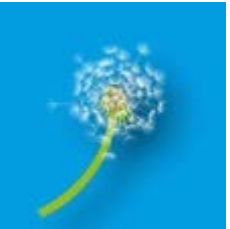
23ème Congrès de la Société Algérienne de Gynécologie Obstétrique (SAGO)

SAGO

Prise en charge cœlioscopique du Syndome d'Ovaire Polykystique

Ahmed SKHIRI (Tunisie)

Blida, le 20 Décembre 2019



Le Forage ovarien « Drilling »

Pas de conflit d’intérêt

Conflits d’intérêts

Clémentine Delait, la femme à barbe

Née 1865 (Vosges, France)

Décès 1939 (à 74 ans)

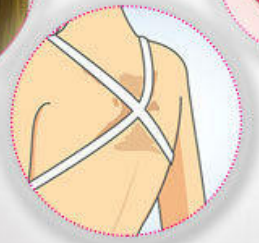
POLYCYSTIC OVARY SYNDROME (PCOS)

Irregular Periods

Absence of Menstruation

Hair Thinning & Loss

Abnormal Skin Discoloration



Excessive Facial & Body Hair

Acne

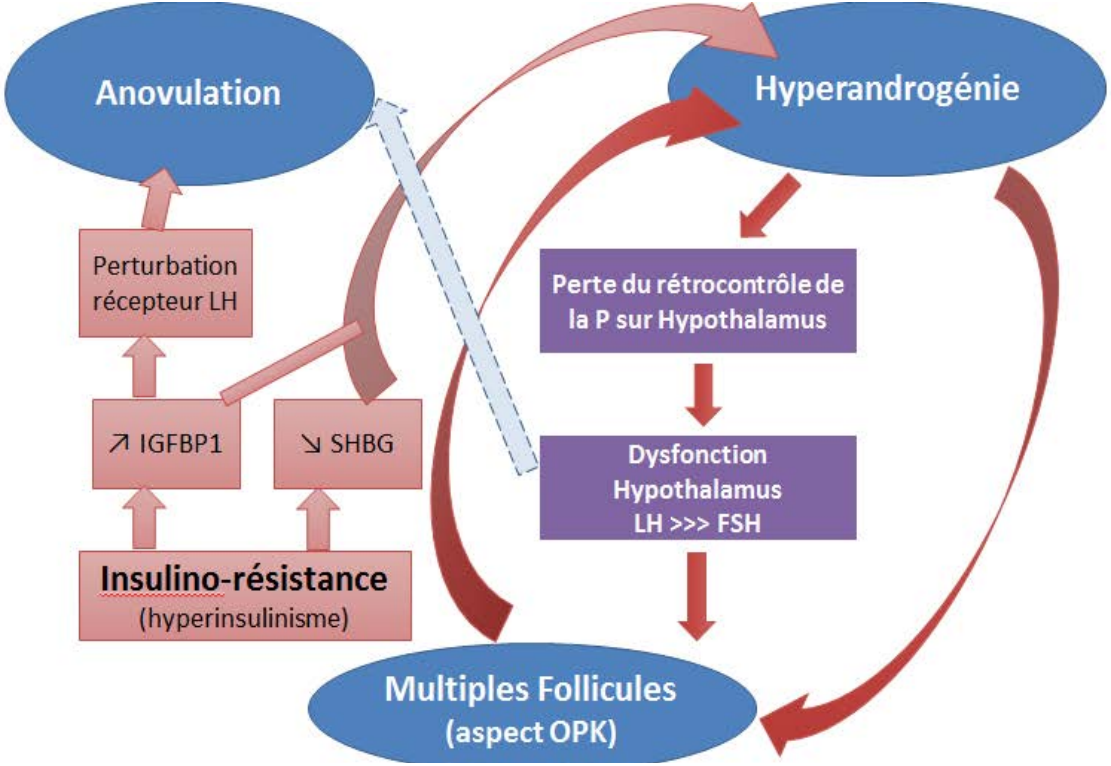
Weight Gain

High Blood Pressure

Depression

Stress

Physiopathologie SOPK



International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

https://www.eshre.eu

CREPCOS Centre for Research Excellence in Polycystic Ovary Syndrome

MONASH University

asrm American Society for Reproductive Medicine

eshre

Algorithm 1:
Screening, diagnostic assessment, risk assessment and life-stage

Step 1: Irregular cycles + clinical hyperandrogenism

(exclude other causes)* = diagnosis

↓

Step 2: If no clinical hyperandrogenism

Test for biochemical hyperandrogenism (exclude other causes)* = diagnosis

↓

Step 3: If ONLY irregular cycles OR hyperandrogenism

Adolescents ultrasound is not indicated = consider at risk of PCOS and reassess later

Adults - request ultrasound for PCOM, if positive (exclude other causes)* = diagnosis

*** Exclusion of other causes requires TSH, Prolactin levels, FSH and if clinical status indicates other causes need to be excluded**

(e.g. CAH, Cushings, adrenal tumours etc)

