



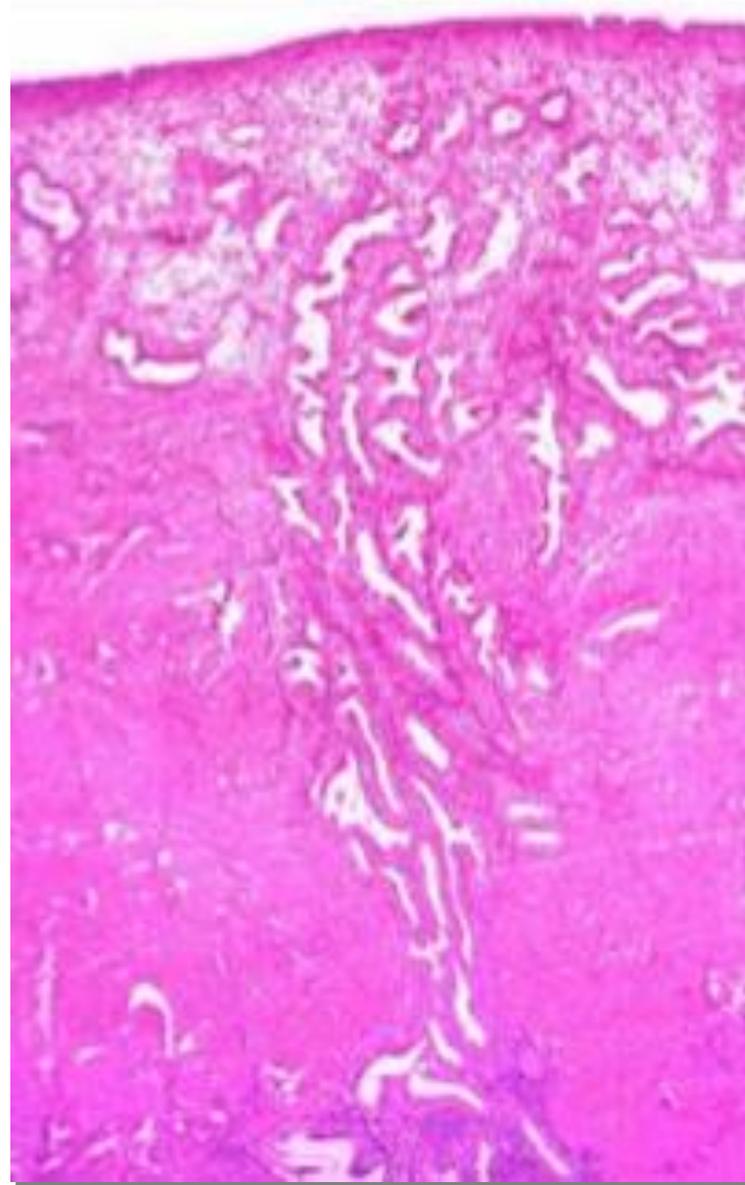
**Dipartimento di Salute della Donna e del Bambino - SDB**  
**U.O.C. Clinica Ginecologica e Ostetrica**  
**Scuola di Specializzazione in Ginecologia e Ostetricia**  
Direttore Prof. G. B. Nardelli

# *ADENOMIOSI*

*Dott.ssa Nicoletta Sianesi*



Adenomyosi = condizione caratterizzata dalla presenza di tessuto endometriale (ghiandole e stroma) nel contesto del miometrio



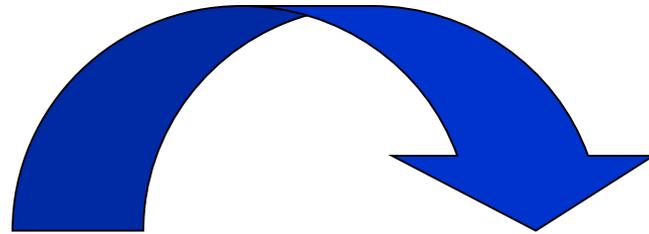
- **1860: prima descrizione** anatomo-patologica (von Rokitanski)
- Per lungo tempo studio limitato a valutazione anatomopatologica dopo **isterectomia**

MACRO

- Corpo uterino globoso
- Parete interessata ingrossata
- Lesione mal delimitata
- Colorito rosa-giallastro

