

Kinderwunsch – ist die Endometriose schuld?

Patrick Mehrle

...öfter als gedacht...

Endometriose und Kinderwunsch

- Problem Diagnoseverzögerung:
 - > in D im Durchschnitt bis zu 6 Jahre
 - > bei Fertilitätspatienten „nur“ 3 Jahre (!)
- Schwierigkeit der Diagnosestellung:
 - > Befunderhebung bei Untersuchung
 - > Befunderhebung bei OP
- 30 – 50% der Frauen mit Endometriose sind subfertil
- 25 – 50% der subfertilen Frauen haben Endometriose

Endometriose und Kinderwunsch

- Pathophysiologie: ???
- Einschränkung der Adnexfunktion
- Inflammatorische Veränderungen
- Immunologische Störfaktoren

-> kausaler Zusammenhang zwischen Subfertilität und Endometriose, oder nur Assoziation als Ausdruck einer zugrundeliegenden, noch unbekanntem Störung???

(Giudice et al., 2004 u. 2012)

Endometriosis, especially mild disease: a risk factor for miscarriages

Kohl Schwartz, Alexandra Sabrina et al. (2017)

Fertility and Sterility, Volume 108, Issue 5, 806 – 814

- Cross-sectional analysis nested in a retrospective observational study (n = 940). Previously pregnant women (n = 268) within reproductive age in matched pairs.
- The miscarriage rate was higher in WwE (35.8%) compared with CW (22.0%)
- This remained significant in subfertile WwE (50.0%) vs. CW (25.8%), but not in fertile WwE (24.5%) vs. CW (21.5%).
- The miscarriage rate was higher in women with superficial peritoneal endometriosis (42.0%) compared with ovarian endometriosis (28.6%) and deep infiltrating endometriosis (33.9%) compared with CW (22.0%).

-> Mild endometriosis, as in superficial lesions, is related to a great extent of inflammatory disorder, possibly leading to defective folliculogenesis, fertilization, and/or implantation, presenting as increased risk of miscarriage.

Endometriosis and Risks of Adverse Pregnancy Outcomes

Farland LV et al. (2019)

Ostet Gynecol 2019; 134: 527 - 536

- 116.429 Patientinnen, 196.722 Schwangerschaften, davon 4,5% (n=8875) mit Endometriose (gesichert durch LSK)

Signifikant erhöhtes Risiko für

- Spontanabort
- EUG
- GDM und HTN
- Frühgeburten und geringes Geburtsgewicht
- IUFT (cave: statistisch zu geringe Fallzahl)

Exploring the mechanism(s) of endometriosis-related infertility: an analysis of embryo development and implantation in assisted reproduction.

Hum Reprod. 1995 Dec; 10 Suppl. 2:91-7.

Pellicer A, Oliveira N, Ruiz A, Remohí J, Simón C.

- > Empfängerin und Spenderin ohne Endometriose: SS-Rate ca. 60%
- > nur Endometriose bei Empfängerin: SS-Rate ca. 60%
- > nur Endometriose bei Spenderin: SS-Rate ca. 30%

ENDOMETRIOSIS

Endometriosis fertility index: the new, validated endometriosis staging system

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Objective: To develop a clinical tool that predicts pregnancy rates (PRs) in patients with surgically documented endometriosis who attempt non-IVF conception.

Design: Prospective data collection on 579 patients and comprehensive statistical analysis to derive a new staging system—the endometriosis fertility index (EFI)—from data rather than a priori assumptions, followed by testing the EFI prospectively on 222 additional patients for correlation of predicted and actual outcomes.

Setting: Private reproductive endocrinology practice.

Patient(s): A total of 801 consecutively diagnosed and treated infertile patients with endometriosis.

Intervention(s): Surgical diagnosis and treatment followed by non-IVF fertility management.

Main Outcome Measure(s): The EFI and life table PRs.

Result(s): A statistically significant variable used to create the EFI was the least function score (i.e., the sum of those scores determined intraoperatively after surgical intervention that describe the function of the tube, fimbria, and ovary on both sides). Sensitivity analysis showed that the EFI varies little, even with variation in the assignment of functional scores, and predicted PRs.

Adamson, G., David et al., 2010

Fertility and Sterility, Volume 94, Issue 5, 1609 - 1615

TABLE 1

Descriptions of least function terms.