International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

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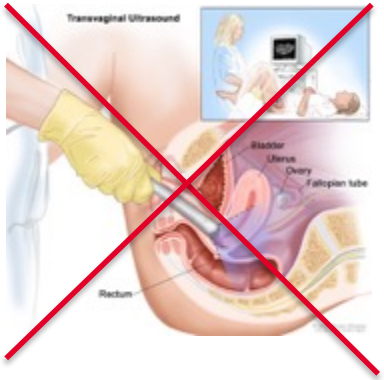
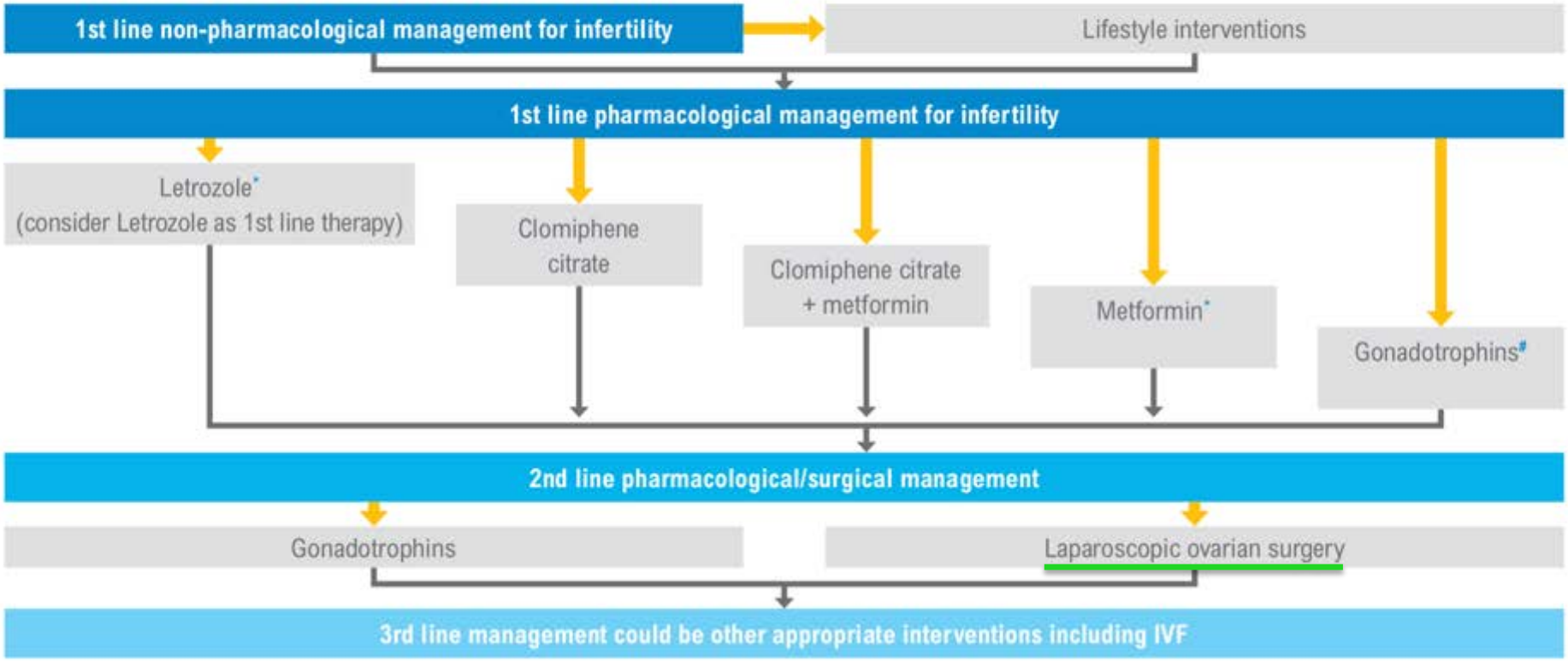


International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

Recommendations about Assessment of PCOM on Ultrasound

In patients with irregular menstrual cycles and hyperandrogenism, an ovarian ultrasound is not necessary for PCOS diagnosis; however ultrasound will identify the complete PCOS phenotype if required

