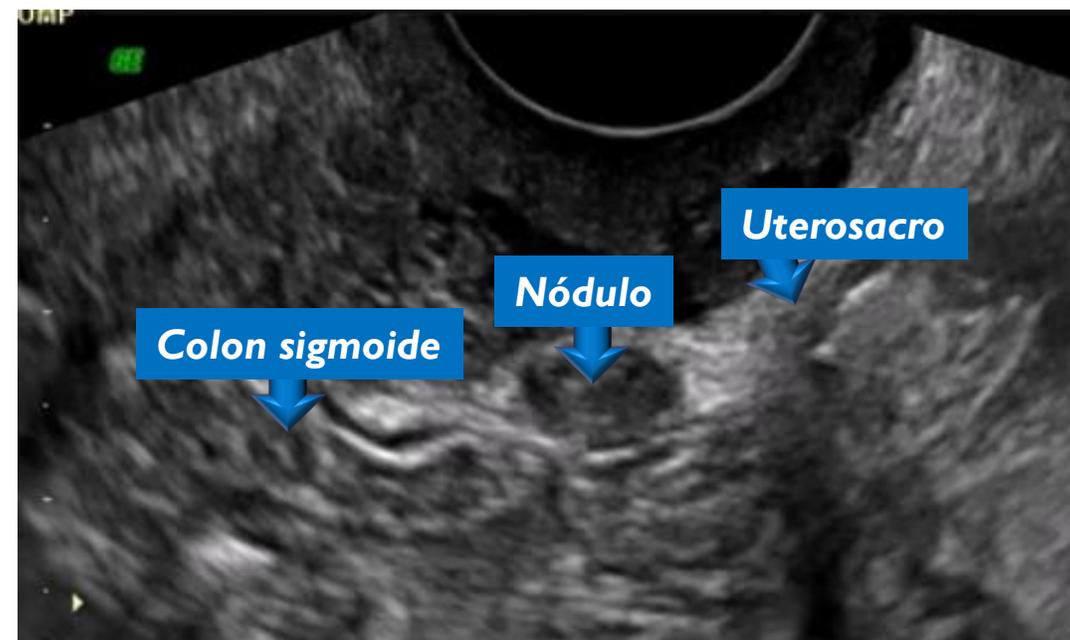
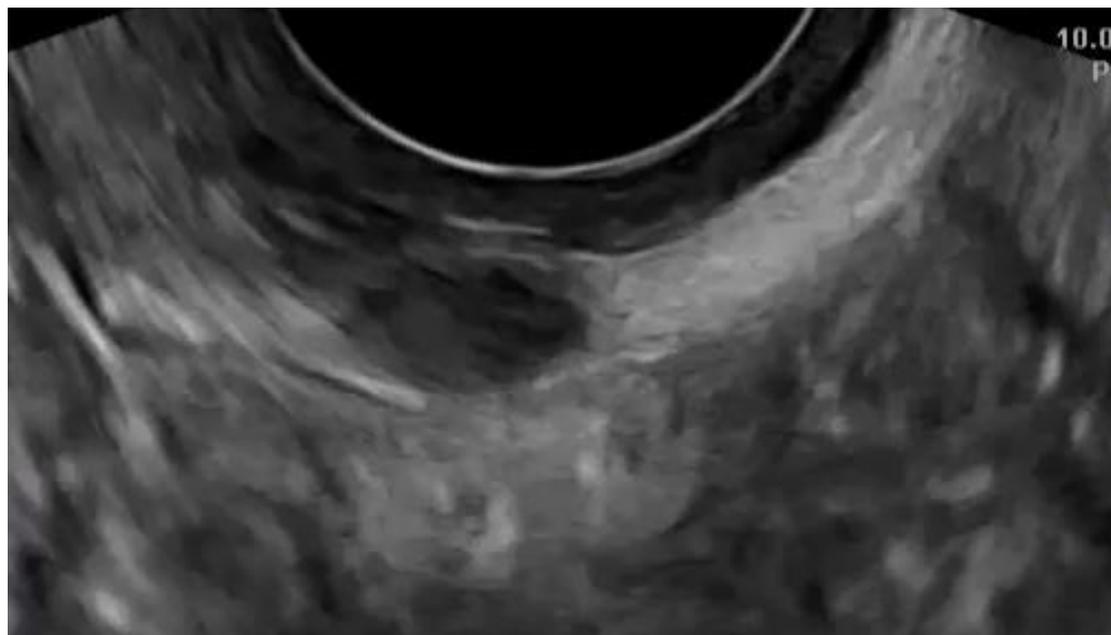




## Afectación ureteral

	<i>Sensibilidad</i>	<i>Especificidad</i>
<i>Nódulo uterosacro derecho</i> $\geq 1,75$ cm	88,2%	72,3%
<i>Nódulo uterosacro izquierdo</i> $\geq 1,95$ cm	71,4%	61,4%

Lima R, Abdalla-Ribeiro H, Nicola AL, Eras A, Lobao A, Ribeiro PA. Endometriosis on the uterosacral ligament: a marker of ureteral involvement. Fertil Steril. 2017



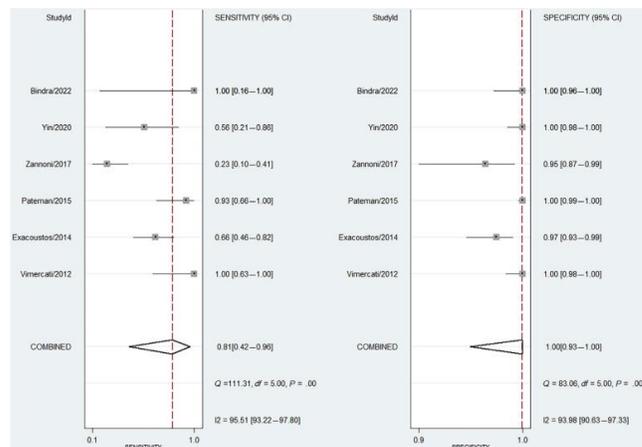
## The Diagnostic Accuracy of Transvaginal Ultrasound for Detection of Ureteral Involvement in Deep Infiltrating Endometriosis

A Systematic Review and Meta-Analysis

Cizar Chway MS, Sandra Flórez MD, María Dolores Muñoz MD, Stefano Guerriero MD, Juan Luis Alcázar MD, PhD ✉

First published: 04 October 2023 | <https://doi.org/10.1002/jum.16335>

Pooled sensitivity and specificity of TVU for the diagnosis of DIE affecting the ureters were 0.81 (95% CI: 0.42–0.96) and 1.00 (95% CI: 0.93–1.00), respectively. We observed high heterogeneity



The main limitation of this meta-analysis is the **small number** of studies included, only six and, as consequence, the very small number of patients. From a methodological point of view, the **heterogeneity between them** could also increase the risk of bias and therefore the results.