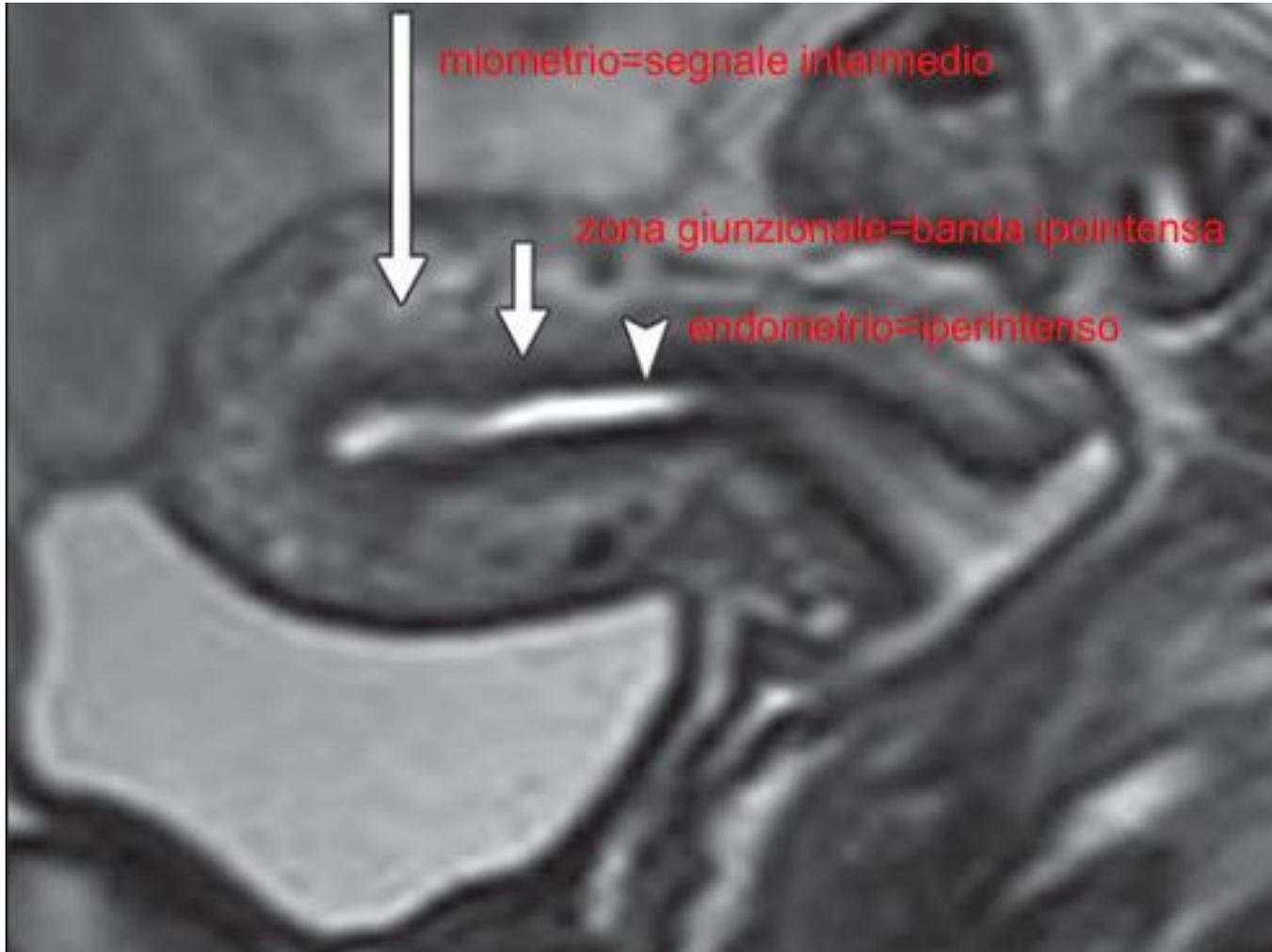


Ultime decadi: avvento di nuove tecniche diagnostiche (**Eco-3D, RM**)



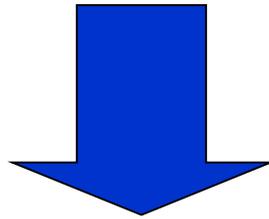
diagnosi non invasiva

**1983 Hricak: “Junctional Zone” (JZ=interfaccia tra endometrio e miometrio alla RM)**



# *Prevalenza*

Prevalenza riportata in letteratura è estremamente variabile: 14-66% !!



- Mancano criteri diagnostici standard
- Tecnica per ottenere il campione
- Potenziali bias nell'analisi istopatologica

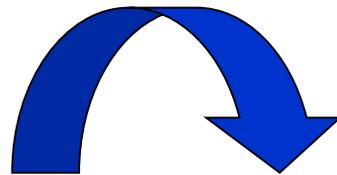
<i>Reference</i>	<i>Depth from endometrial-myometrial junction</i>
<p>Novak and Woodruff, 1979  Parazzini et al., 1997  Zaloudek and Hendrickson, 2002  Gompel and Silverberg, 1985  Owolabi and Strickler, 1977  Hendrickson and Kempson, 1980</p>	<p>&gt;1 high-power field.  &gt;0.5 of low-power field about 2.5 mm.</p> <p>1 medium-power field (×100 lens)  &gt;low-power field.  &gt;one-quarter of the total thickness of the uterine wall away from the deepest point of the apparently normal endometrial-myometrial intersection. They state that they are loath to make a diagnosis of adenomyosis in the premenopausal uterus unless there is associated smooth muscle hypertrophy.</p>
<p>Shaikh and Khan, 1990</p>	<p>Penetration of more than one-third to one-quarter of the total thickness of the uterine wall below the normal endometrial-myometrial junction.</p>
<p>Bergholt et al., 2001  Levgur et al., 2000</p>	<p>Various analyses &gt;1, &gt; 3, or &gt;5 mm, but recommended 3 mm as cut-off.  Depth of 2.5 mm or more.</p>



# *Clinica*

-Aspecifica

-In 1/3 dei casi l'endometriosi si associa a coesistente adenomiosi



Difficile interpretazione dei sintomi

# *Clinica*

- Asintomatica 35%
- Menorragia 50%
- Dismenorrea 30%
- Metrorragia 20%
- Dispareunia e dolore pelvico cronico

- Patologia della donna adulta
- Multipare e nullipare
- Rari casi giovanili → cisti localizzate
- Osservata relazione tra tamoxifene e adenomiosi post-menopausa → potrebbe attivare una condizione silente