Algorithm 5: Assessment and treatment of infertility

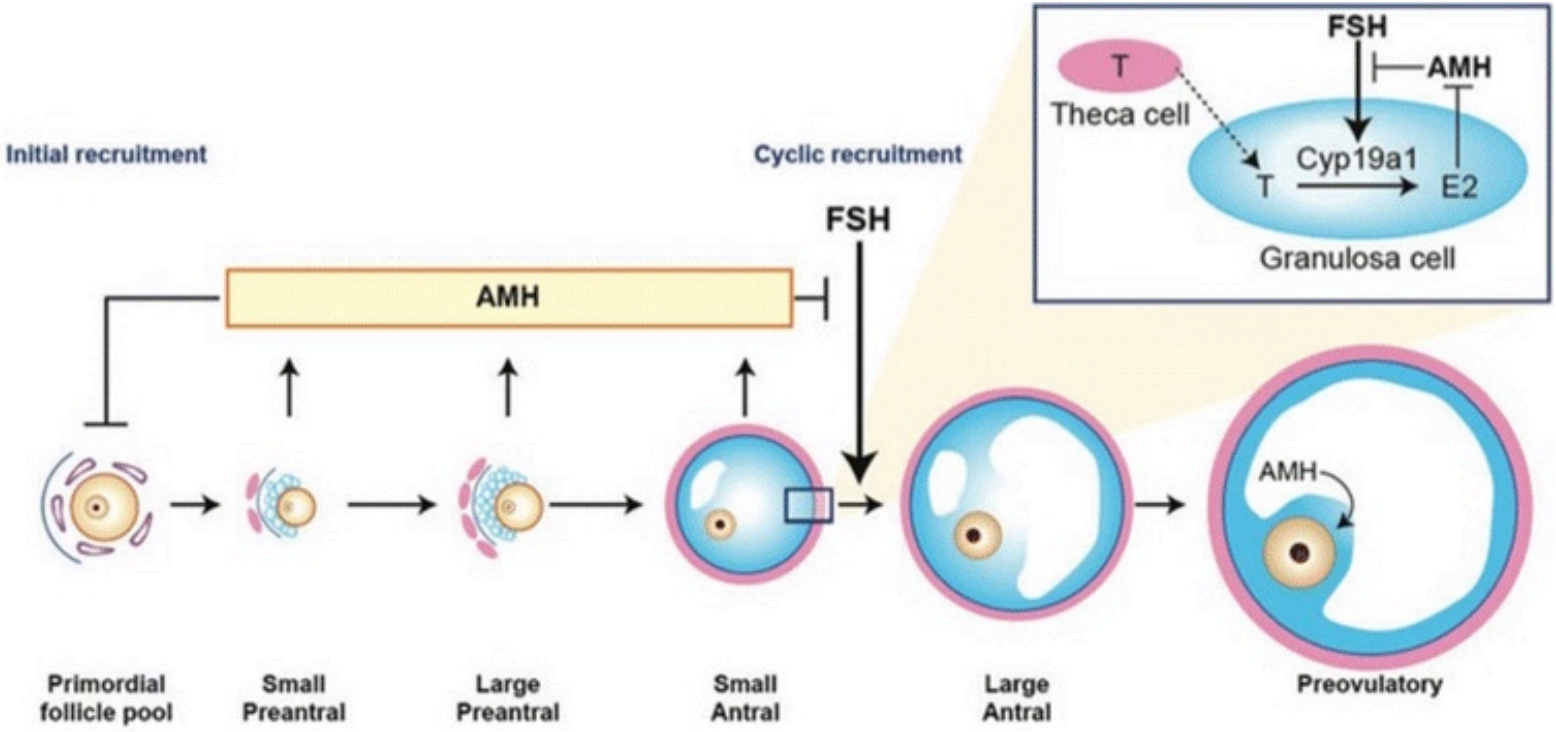


REVIEW Open Access

Role of Anti-Müllerian Hormone in pathophysiology, diagnosis and treatment of Polycystic Ovary Syndrome: a review

Agathe Dumont*, Geoffroy Robin, Sophie Catteau-Jonard and Didier Dewailly

Dumont *et al. Reproductive Biology and Endocrinology* (2015) 13:137
DOI 10.1186/s12958-015-0134-9



REVIEW Open Access

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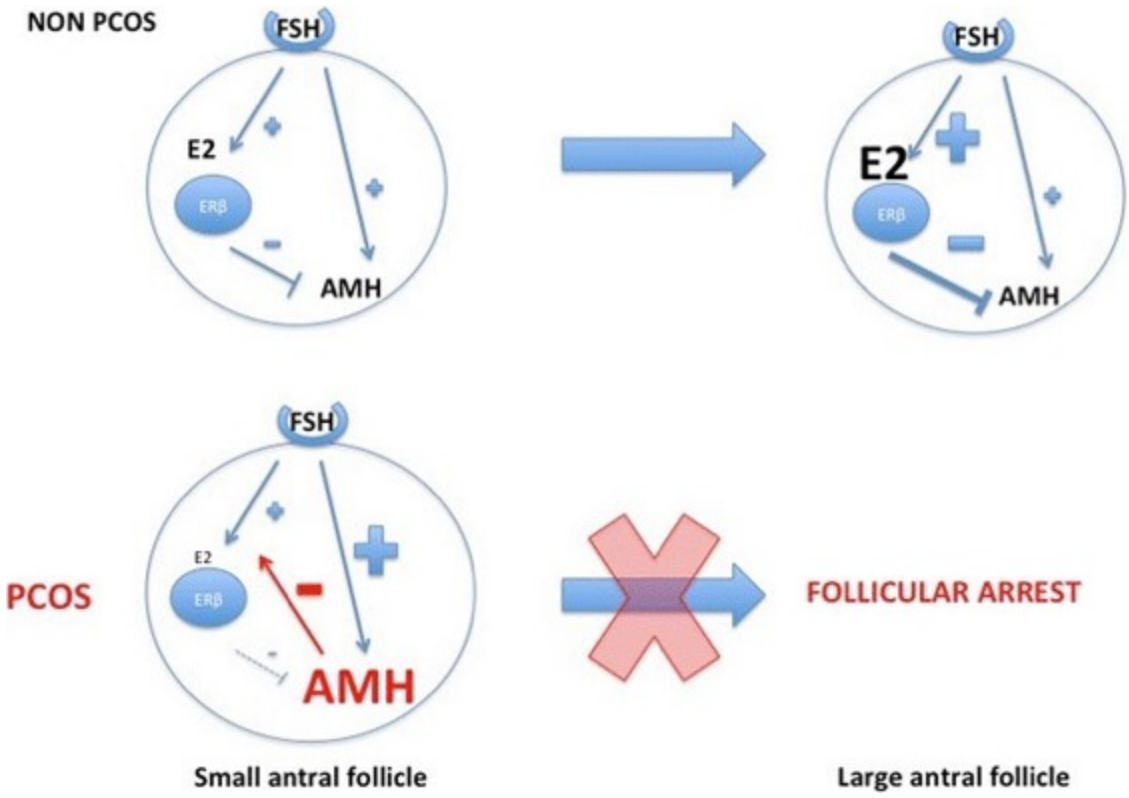
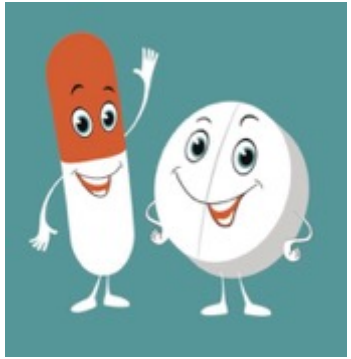
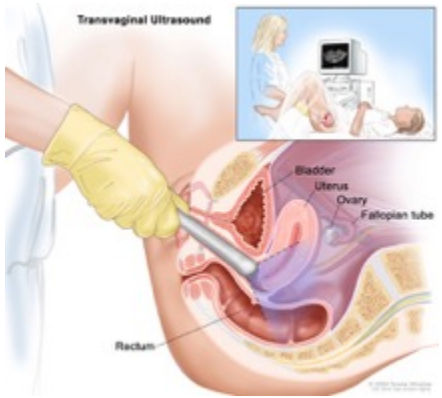