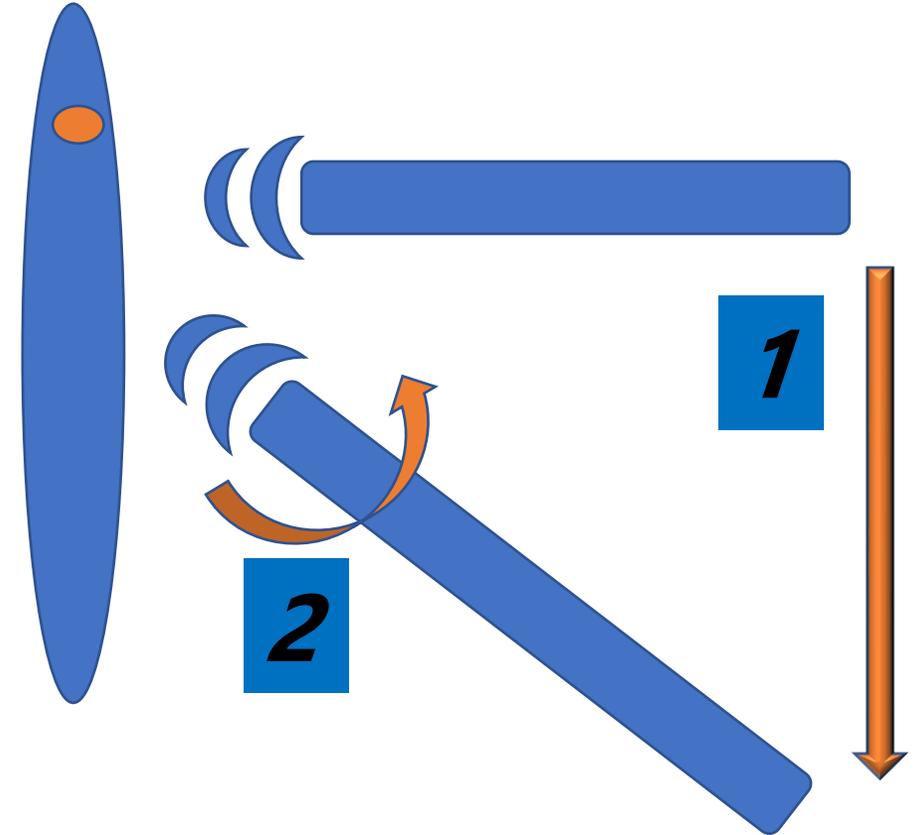
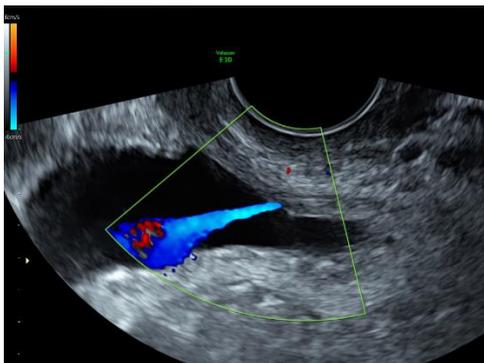
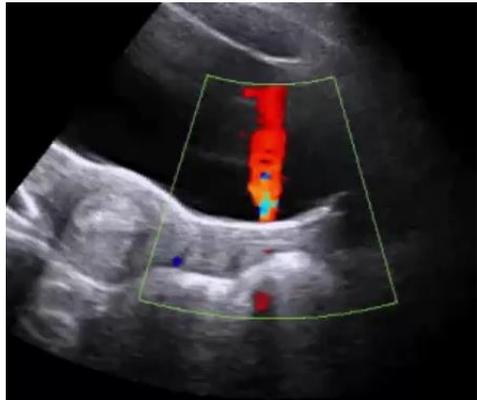
### Conclusions

Transvaginal ultrasound is a **very useful diagnostic tool** for the diagnosis of endometriosis and DIE affecting the ureters.

Figure 2. Qualitative characteristics for evaluation of the quality of the 6 studies included in this systematic review and meta-analysis. Happy face = low risk of bias, serious face = unclear, sad face = high risk of bias.

Study	Risk of bias				Applicability Concerns		
	Patients selection	Index test	Reference test	Flow/timing	Patient selection	Index test	Reference test
Vimercati (2012) <sup>15</sup>	😊	😊	😊	😊	😊	😊	😊
Pateman (2015) <sup>16</sup>	😊	😊	😊	😐	😊	😊	😊
Exacoustos (2015) <sup>17</sup>	😞	😊	😊	😊	😊	😊	😊
Zannoni (2017) <sup>18</sup>	😊	😊	😊	😊	😊	😊	😊
Yin (2020) <sup>19</sup>	😞	😐	😊	😊	😊	😊	😊
Bindra (2022) <sup>20</sup>	😞	😊	😊	😊	😊	😊	😊

COMPARTIMENTO ANTERIOR. ENDOMETRIOSIS VESICAL. URÉTERES. HIDRONEFROSIS



COMPARTIMENTO POSTERIOR. UTEROSACROS, RECTOSIGMA



Systematic approach to sonographic evaluation of the pelvis in women with suspected endometriosis, including terms, definitions and measurements: a consensus opinion from the International Deep Endometriosis Analysis (IDEA) group