# Diagnosi

Tuttora una sfida

- Ecografia transvaginale
- MRI

Accuratezza  
comparabile

Sensibilità 75-85%

Specificità 67-93%

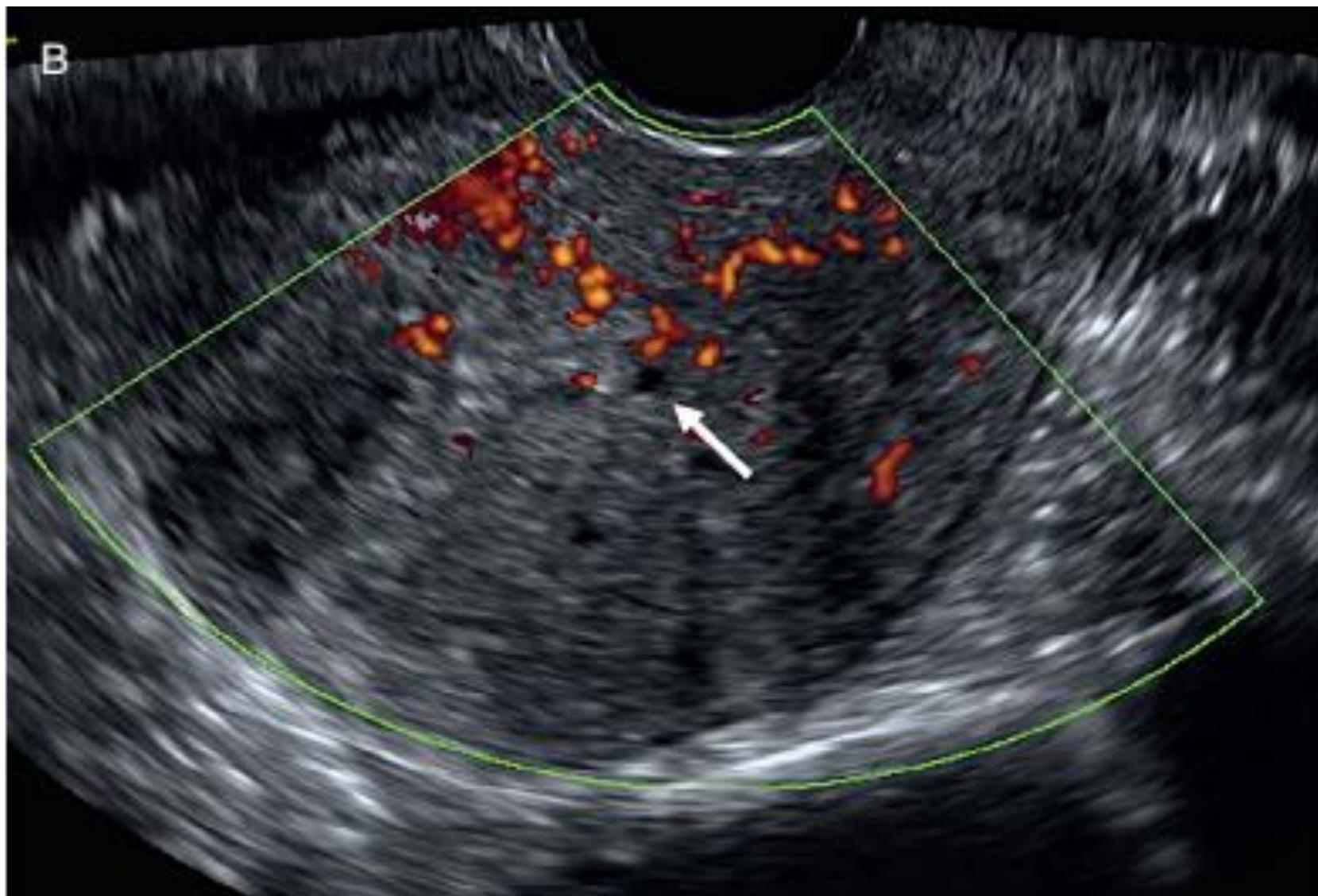
# Ecografia 2D

- Utero complessivamente aumentato di volume
- Asimmetria tra le pareti uterine
- Aree cistiche tondeggianti nel miometrio
- Ecogenicità disomogenea in area miometriale non definita; isole iperecogene
- Striature ipoecogene miometriali
- Pattern vascolare diffuso ( $\neq$  da fibroma)

Ispessimento  
parete posteriore



Ecostruttura miometriale disomogenea, con  
aree irregolari iperecoiche e piccole aree  
cistiche anecoiche





## Original Article

# Three-Dimensional Ultrasound in Diagnosis of Adenomyosis: Histologic Correlation With Ultrasound Targeted Biopsies of the Uterus

Danielle E. Luciano, MD\*, Caterina Exacoustos, MD, Lauren Albrecht, MD,  
Rachel LaMonica, DO, Abigail Proffer, MD, Errico Zupi, MD, and Anthony A. Luciano, MD

*From the Department of Obstetrics and Gynecology, University of Connecticut, New Britain, Connecticut (Drs. Danielle E. Luciano, Lauren Albrecht, Rachel LaMonica, Abigail Proffer, and Anthony Luciano), and Department of Obstetrics and Gynecology, Università degli Studi di Roma "Tor Vergata," Rome, Italy (Drs. Exacoustos Caterina and Errico Zupi).*