Indications du traitement coelioscopique





5.7 Laparoscopic ovarian surgery

In women with PCOS, is ovarian surgery effective for improving fertility outcomes?

Recommendations

5.7.1	EBR	Laparoscopic ovarian surgery could be second line therapy for women with PCOS, who are clomiphene citrate resistant, with anovulatory infertility and no other infertility factors.	❖❖❖ ⊕⊕○○
5.7.2	CCR	Laparoscopic ovarian surgery could potentially be offered as first line treatment if laparoscopy is indicated for another reason in women with PCOS with anovulatory infertility and no other infertility factors.	❖❖❖

Comment faire ?

4 trous

40 watts

4 sec

A prospective dose-finding study of the amount of thermal energy required for laparoscopic ovarian diathermy FREE

S.A.K. Amer, T.C. Li, I.D. Cooke

Human Reproduction, Volume 18, Issue 8, August 2003, Pages 1693–1698, https://doi.org/10.1093/humrep/deg307

Comment faire?

Précautions :

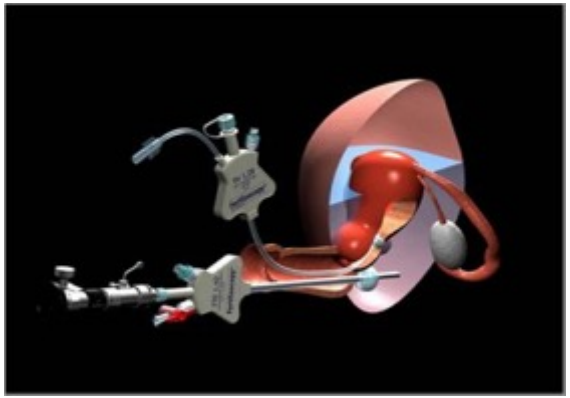
- ✓ éviter le hile
- ✓ Le plus loin possible de la trompe
- ✓ Irrigation constante

A prospective dose–finding study of the amount of thermal energy required for laparoscopic ovarian diathermy FREE

S.A.K. Amer ✉, T.C. Li, I.D. Cooke

Human Reproduction, Volume 18, Issue 8, August 2003, Pages 1693–1698, https://doi.org/10.1093/humrep/deg307

Autres techniques: Fertiloscopie



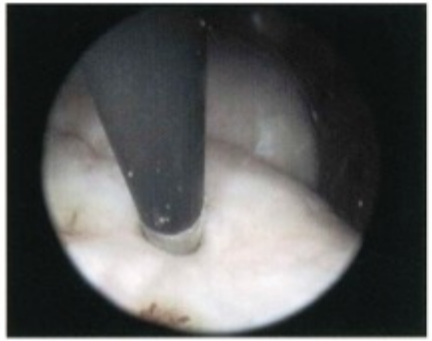


Fig. 1. Réalisation du drilling par électrode bipolaire en fertiloscopie.

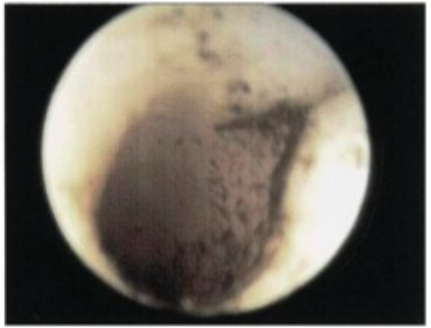


Fig. 2. Aspect final de l'un des 10 orifices pratiqués à la surface de l'ovaire.

November–December, 2014 Volume 21, Issue 6, Supplement, Page S78

Fertiloscopic Ovarian Drilling in PCOS Patient: A 280 Cases Serie

A.A. Watrelot, G. Chauvin
Hôpital Natecia, Lyon, Rhone, France

263 Open Communications 13 - Reproduction (2:21 PM - 2:26 PM)

JMIG The Journal of Minimally Invasive Gynecology

Autres techniques: Fertiloscopie

Safe Technique

Reliable

Mini invasive

Pregnancy occured in a faster manner

November–December, 2014 Volume 21, Issue 6, Supplement, Page S78

Fertiloscopic Ovarian Drilling in PCOS Patient: A 280 Cases Serie

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263 Open Communications 13 - Reproduction (2:21 PM - 2:26 PM)

JMIG The Journal of Minimally Invasive Gynecology

Forage à l'aiguille échoguidé par voie transvaginale ??