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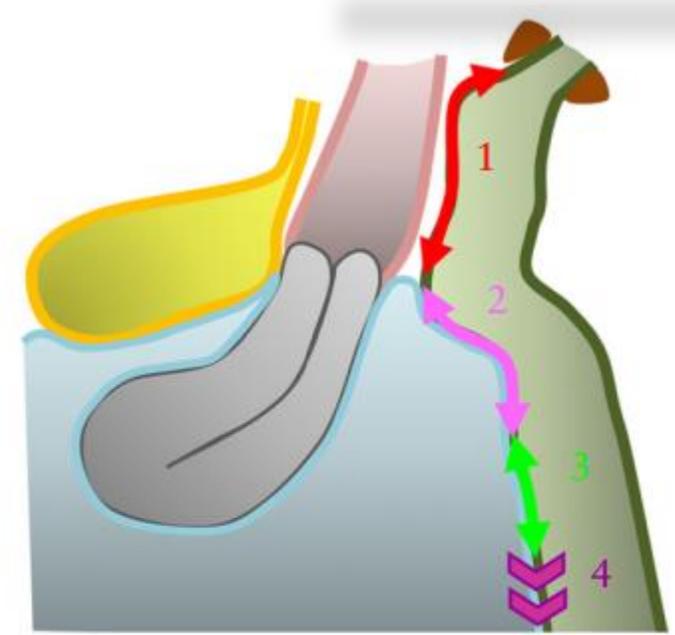
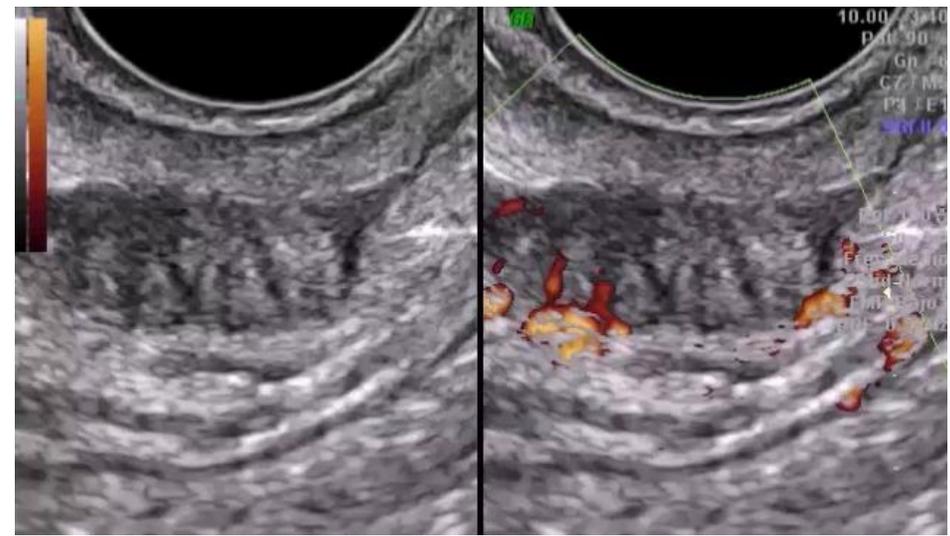
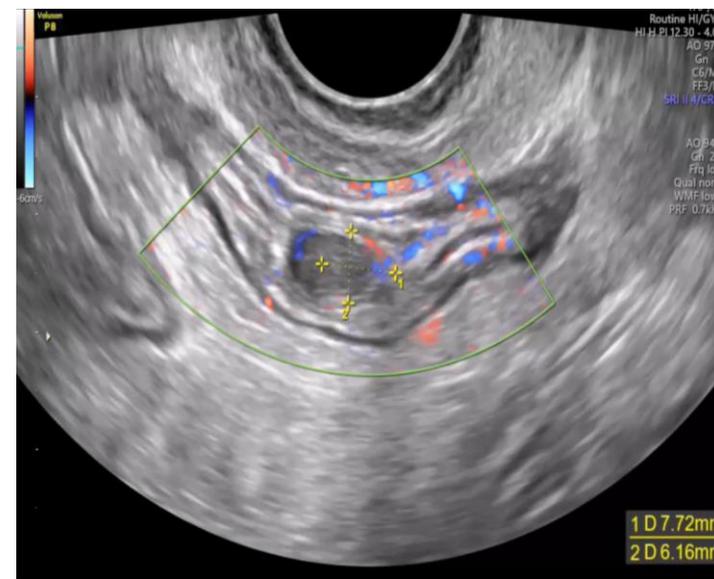
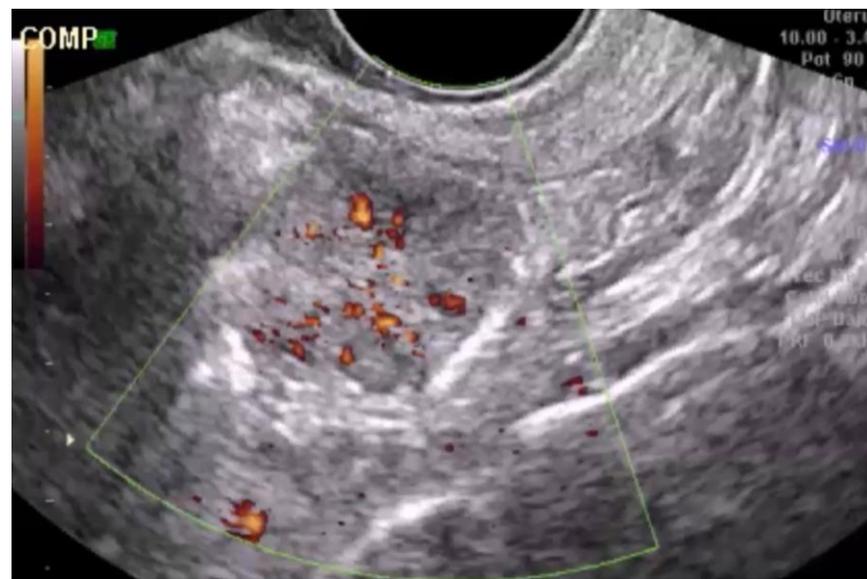
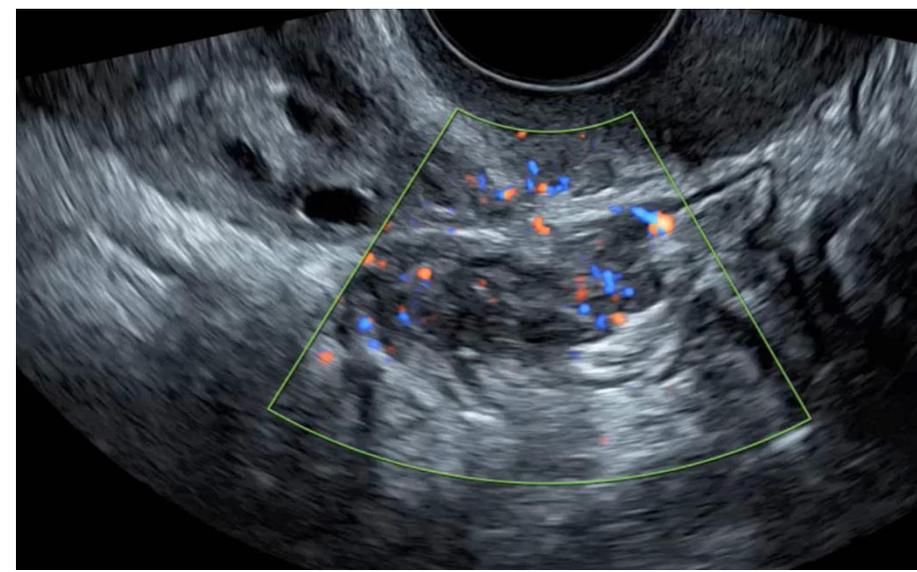
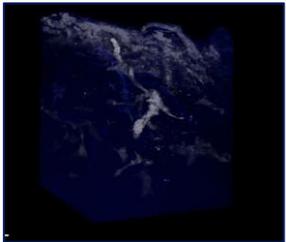
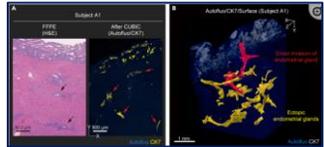
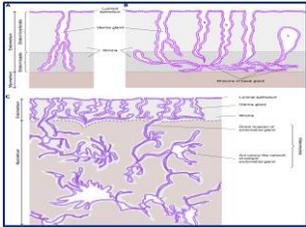


Figure 10 Schematic drawing demonstrating distinction at ultrasound between segments of the rectum and sigmoid colon for specifying location of deep infiltrating endometriotic lesions: lower (or retroperitoneal) anterior rectum (1); upper (visible at laparoscopy) anterior rectum (2); rectosigmoid junction (3); and anterior sigmoid (4).