# Ecografia 3D

## Studio prospettico

- 54 donne, sintomatiche, pre-menopausa, in lista per isterectomia (non malignità)

- spessore JZ( $\geq 8\text{mm}$ )
- asimmetria
- strie iperecoiche



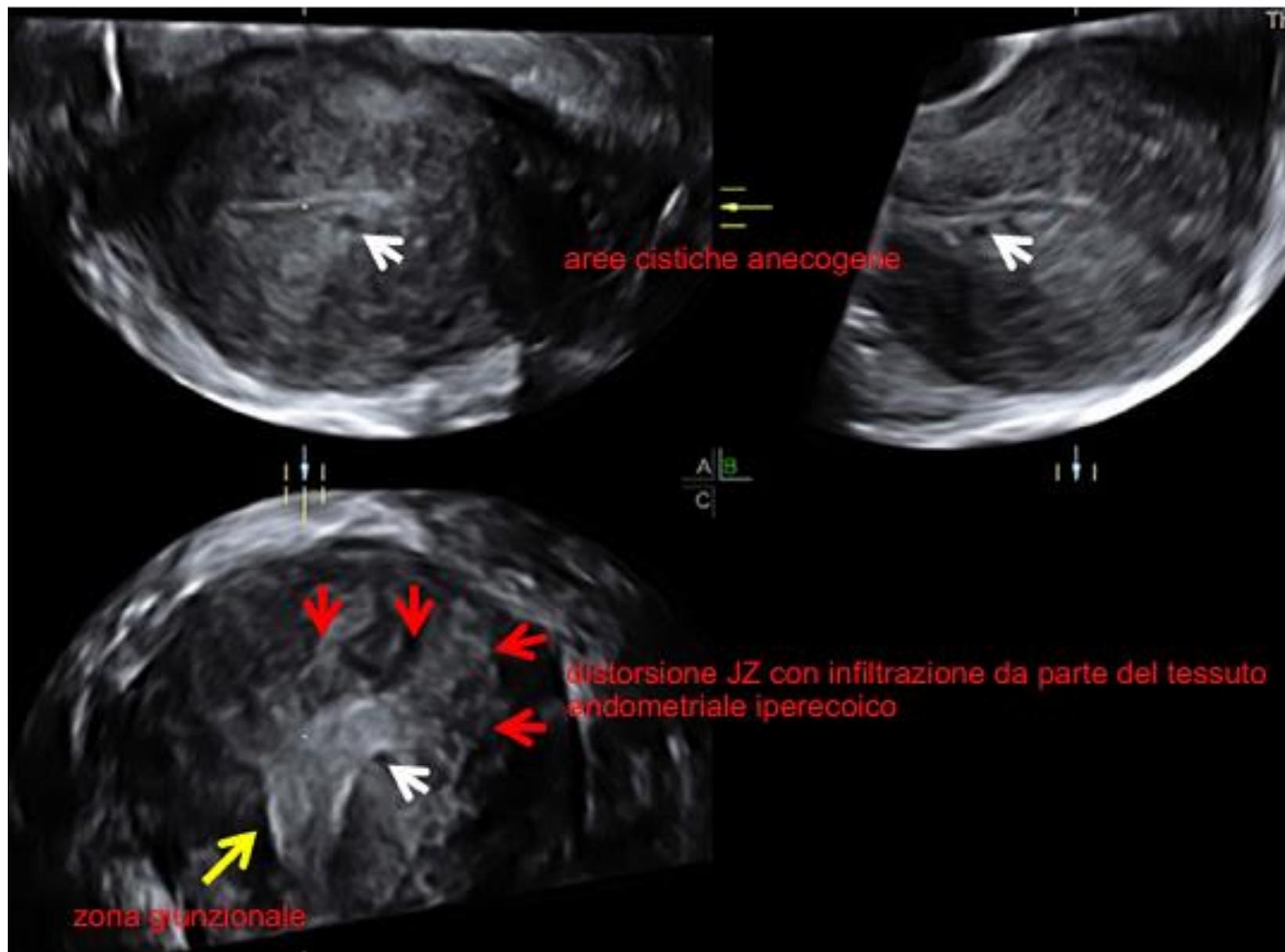
Presenza di almeno 2 criteri:

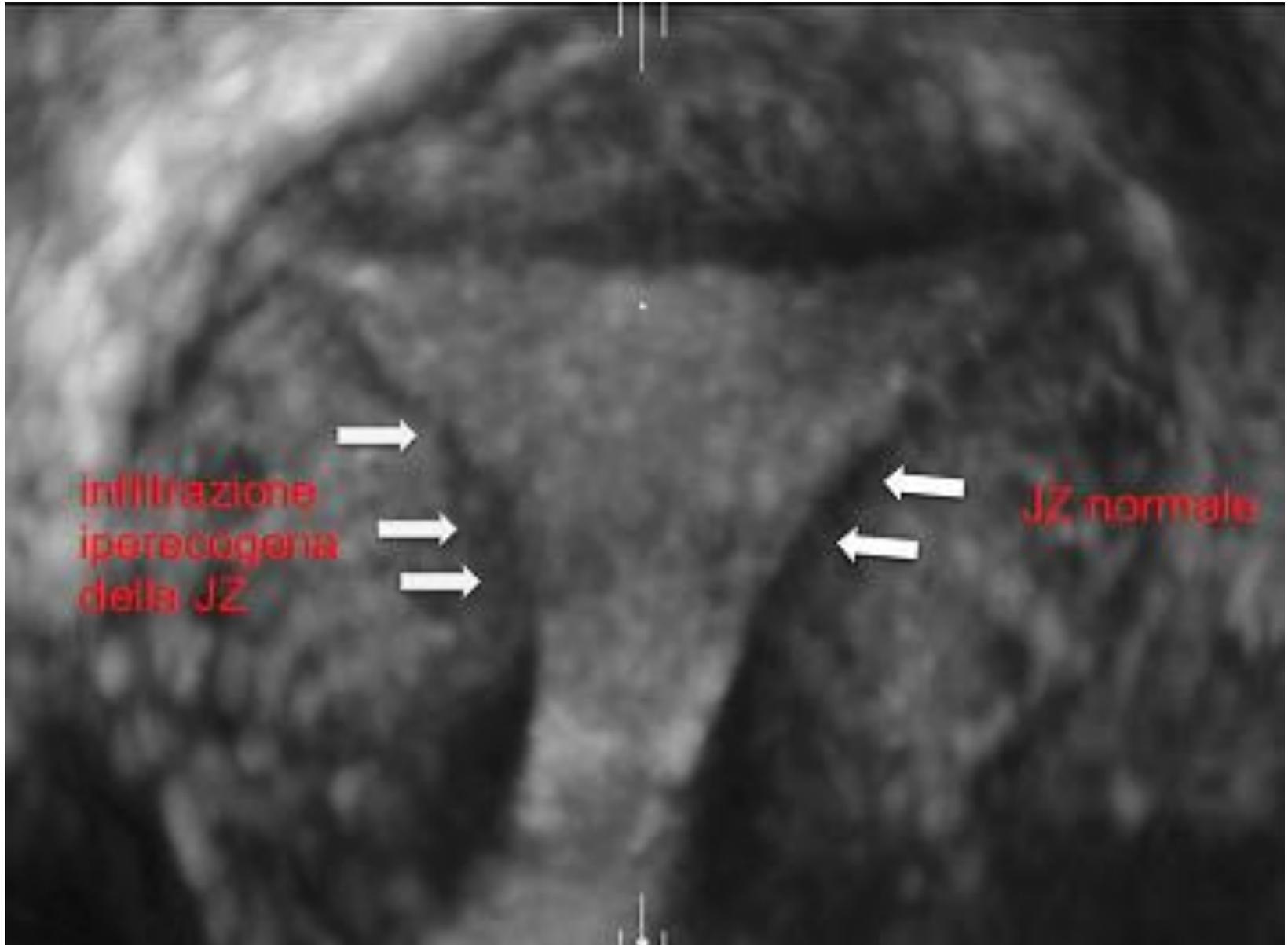
Sensibilità 90%

Specificità 83%

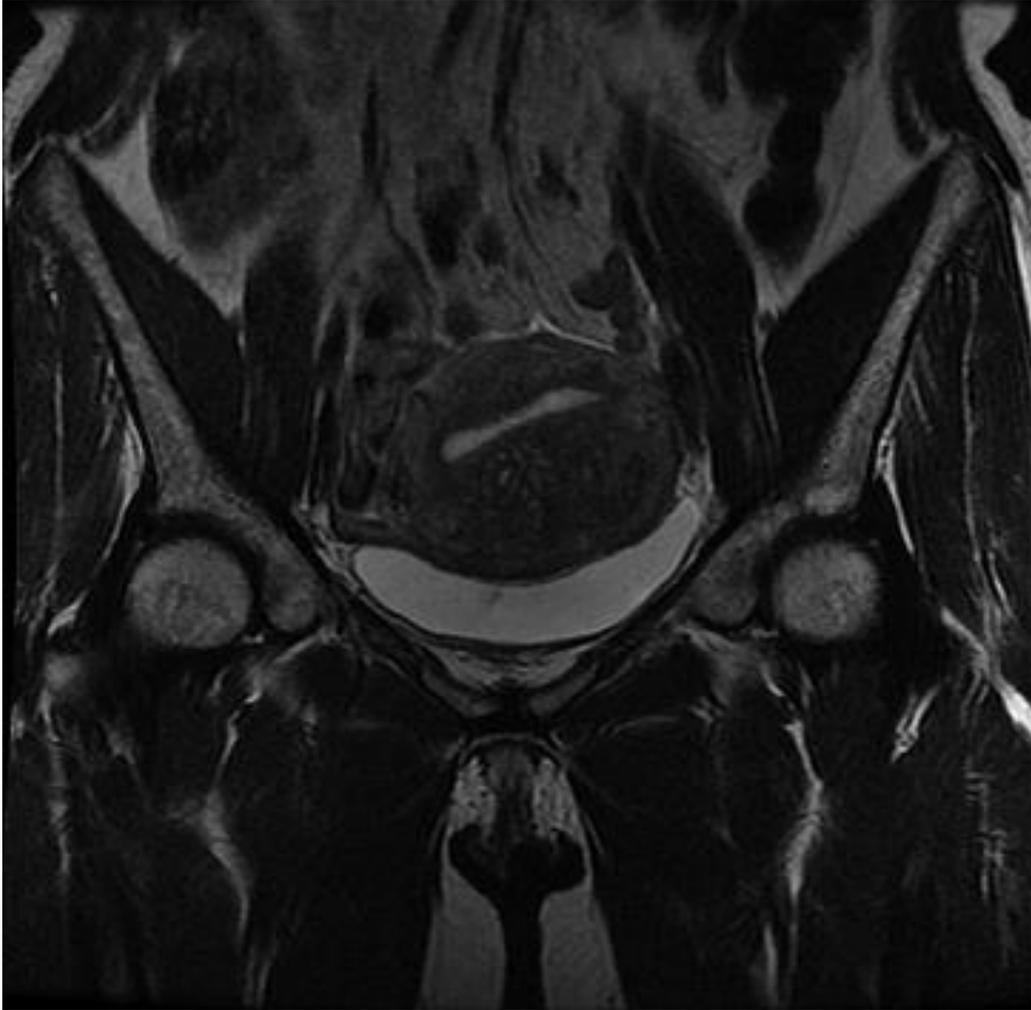
PPV 99%

NPV 71%





# RM



- ispessimento della JZ (8-12 mm)
- Alterazione della normale architettura a livello della JZ
- Piccole aree/spots con segnale ad alta intensità

# *Impatto sulla fertilità*

- Kunz et al 2005: alterata peristalsi uterina
- Kissler et al 2006: iperperistalsi utero-tubarica
- Benegiano 2012: diminuzione recettività endometriale
- Meta-analisi Vercellini 2014: effetto negativo su outcome IVF → considerare screening prima di FIV

# *Impatto sulla fertilità*



Tuttora controversa la natura dell'associazione tra adenomiosi, endometriosi e infertilità

Table 2 Clinical pregnancy rates in women with adenomyosis.

Study	Study group: women with:	Intervention	Number of women	Number of cycles per woman	Total number of cycles	Clinical pregnancy n (%)	Implantation rate (per embryos transferred) (%)	Spontaneous abortions (%)	Live birth rate or ongoing pregnancy (%)
Martinez- Conejero et al., 2011	Imaging-diagnosed adenomyosis	Ovum donation	152	>1	328	131/328 (39.9)	29.6	43/328 (13.1)	88/328 (26.8)
	Ovarian endometriosis	IVF	144		242	107/242 (44.2)	33.3	15/242 (6.2)	92/242 (38.0)
	Normal group		147		331	147/331 (44.4)	30.8	24/331 (7.3)	123/331 (37.2)
Chiang et al., 1999	Ultrasound-diagnosed adenomyosis	IVF for primary infertility	19	Unknown	Unknown	6/19 (31.6)	Unknown	4/19 (21.1)	2/19 (10.5)
	Controls		144		Unknown	38/144 (26.4)	Unknown	8/144 (5.6)	30/144 (20.8)
Mijatovic et al., 2010	Endometriosis but no adenomyosis	IVF or ICSI in women	54	1	Unknown	30/54 (55.6)	28.2	14/54 (25.9)	16/54 (29.6)
	Subgroup with endometriosis and ultrasound-diagnosed adenomyosis	with endometriosis	20		Unknown	11/20 (55.0)	31	4/20 (20.0)	7/20 (35.0)