Impact of Ultrasound-Guided Transvaginal Ovarian Needle Drilling Versus Laparoscopic Ovarian Drilling on Ovarian Reserve and Pregnancy Rate in Polycystic Ovary Syndrome: A Randomized Clinical Trial

JMIG The Journal of Minimally Invasive Gynecology

Mohamed Kandil, MD, Mohamed Rezk, MD *, Alaa Al-Halaby, MD, Mohamed Emarh, MD, Ibrahim Saif El-Nasr, MD
Department of Obstetrics and Gynecology, Faculty of Medicine, Menoufia University, Menoufia, Egypt

At 3 months:

lower AMH, higher ovulation rate with LOD comparable AFC and pregnancy rate

At 6 months:

lower AMH/AFC, higher ovulation rate/ pregnancy rate with LOD

September–October, 2018 Volume 25, Issue 6, Pages 1075–1079

Forage à l'aiguille échoguidé par voie transvaginale ??

Impact of Ultrasound-Guided Transvaginal Ovarian Needle Drilling Versus Laparoscopic Ovarian Drilling on Ovarian Reserve and Pregnancy Rate in Polycystic Ovary Syndrome: A Randomized Clinical Trial

Mohamed Kandil, MD, Mohamed Rezk, MD *, Alaa Al-Halaby, MD, Mohamed Emarh, MD, Ibrahim Saif El-Nasr, MD
Department of Obstetrics and Gynecology, Faculty of Medicine, Menoufia University, Menoufia, Egypt

JMIG The Journal of Minimally Invasive Gynecology

Although TND is simple, safe, and less invasive than LOD
its effect on ovarian reserve appears to be transient and diminishes at 6 months

September–October, 2018 Volume 25, Issue 6, Pages 1075–1079

Facteurs influençant le succès

Type d'énergie

BJOG An International Journal of Obstetrics and Gynaecology

Free Access

Factors affecting the outcome of laparoscopic ovarian drilling for polycystic ovarian syndrome in women with anovulatory infertility

T. C. Li, H. Saravelos, M. S. Chow, R. Chisabingo, I. D. Cooke

First published: 19 August 2005 | https://doi.org/10.1111/j.1471-0528.1998.tb10097.x |
Citations: 83

Aucune différence d'efficacité entre les actions thermiques en courant monopolaire ou bipolaire et les différents types de laser

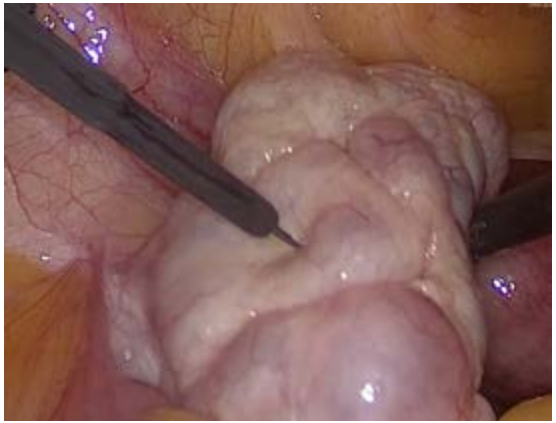
Type d'énergie

Prise en charge chirurgicale du SOPK (méta-analyse de Campo 1998)

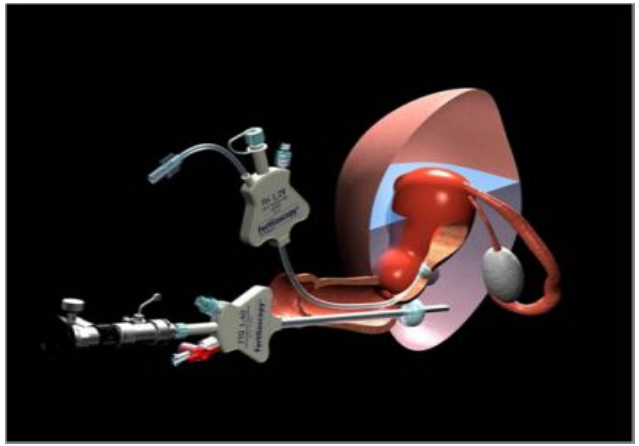
	Patientes	Taux de cycles ovulatoires	Taux de grossesse spontanée	Taux cumulé de grossesse
Laparotomie Résec. cunéiforme	679	81,6 (53–94)	50 (0–[illegible])	55,3 (12–85)
Cœlioscopie Électrochirurgie	720	79,7 (30–100)	51,5 (20–88)	63,6 (20–88)
Cœlioscopie Laser	322	71,5 (61–100)	43,7 (0–75)	53,1 (0–75)
Cœlioscopie Biopsies ou résec.	82	82,6 (73–94)	48,7 (42–57)	55 (50–58)
Total patientes	1803	1007	891	1055
Taux globaux		**78,1**	**49,4**	**58,5**

Type d'énergie

La multiperforation par électrocoagulation monopolaire



la multiperforation ovarienne à la pointe bipolaire



Type d'énergie

Fertility and Sterility

asrm

Laparoscopic ovarian drilling using a 5-French bipolar energy probe

Hervé Fernandez, M.D., Erika Faivre, M.D., Amélie Gervaise, M.D., Xavier Deffieux, M.D., Ph.D.