# Diagnóstico ecográfico de la endometriosis y la adenomiosis



## Factor UTERINO. Adenomiosis



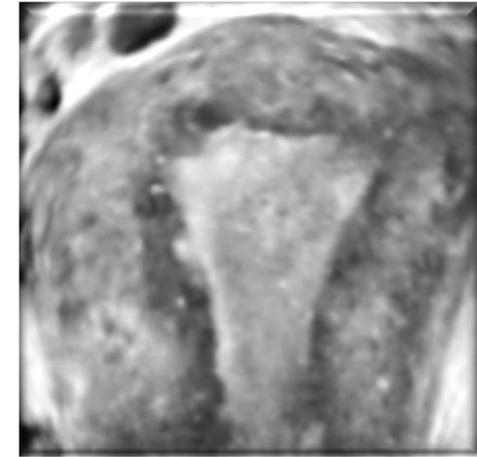
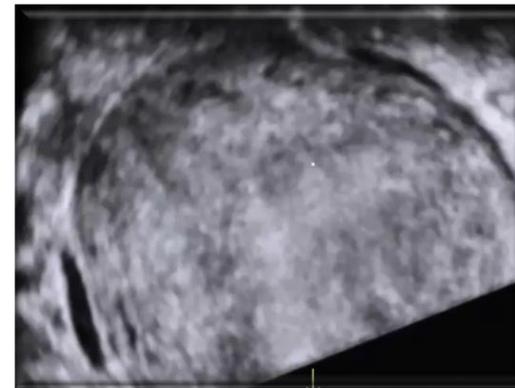
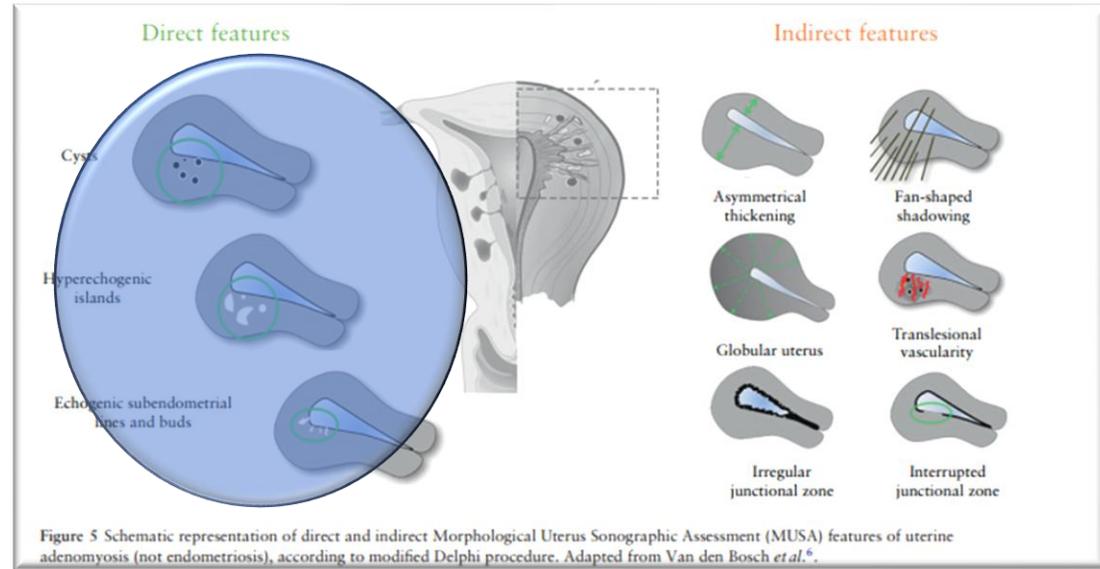
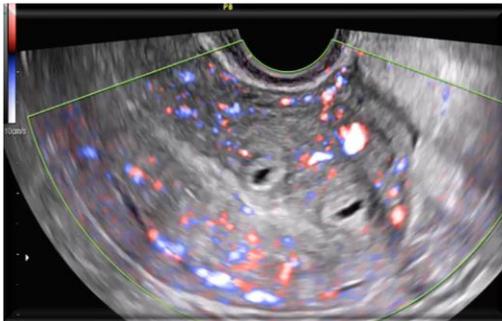
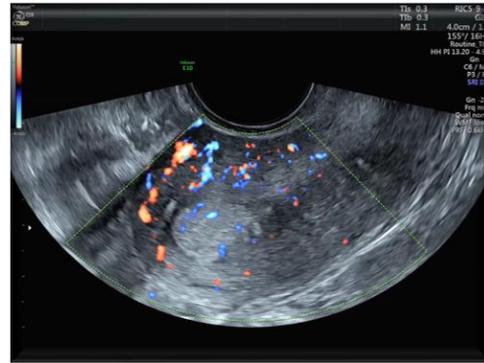
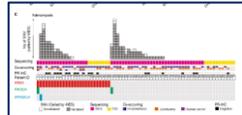
ARTICLE  
**Uterine adenomyosis is an oligoclonal disorder associated with KRAS mutations**  
 Sabahi Inoue<sup>1,2</sup>, Yasushi Hirota<sup>3</sup>, Toshihide Ueno<sup>4</sup>, Yumiko Fukui<sup>5</sup>, Emiko Yoshida<sup>6</sup>, Takuo Hayashi<sup>7</sup>, Shinya Kojima<sup>8</sup>, Reina Takayama<sup>9</sup>, Taki Hashimoto<sup>9</sup>, Tohru Kiyono<sup>10</sup>, Masako Ikemura<sup>9</sup>, Ayumi Taguchi<sup>9</sup>, Tomoki Tanaka<sup>9</sup>, Yusaku Tanaka<sup>9</sup>, Sng Sakuma<sup>9</sup>, Kengo Takemuchi<sup>10,11</sup>, Ayako Morizaki<sup>12</sup>, Satoru Ochiai<sup>13</sup>, Tetsuya Sato<sup>14</sup>, Kazutoshi Otsu<sup>15</sup>, Yutaka Ogori<sup>16</sup>, Yasuhisa Toriig<sup>17</sup>, Masahito Kamada<sup>18</sup>, Hiroyuki Mami<sup>19</sup>

Review > Biology (Basel), 2023 Apr 21;12(4):634. doi: 10.3390/biology12040634.  
**Uterine Transcriptome: Understanding Physiology and Disease Processes**  
 Gregory W Kirschen<sup>1</sup>, Kamran Hessami<sup>2</sup>, Abdelrahman AlAshqar<sup>3</sup>, Sadia Afrin<sup>4</sup>, Bethlehem Luleged<sup>4</sup>, Mostafa Borahay<sup>1</sup>