Thalluri and Tremellen, 2012	Ultrasound-diagnosed adenomyosis	IVF	38	1	Unknown	12/38 (31.6)	Unknown	3/38 (7.9)	9/38 (23.7)
	Controls with no adenomyosis		175		Unknown	87/175 (49.7)	Unknown	9/175 (5.1)	78/175 (44.6)
Maubon et al., 2010	Infertility and average junctional zone <7 mm	IVF	113	>1		71/113 (62.8)	Unknown	Unknown	Unknown
	Infertility and average junctional zone >7 mm		39		Unknown	10/39 (25.6)	Unknown	Unknown	Unknown
Costello et al., 2011	Ultrasound-diagnosed adenomyosis	Women undergoing	37	1	31	13/31 (41.9)	15/53 (28.3)	2/13 (15.4)	11/37 (29.7)
	No adenomyosis	IVF and ICSI	164		139	60/139 (43.2)	65/206 (31.6)	16/59 (27.1)	42/161 (26.1)
Salim et al., 2012	Ultrasound-diagnosed adenomyosis	Women undergoing	19	1	18	4/18 (22.2)	6/32 (18.8)	2/18 (11.1)	2/18 (11.1)
	Control group	IVF-ICSI cycles	256		229	108/229 (47.2)	123/419 (29.4)	3/229 (1.3)	105/229 (45.8)

# Terapia medica



Pochi studi esaustivi sul trattamento farmacologico dell'adenomiosi!

- IUD con progesterone → atrofia endometriale per azione locale
  - Progestinico
  - Danazolo
  - GnRH agonista
- Azione sistemica su endometrio ed asse ipotalamo-ipofisi-ovaio

# *Terapia chirurgica*

- Per anni dominata dalla sola isterectomia
- Attualmente possibile ma controversa la chirurgia conservativa



-Invasione del miometrio con limiti indefiniti → assenza di chiaro piano di clivaggio

-spesso accompagnata da escissione di miometrio sano → possibile compromissione della parete uterina

- Escissione completa (adenomiosi localizzata)
- Chirurgia debulking/parziale adenomiomectomia (adenomiosi diffusa)
- Isteroscopia operativa

# Who will benefit from uterus-sparing surgery in adenomyosis-associated subfertility?

Yohei Kishi, M.D., Maki Yabuta, M.D., and Fumiaki Taniguchi, M.D.