Fertility and Sterility
Volume 94, Issue 2, Pages 740-741 (July 2010)
DOI: 10.1016/j.fertnstert.2009.03.048

L'avantage principal c'est d'éviter la diffusion de l'énergie

Dose d'énergie

HAS
HAUTE AUTORITÉ DE SANTÉ

MULTIPERFORATION DE L'OVAIRE PAR CŒLIOSCOPIE OU PAR CULDOSCOPIE [*DRILLING OVARIEN*]

600 joules

Service évaluation des actes professionnels / juin 2008

Nombre de trous

HAS

HAUTE AUTORITÉ DE SANTÉ

$4 \leq \text{trous} \leq 10$

Service évaluation des actes professionnels / juin 2008

Taille de l'ovaire

International Journal of GYNECOLOGY & OBSTETRICS

Volume 74, Issue 3
September 2001
Pages 269-274

Articles

Ovarian size and response to laparoscopic ovarian electro-cauterization in polycystic ovarian disease

S Alborzi, R Khodaee, M.E Parsanejad

First published: 30 August 2001 | https://doi.org/10.1016/S0020-7292(01)00454-4 |
Citations: 23

La taille des ovaires n'est pas un facteur pronostic!!!

Uilatéral ou Bilatéral ??

Archives of Gynecology and Obstetrics
April 2018, Volume 297, Issue 4, pp 859–870 | Cite as

Unilateral or bilateral laparoscopic ovarian drilling in polycystic ovary syndrome: a meta-analysis of randomized trials

Authors Authors and affiliations

Hatem Abu Hashim, Osama Foda, Mohamed El Rakhawy

Springer Link

Pas de différence significative!!

Résultat du forage

Laparoscopic ovarian surgery (LOS) vs. Gonadotrophins

International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

No difference between the interventions for

- live birth rate
- pregnancy rate
- ovulation rate and miscarriage rate per pregnancy.

LOS was better than FSH for multiple pregnancy rate

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Laparoscopic ovarian surgery (LOS) vs Aromatase inhibitors

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MONASH University

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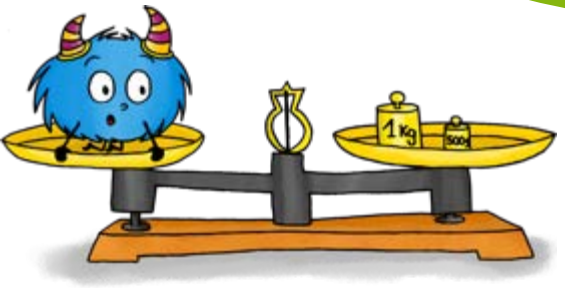
International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

Pas de différence significative!!

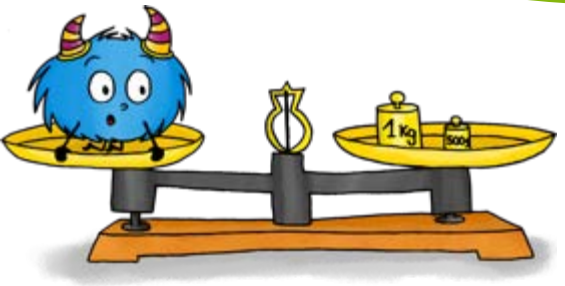


Laparoscopic ovarian surgery (LOS) vs CC + metformin

International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

No difference for:

- pregnancy rate
- miscarriage rate
- multiple pregnancy rate



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Avantages du forage ovarien

Pas d'infériorité

par rapport aux autres inducteurs de l'ovulation

International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

Pas besoin

De monitorage (mono-ovulation)

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Avantages du forage ovarien

CREPCOS Centre for Research Excellence in Polycystic Ovary Syndrome

MONASH University

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Avantages du forage ovarien

60-70 %

30-70 %

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Risque minime

Baisse de la réserve ovarienne

adhérences

International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018

CREPCOS Centre for Research Excellence in Polycystic Ovary Syndrome

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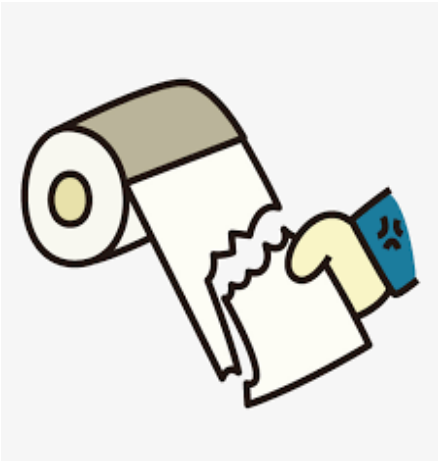
Complications post opératoires



Complications post opératoires

Adhérences péri - annexielles

Complications post opératoires: tardives

Ovarian Reserve And Ovarian Blood Flow Following Laparoscopic Ovarian Drilling In Pcos

Changes in ovarian reserve and ovarian blood flow in patients with polycystic ovary syndrome following laparoscopic ovarian drilling

Nasser Kamal, Zakaria Sanad, Osama Elkelani, **Mohamed Rezk**, Mohamed Shawky & Abd-Elbar Sharaf