ORIGINAL ARTICLES REPRODUCTIVE SCIENCE  
**Adenomyosis is associated with specific proton nuclear magnetic resonance (<sup>1</sup>H-NMR) serum metabolic profiles**  
 Matthew Bourdon, M.D.,<sup>1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100</sup>

Song et al. *Reproductive Biology and Endocrinology* (2022) 20:49  
**Integrative metabolomic profiling reveals aberrations in myometrium associated with adenomyosis: a pilot study**  
 Wei Song<sup>1</sup>, Zhibo Zhang<sup>2</sup>, Ying Jiang<sup>3</sup>, Yang Cao<sup>4</sup>, Bo Zhang<sup>5</sup>, Yujie Wang<sup>6</sup>, Honghui Shi<sup>7</sup> and Lan Zhu<sup>8</sup>

Human Reproduction Update, 2022, 26(1), 1-10  
**Adenomyosis pathogenesis: insights from next-generation sequencing**  
 Sertan E. Balas<sup>1,2,3</sup>, Sule Yildiz<sup>4</sup>, Mazhar Adil<sup>5</sup>, and Jian-jun Wu<sup>1,2,3</sup>



[Biology \(Basel\)](#), 2023 Apr; 12(4): 634.  
Published online 2023 Apr 21. doi: [10.3390/biology12040634](https://doi.org/10.3390/biology12040634)

PMCID: PMC10136129  
PMID: [37106834](https://pubmed.ncbi.nlm.nih.gov/37106834/)

Uterine Transcriptome: Understanding Physiology and Disease Processes

[Gregory W. Kirschen](#),<sup>1</sup> [Kamran Hessami](#),<sup>2</sup> [Abdelrahman AlAshqar](#),<sup>3</sup> [Sadia Afrin](#),<sup>1</sup> [Bethlehem Lulseged](#),<sup>4</sup> and [Mostafa Borahay](#)<sup>1,\*</sup>

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Permite la comprensión y caracterización de **perfiles fisiológicos transcriptómicos** en cada ciclo menstrual,

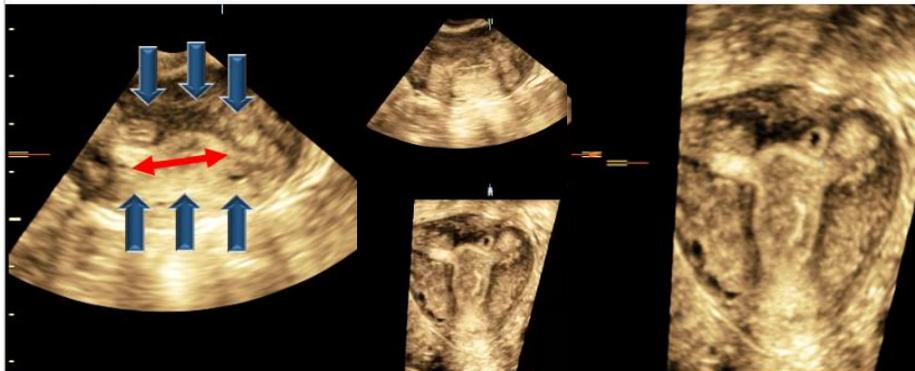
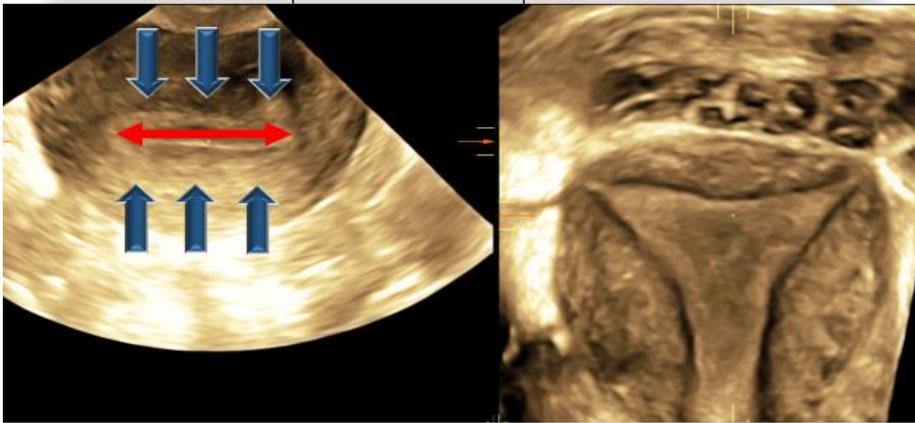
Evaluación de la **receptividad endometrial** en pacientes fértiles (??)

Comparación de perfiles **entre mujeres sanas y mujeres con patologías endometriales** como endometriosis, adenomiosis y cáncer endometrial.

## Etiopatogenia

1.- Daño tisular-reparación (Leyendecker G 2015)  
Invaginación desde el endometrio  
Hiperestronismo-hiperperistalsis  
FR para daño tisular (legrados,  
abortos, gestaciones)  
Compresión del arquímetra por el neometra

Adenomyosis and endometriosis: Revisiting their association and further insight into the mechanisms of auto-transformation in the uterus



2.- Metaplasia celómica  
A partir de remanentes mullerianos  
A partir de diferenciación de células madre adultas endometriales que viajan por menstruación retrógrada