Department of Obstetrics and Gynecology, Takanohara Central Hospital, Nara, Japan

**Objective:** To analyze the determinants of successful pregnancy following laparoscopic adenomyomectomy.

**Design:** Retrospective cohort study.

**Setting:** A general hospital.

**Patient(s):** A total of 102 women who had a desire for pregnancy underwent laparoscopic adenomyomectomy from 2007 to 2012.

**Intervention(s):** Surgical excision of the uterine adenomyosis; statistical analysis for fertility outcomes.

**Main Outcome Measure(s):** Pregnancy rates and the results of univariable and multivariable analyses.

**Result(s):** When the women were divided into  $\leq 39$  years and  $\geq 40$  years age groups, clinical pregnancy rates were 41.3% and 3.7%, respectively. Factors associated with clinical pregnancy were: history of IVF treatments, posterior wall involvements, and age, with odds ratios of 6.22, 0.18, and 0.77, respectively. In the younger group, 60.8% of women with history of IVF failure showed successful pregnancy after surgery. We experienced 2 cases of placenta accreta in far advanced cases.

**Conclusion(s):** This study demonstrated age as a determinant in fertility outcomes. Surgery could be a beneficial treatment for women who experienced IVF treatment failures, especially at ages of  $\leq 39$  years. We could not show a clear benefit of the surgery on fertility outcomes of the group aged  $\geq 40$  years. Extremely severe adenomyosis affecting a broad range of the uterine subendometrial myometrium should be treated carefully on a pregnancy course. (Fertil Steril® 2014;102:802–7. ©2014 by American Society for Reproductive Medicine.)