Pages 789-792 | Received 16 Dec 2017, Accepted 27 Mar 2018, Published online: 10 Apr 2018

AMH

Volume ovarien

CFA

Mécanisme d'action du drilling

ELSEVIER

Available online at www.sciencedirect.com
SCIENCE DIRECT®

Gynécologie Obstétrique & Fertilité 33 (2005) 713–717

Gynécologie Obstétrique Fertilité

http://france.elsevier.com/direct/GYOBFE/

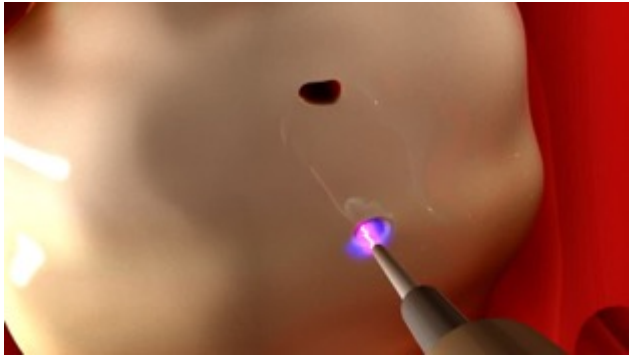
Gynécologie Obstétrique & Fertilité
Volume 33, Issue 9, September 2005, Pages 713-717

Dixièmes journées nationales de la FFER (Deauville, 5–7 octobre 2005)

Le drilling ovarien dans le traitement des ovaires polykystiques

Ovarian drilling for treatment of polycystic ovary syndrome

A. Gervaise [a,*], H. Fernandez [b]



- ↘ d'androgènes
- ↘ de la LH
- ↘ de l'AMH
- ↗ de la SHBG et de la FSH

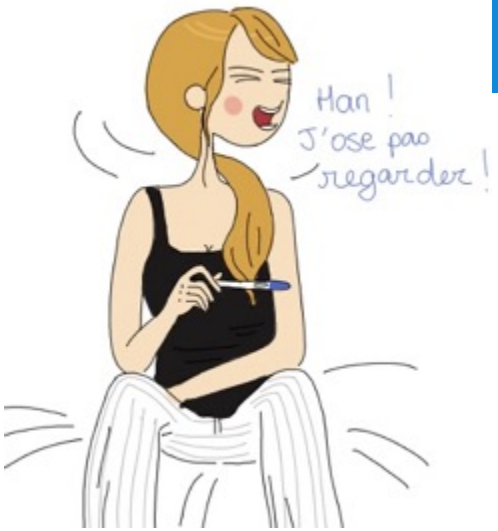
Reprise de l'ovulation

Échec du drilling ovarien

2 situations

Anovulation avant DO

Absence de restauration du cycle dans les 3 mois



Cycles < 45j avant DO

Absence de grossesse dans l'année

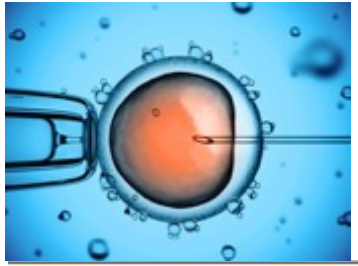
CAT devant l'échec

Fertilité spontanée

- citrate de clomifène
- Les gonadotrophines

Fécondation In Vitro

Intérêt du drilling ovarien avant la FIV



Effect of Laparoscopic Ovarian Drilling on Outcomes of *In Vitro* Fertilization in Clomiphene-Resistant Women with Polycystic Ovary Syndrome

Int J Fertil Steril
International Journal of Fertility & Sterility
ISSN 2008-076X eISSN 2008-0778

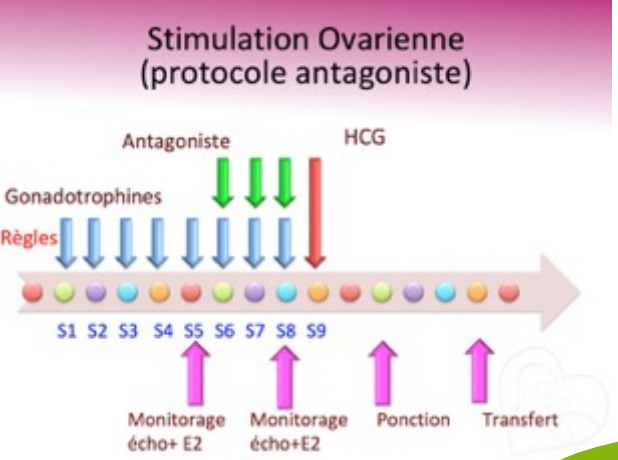
Maryam Eftekhar, M.D.[1], Razieh Deghani Firoozabadi, M.D.[1], Parisa Khani, M.D.[1*], Ehsan Ziaei Bideh, M.D.[1], Hosein Forghani, M.D.[2*]

1. Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2. Department of Health Education, Faculty of Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

	With LOD	Without LOD	P value(Mann-Whitney test)
Number of oocytes obtained*	12.44 ± 3.25	13.48 ± 3.02	<0.001**
Number of embryo obtained*	9.84 ± 2.65	10.50 ± 2.67	0.033**
	n (%)	n (%)	P value (Chi-squqre test)
Chemical pregnancy	61 (40.7%)	60 (40%)	0.906
Clinical pregnancy	53 (35.3%)	52 (34.7%)	0.604
Chemical pregnancy	61 (40.7%)	60 (40%)	0.906
OHSS	10 (6.7%)	22 (14.7%)	0.025**

Pas de différence de taux de grossesse

↘ risque d'hyperstim


Stimulation Ovarienne
(protocole antagoniste)
Antagoniste
HCG
Gonadotrophines
Règles
S1 S2 S3 S4 S5 S6 S7 S8 S9
Monitorage
écho+ E2
Monitorage
écho+E2
Ponction
Transfert

« Freeze All »

2ème drilling ovarien??