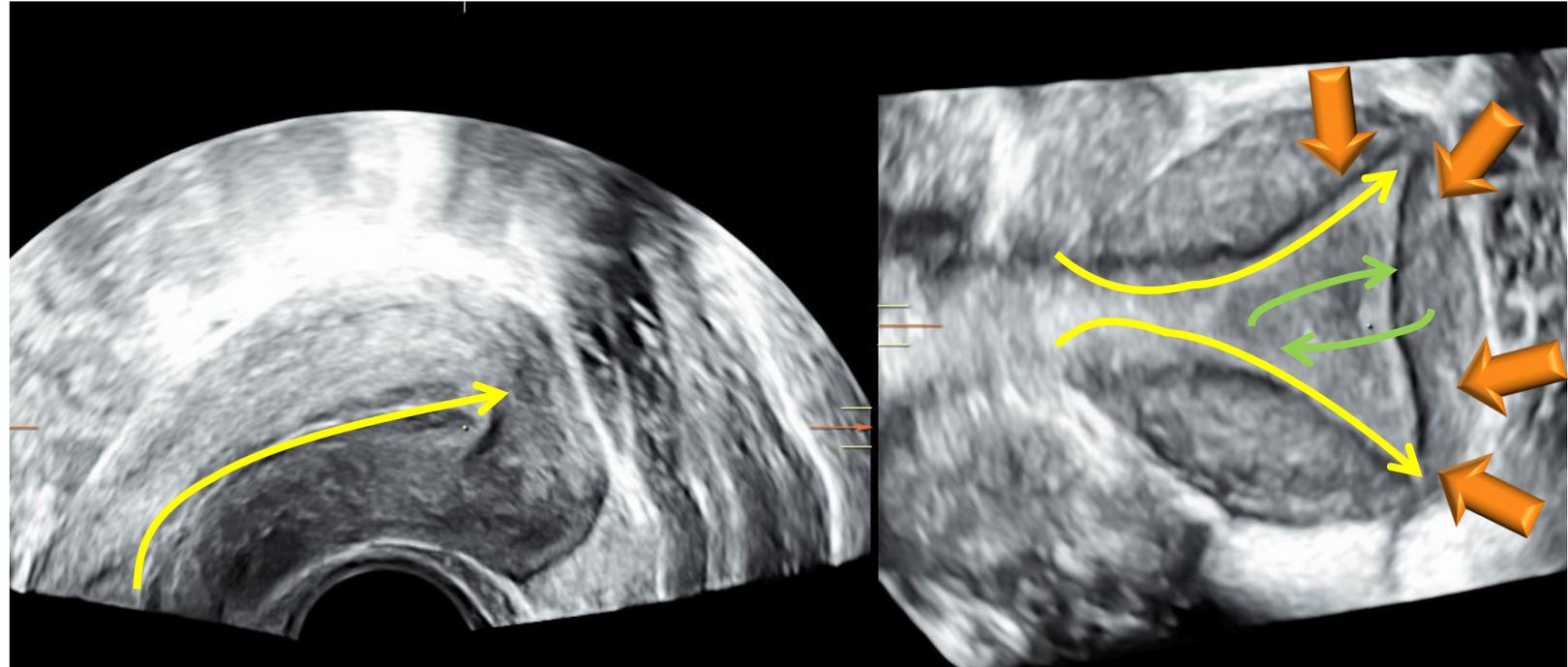
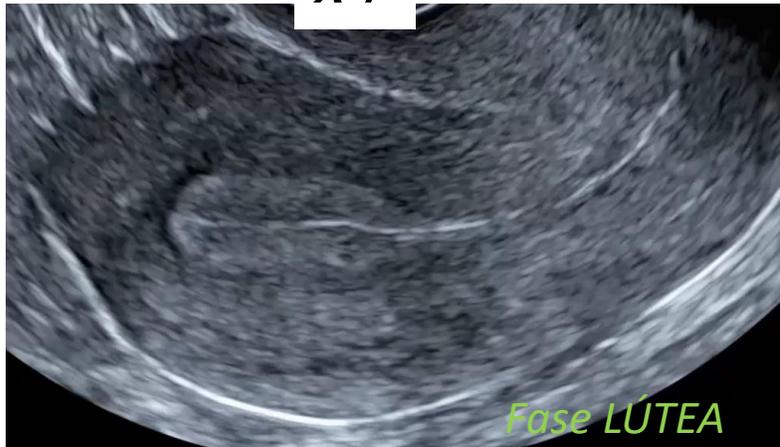
(G Solares, F&S 2018)



ECOGRAFÍA EN LA EVALUACIÓN DE LA CONTRACTILIDAD UTERINA



x4



# Diagnóstico ecográfico de la endometriosis y la adenomiosis



## ULTRASOUND in Obstetrics & Gynecology



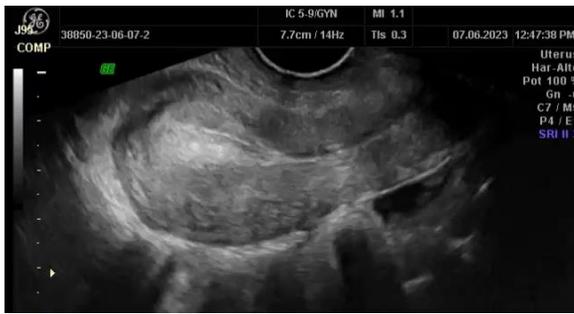
Letter to the Editor | [Full Access](#)

**Transient non-cyclical activity of external myometrium: consider this to avoid errors in diagnosis of adenomyosis and uterine anomalies**

J. M. Puente ✉ L. Fernández, J. A. García-Velasco

First published: 05 January 2022 | <https://doi.org/10.1002/uog.24847>

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1002/uog.24847.



## TIPO 1 “interna”



### GENERAL GYNECOLOGY

## Four subtypes of adenomyosis assessed by magnetic resonance imaging and their specification

Yohei Kishi, MD; Hiroshi Suginami, MD, PhD; Rihoko Kuramori, MD; Maki Yabuta, MD; Rumiko Suginami, MD; Fumiaki Taniguchi, MD

[www.AJOG.org](http://www.AJOG.org)

Kishi Y, 2012, 2017

## TIPO 2 “externa”



## TIPO 3 “metaplásica”



### RESEARCH ARTICLE

## Phenotypic characterization of adenomyosis occurring at the inner and outer myometrium

Yohei Kishi<sup>1,2\*</sup>, Keiji Shimada<sup>3</sup>, Tomomi Fujii<sup>3</sup>, Tomoko Uchiyama<sup>3</sup>, Chiharu Yoshimoto<sup>1</sup>, Noboru Konishi<sup>3</sup>, Chiho Ohbayashi<sup>3</sup>, Hiroshi Kobayashi<sup>1</sup>

1 Department of Obstetrics and Gynecology, Nara Medical University, Nara, Japan, 2 Department of Obstetrics and Gynecology, Takano-hara Central Hospital, Nara, Japan, 3 Department of Diagnostic Pathology, Nara Medical University, Nara, Japan

These authors contributed equally to this work.

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## TIPO 4 “indeterminada”