**Key Words:** Adenomyosis, surgery, subfertility, pregnancy, complication



Use your smartphone to scan this QR code and connect to the discussion forum for

-102 ♀ affette da adenomiosi, desiderose di prole

→ gruppo  $\leq 39$  anni

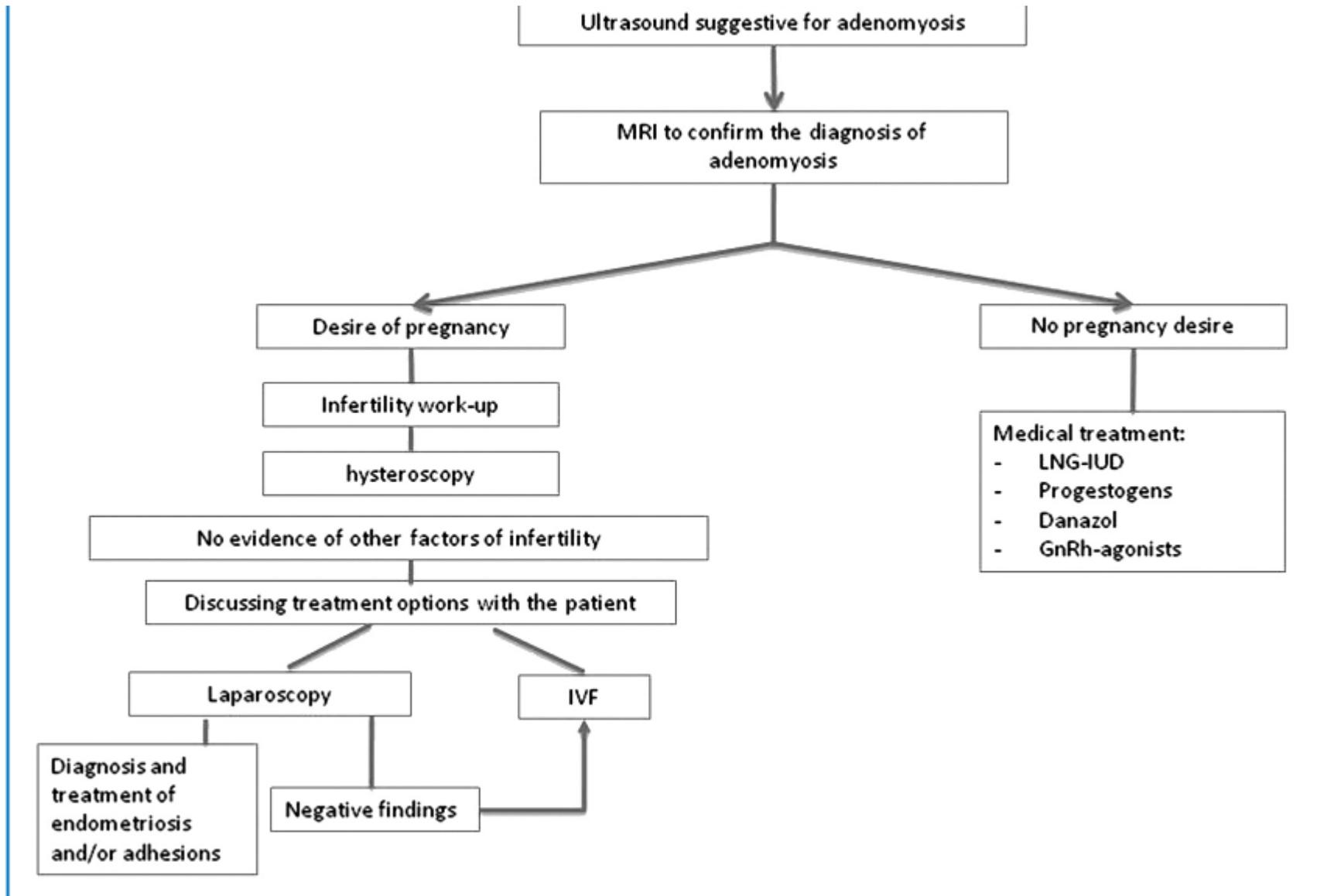
→ gruppo  $\geq 40$  anni

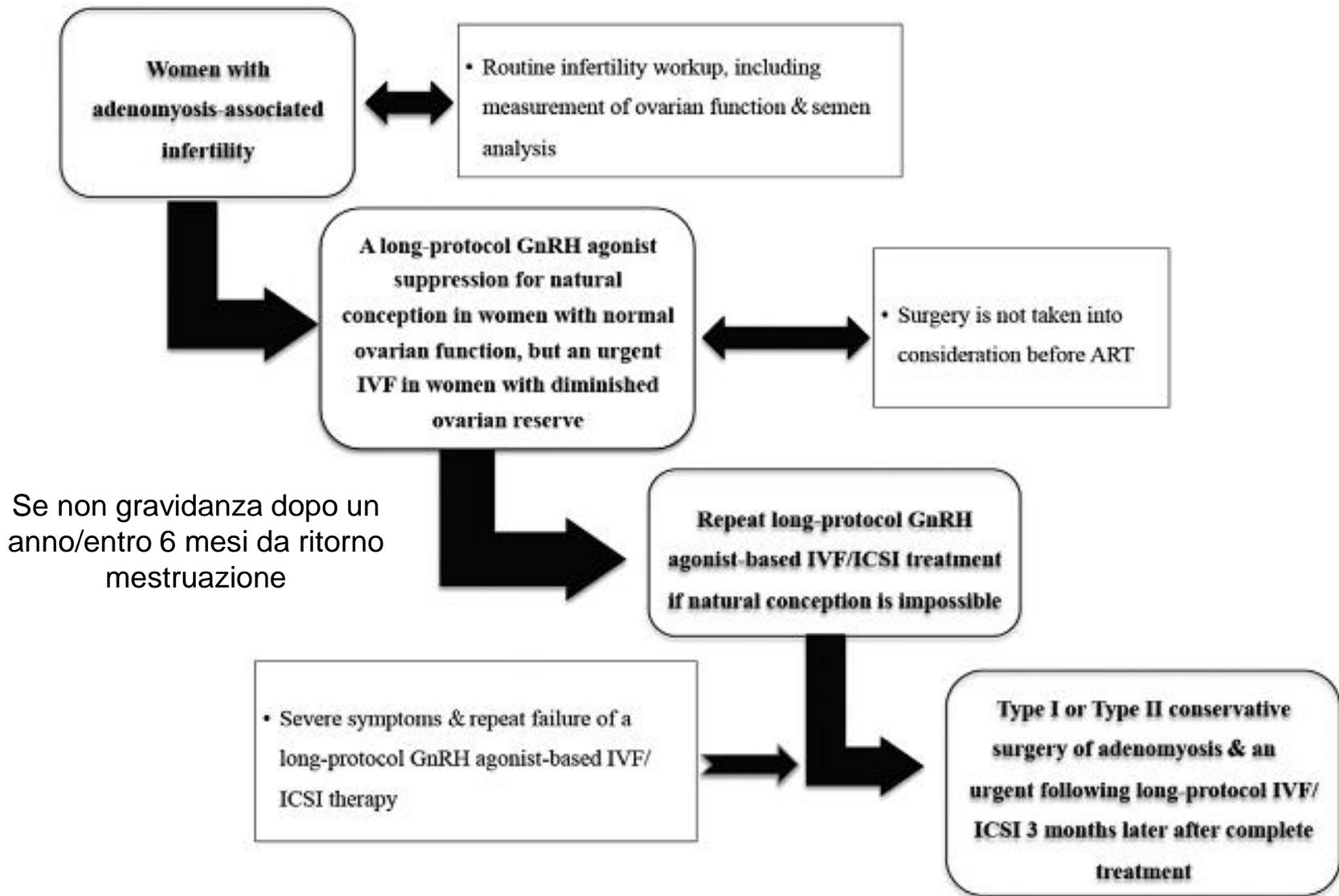
} chir.conservativa

-Outcome sulla fertilità?

-clinical pregnancy rate: 41,3%  $\leq 39$  anni

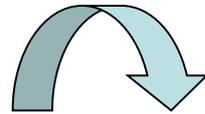
3,7%  $\geq 40$  anni





# Gravidanza

- Scarsi dati → effetto dell'adenomiosi sul decorso della gravidanza rimane dubbio
- Complicazioni sono rare:
  - Rapida crescita in gravidanza
  - Emorragia post parto
  - Rottura utero spontanea/dopo chirurgia conservativa...essenzialmente case reports!!



La maggioranza delle donne avrà una gravidanza fisiologica...evitare ansie inutili!

# *Conclusioni*

- Patologia della donna adulta che, ad eccezione di terapie con tamoxifene, diventa generalmente silente dopo la menopausa
- Tuttora vari aspetti controversi riguardo presentazione clinica, diagnosi ed impatto
- Management dipende da numerose variabili: età, sintomatologia, desiderio di prole, coesistenza di altre condizioni patologiche

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