European Journal of Obstetrics & Gynecology and Reproductive Biology: X 4 (2019) 100093

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology: X

journal homepage: www.elsevier.com/locate/eurox

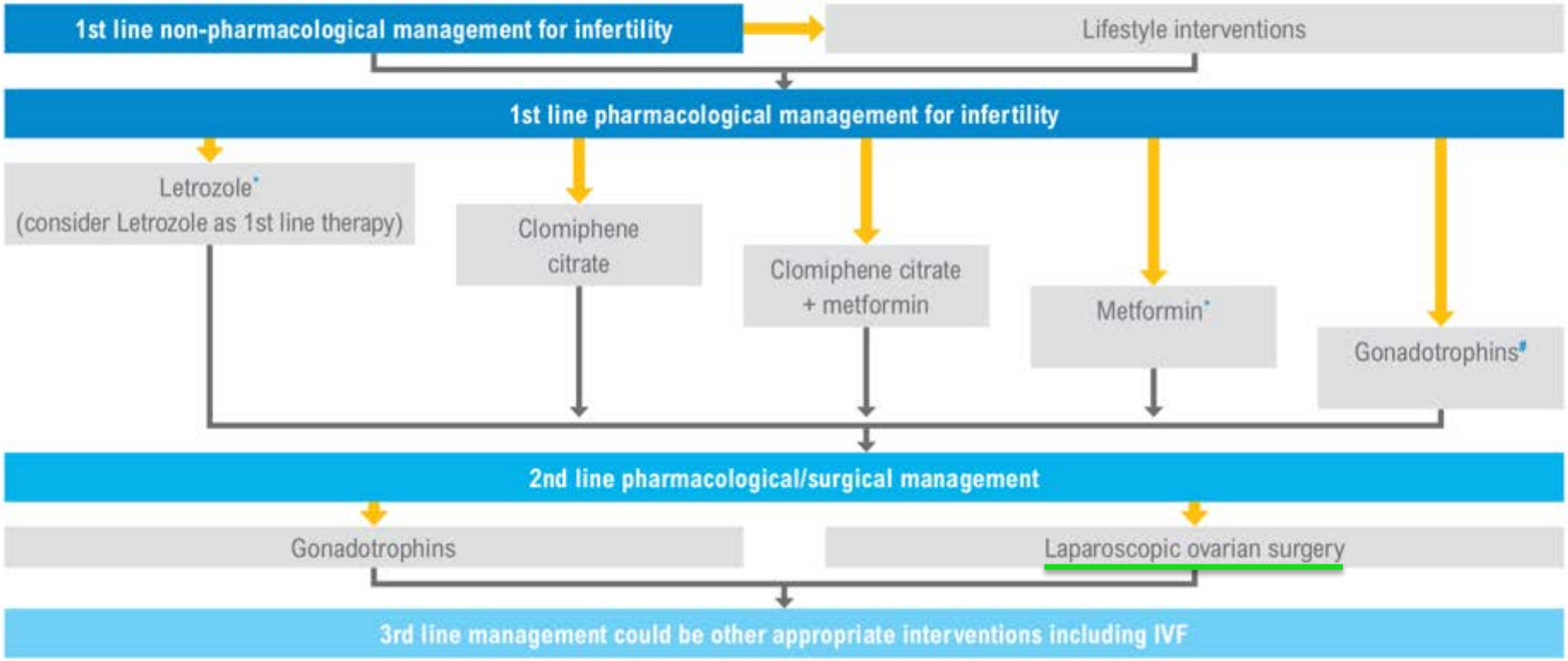
Ovarian drilling in polycystic ovary syndrome: Long term pregnancy rate

E. Debras[a], H. Fernandez[a,b,c], M-E. Neveu[a,c], X. Deffieux[d], P. Capmas[a,b,c,*]

[a] AP-HP, Hôpital Bicêtre, GHU Sud, Department of Gynecology and Obstetrics, 94276 Le Kremlin-Bicêtre, France
[b] Inserm, Centre of Research in Epidemiology and Population Health (CESP), U1018, 94276 Le Kremlin-Bicêtre, France
[c] University Paris Sud Orsay, 94276 Le Kremlin-Bicêtre, France
[d] Department of Gynecology and Obstetrics, Hôpital A.Béclère, GHU Sud, AP-HP, 92140 Clamart, France

2ème drilling ovarien est une option en cas du succès transitoire du premier drilling (grossesse)
ou en cas d'échec due au CFA > 55

Algorithm 5: Assessment and treatment of infertility



Conclusion

- Le forage ovarien est une alternative intéressante dans la prise en charge de l'infertilité des patientes SOPK, résistantes au CC
- Les avantages: l’absence de syndrome d’hyperstimulation et de grossesses multiples
- Les complications sont peu décrites dans la littérature
- L’intervention doit être la moins traumatique possible

Taux de réussite d'une Fécondation In Vitro

Merci !