## •DIAGNÓSTICO. SIGNOS DIRECTOS

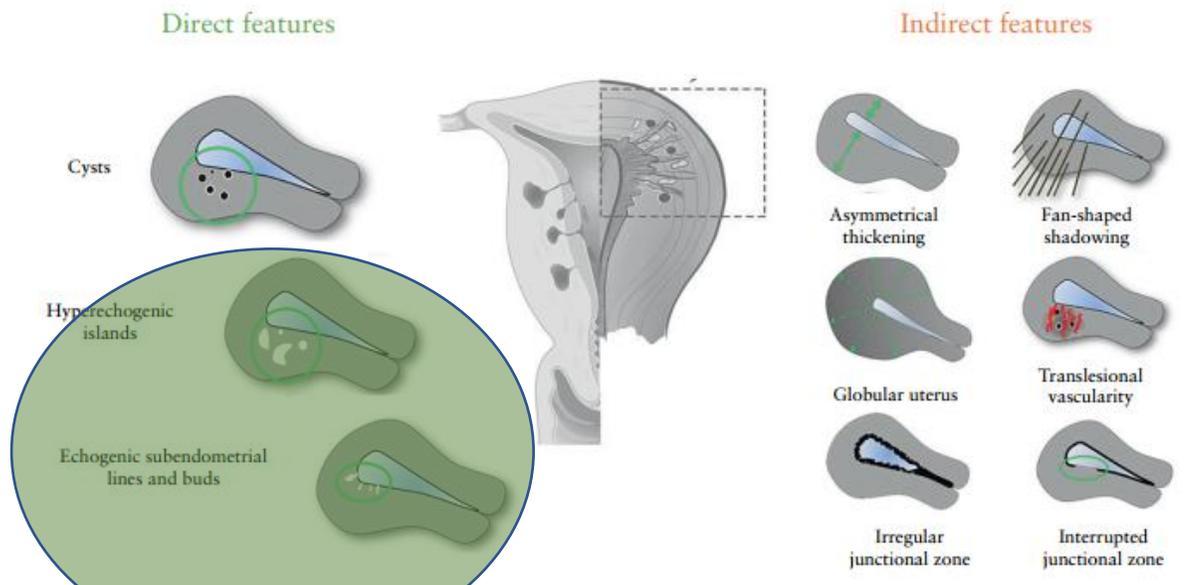
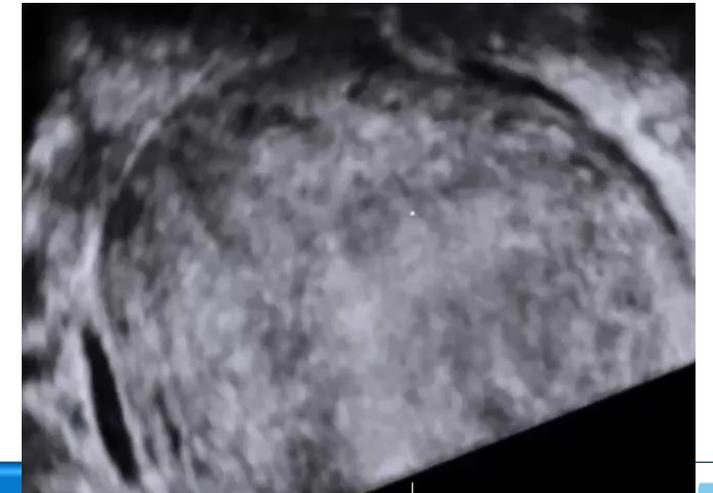
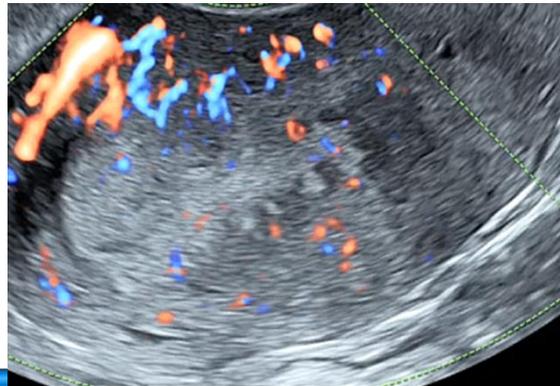
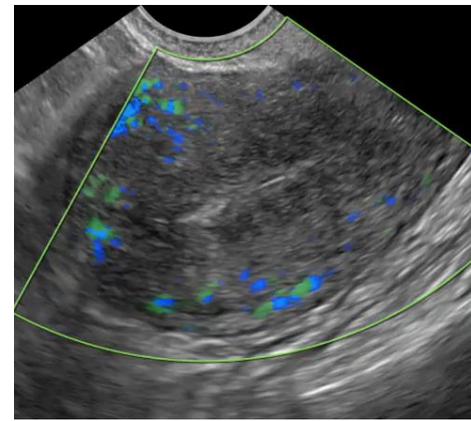


Figure 3 Schematic representation of direct and indirect Morphological Uterus Sonographic Assessment (MUSA) features of uterine adenomyosis (not endometriosis), according to modified Delphi procedure. Adapted from Van den Bosch *et al.*<sup>6</sup>.