Structure	Dysfunction	Description
Tube	Mild	Slight injury to serosa of the fallopian tube
	Moderate	Moderate injury to serosa or muscularis of the fallopian tube; moderate limitation in mobility
	Severe	Fallopian tube fibrosis or mild/moderate salpingitis isthmica nodosa; severe limitation in mobility
	Nonfunctional	Complete tubal obstruction, extensive fibrosis or salpingitis isthmica nodosa
Fimbria	Mild	Slight injury to fimbria with minimal scarring
	Moderate	Moderate injury to fimbria, with moderate scarring, moderate loss of fimbrial architecture and minimal intrafimbrial fibrosis
	Severe	Severe injury to fimbria, with severe scarring, severe loss of fimbrial architecture and moderate intrafimbrial fibrosis
	Nonfunctional	Severe injury to fimbria, with extensive scarring, complete loss of fimbrial architecture, complete tubal occlusion or hydrosalpinx
Ovary	Mild	Normal or almost normal ovarian size; minimal or mild injury to ovarian serosa
	Moderate	Ovarian size reduced by one-third or more; moderate injury to ovarian surface
	Severe	Ovarian size reduced by two-thirds or more; severe injury to ovarian surface
	Nonfunctional	Ovary absent or completely encased in adhesions

Adamson. Endometriosis fertility index. Fertil Steril 2010.

American Society for Reproductive Medicine Revised Classification of Endometriosis (rASRM) [1]

Peritoneum (Bauchfell)	Endometriosebefall	< 1 cm	1-3 cm	> 3 cm
	oberflächlich	1	2	4
tief	2	4	6	
Ovar (Eierstock)	R oberflächlich	1	2	4
	tief	4	16	20
	L oberflächlich	1	2	4
	tief	4	16	20
Douglas Befall*		teilweise	gesamt	
		4	40	

*Taschenförmige Aussackung des Peritoneums (Bauchfell) zwischen Rektum (Mastdarm) hinten und Uterus (Gebärmutter) vorne

Ovar (Eierstock)	Adhäsionen (Verwachsungen)	< 1/3 befallen	1/3 - 2/3 befallen	> 2/3 befallen
	R zart	1	2	4
fest	4	8	16	
L zart	1	2	4	
fest	4	8	16	
Tube (Eileiter)	R zart	1	2	4
	fest	4*	8*	16
	L zart	1	2	4
	fest	4*	8*	16

*Falls der Fimbrienapparat des Eileiters eingeschlossen ist, werden automatisch 16 Punkte veranschlagt.

Stadium I	minimal	1 - 5
Stadium II	leicht	6 - 15
Stadium III	mäßig	16 - 40
Stadium IV	schwer	> 40

1

Endometriosis fertility index surgery form.