## •DIAGNÓSTICO. SIGNOS INDIRECTOS

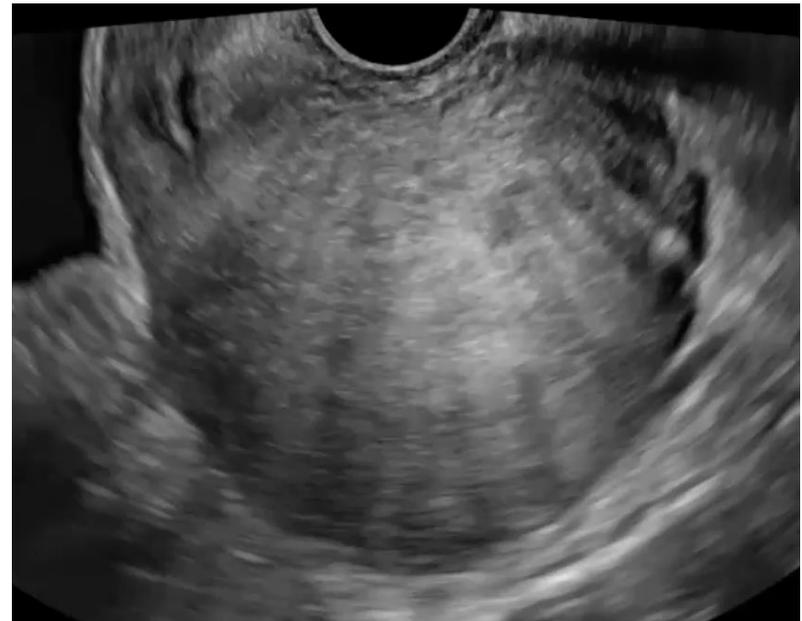
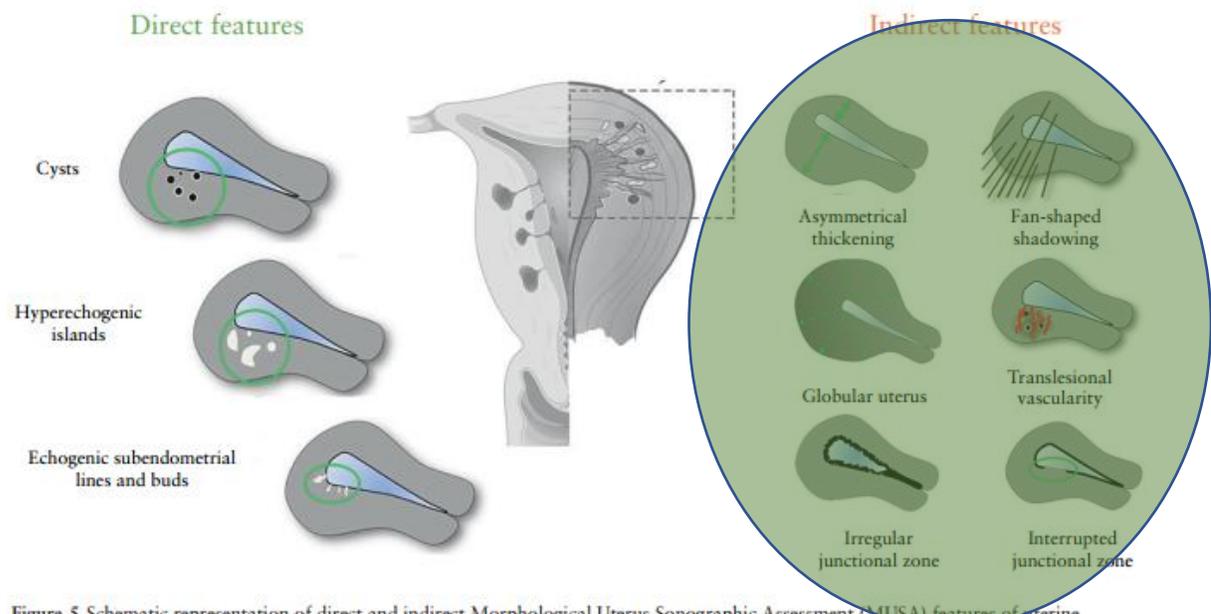
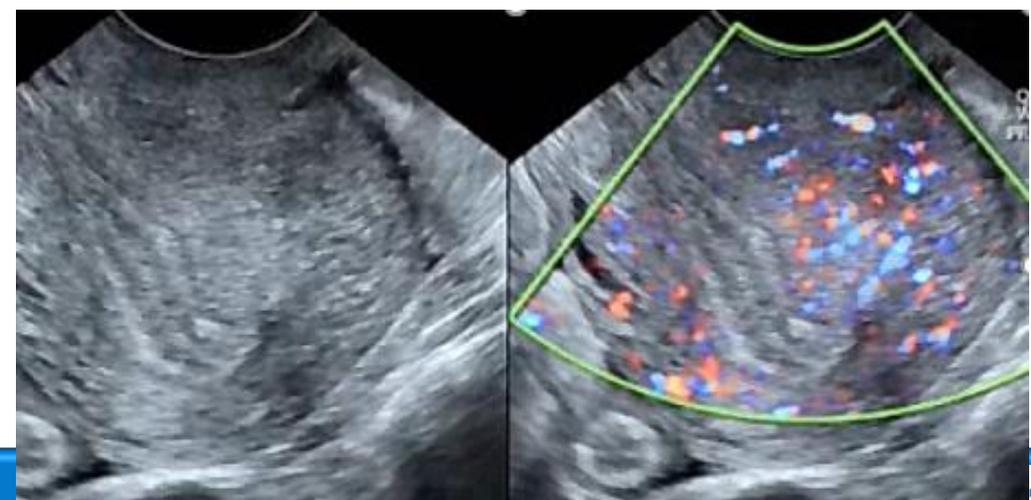
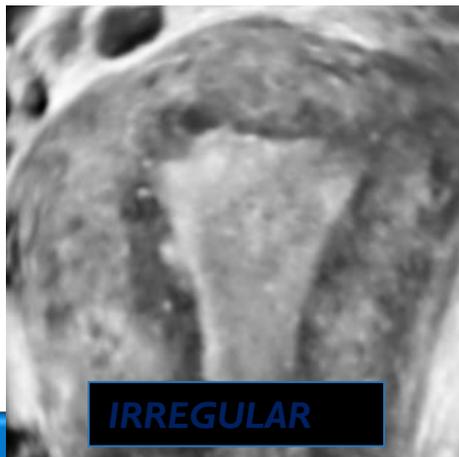


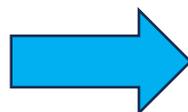
Figure 5 Schematic representation of direct and indirect Morphological Uterus Sonographic Assessment (MUSA) features of uterine adenomyosis (not endometriosis), according to modified Delphi procedure. Adapted from Van den Bosch *et al.*<sup>6</sup>.



## Presence of adenomyosis at MRI reduces live birth rates in ART cycles for endometriosis

M. Bourdon<sup>1,2,3,†</sup>, P. Santulli<sup>1,2,3,\*†</sup>, C. Bordonne<sup>4,5</sup>, A.E. Millisher<sup>4,5</sup>, L. Maitrot-Mantelet<sup>2</sup>, C. Maignien<sup>1</sup>, L. Marcellin<sup>1,2,3</sup>, L. Melka<sup>1</sup>, and C. Chapron<sup>1,2,3</sup>

<sup>1</sup>Faculté de Médecine, Université de Paris, Paris, France <sup>2</sup>Assistance Publique-Hôpitaux de Paris (AP-HP), Hôpital Universitaire Paris Centre (HUPC), Department of Gynaecology, Obstetrics and Reproductive Medicine, Centre Hospitalier Universitaire (CHU) Cochin, Paris, France <sup>3</sup>Department 3I "Infection, Immunité et Inflammation", Institut Cochin, INSERM U1016, Paris, France <sup>4</sup>Department of Radiology, Centre Hospitalier Universitaire (CHU) Hôtel Dieu, Paris, France <sup>5</sup>Centre de Radiologie Bachaumont, IMPC, Paris, France



Clinical pregnancy rate per cycle <sup>1</sup>	147/346 (42.5)
Ongoing pregnancy rate per cycle <sup>1</sup>	126/346 (36.4)
Early pregnancy loss rate per cycle <sup>1</sup>	21/147 (14.3)
Live birth rate per cycle	116/346 (33.5)
Cumulative clinical pregnancy rate per woman	140/202 (69.3)
Cumulative ongoing pregnancy rate per woman	124/202 (61.4)
Cumulative early pregnancy loss rate per woman	16/140 (11.4)
Cumulative live birth rate per woman	116/202 (57.4)



## Original Research

ajog.org

### OBSTETRICS

## The ADENO study: ADenomyosis and its Effect on Neonatal and Obstetric outcomes: a retrospective population-based study

Connie O. Rees, MD, MSc; Hubertus van Vliet, MD, PhD; Albertus Siebers, PhD; Johan Bulten, MD, PhD; Aleida Huppelschoten, MD, PhD; Michelle Westerhuis, MD, PhD; Massimo Mischi, PhD; Benedictus Schoot, MD, PhD

- ✓ Resultados principales: Las mujeres con adenomiosis tuvieron una mayor probabilidad de desarrollar trastornos hipertensivos del embarazo, preeclampsia, bebés pequeños para la edad gestacional, cesáreas de emergencia, falta de progresión en el trabajo de parto, retención placentaria y hemorragia posparto.
- ✓ Resultados adicionales: No se encontró un mayor riesgo de síndrome de HELLP, desprendimiento placentario, parto vaginal operativo o necesidad de estimulación con oxitocina.
- ✓ Conclusiones: Las mujeres con diagnóstico histopatológico de adenomiosis tienen una mayor prevalencia de resultados adversos en el embarazo y el parto, lo que sugiere una función uterina (contráctil) comprometida.

**XXXVII Reunión de la  
Sociedad de Obstetricia y  
Ginecología de Castilla y León**  
20 y 21 de octubre  
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