ENDOMETRIOSIS FERTILITY INDEX (EFI) SURGERY FORM

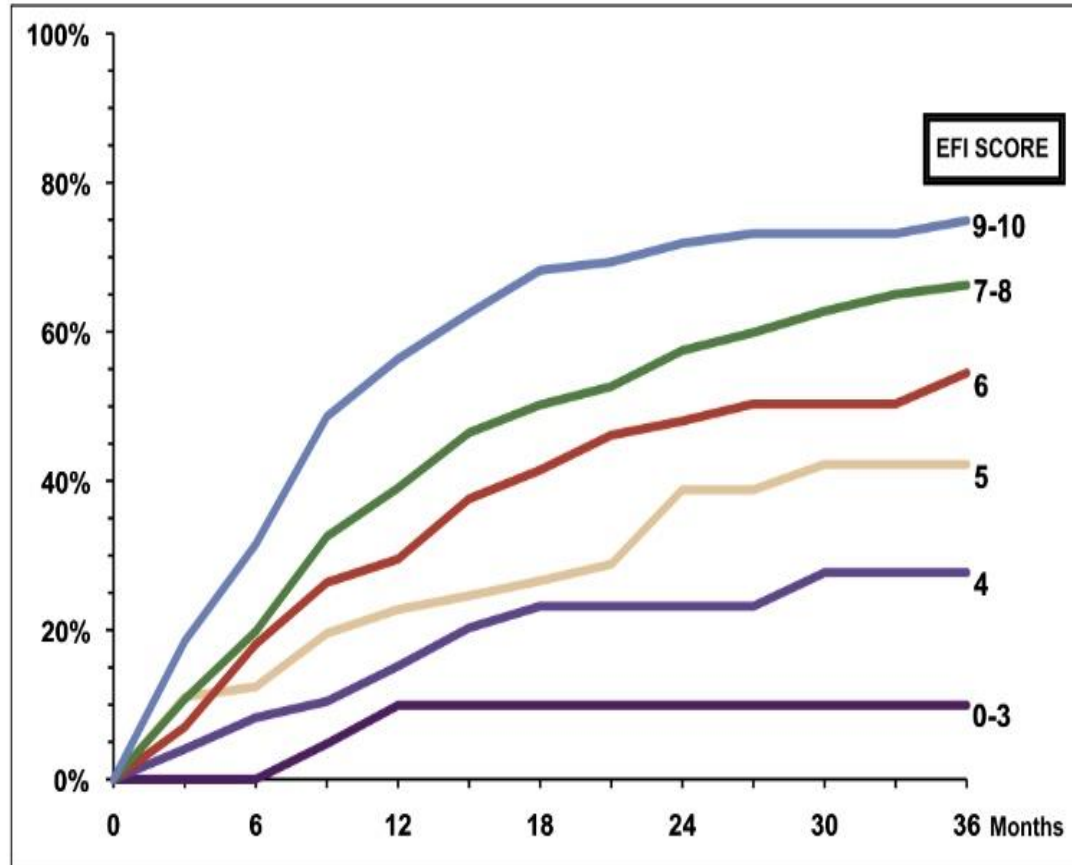
LEAST FUNCTION (LF) SCORE AT CONCLUSION OF SURGERY

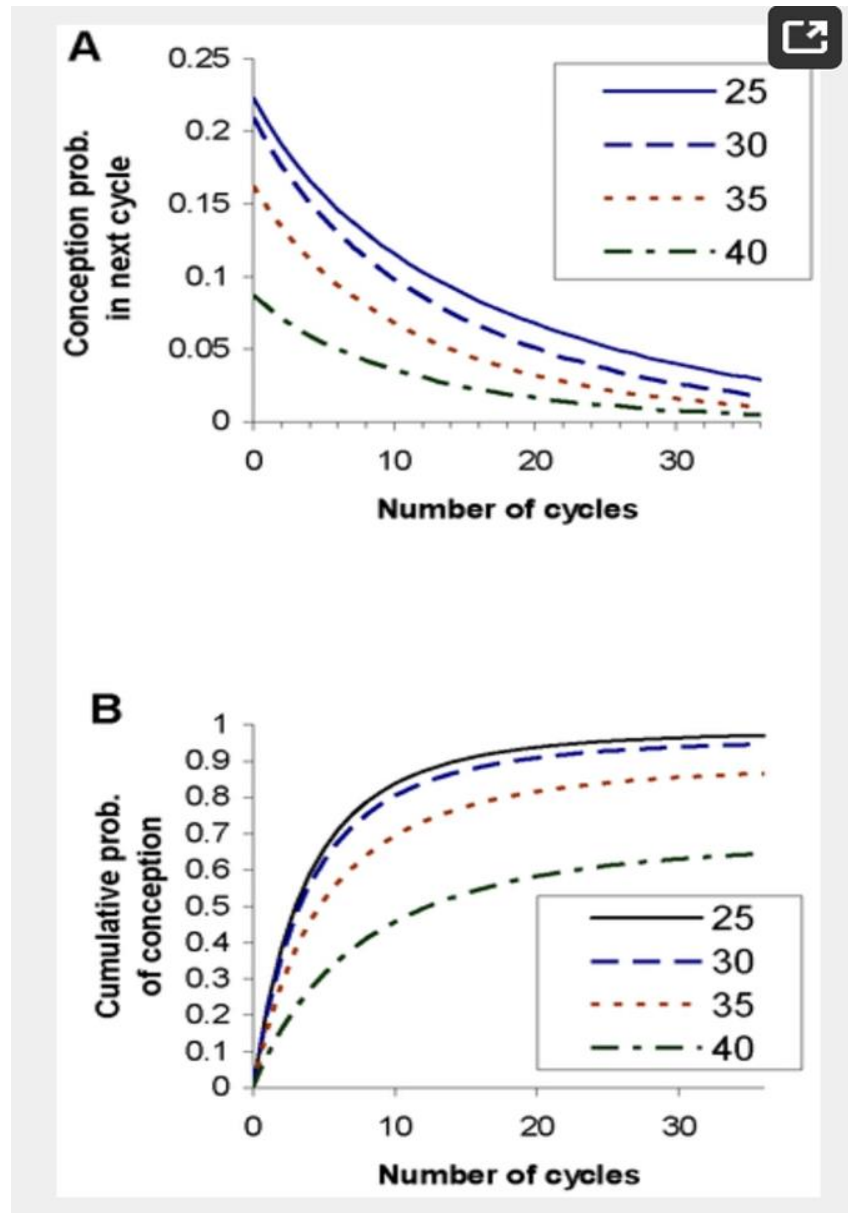
Score	Description		Left	Right			
4	= Normal	Fallopian Tube	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>			
3	= Mild Dysfunction	Fimbria	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>			
2	= Moderate Dysfunction	Ovary	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>			
1	= Severe Dysfunction						
0	= Absent or Nonfunctional						
To calculate the LF score, add together the lowest score for the left side and the lowest score for the right side. If an ovary is absent on one side, the LF score is obtained by doubling the lowest score on the side with the ovary.			Lowest Score	+	Lowest Score	=	<input style="width: 40px; height: 20px; border: 1px dashed black;" type="text"/>
			Left		Right		LF Score

ENDOMETRIOSIS FERTILITY INDEX (EFI)

Historical Factors			Surgical Factors				
Factor	Description	Points	Factor	Description	Points		
Age	If age is ≤ 35 years	2	LF Score	If LF Score = 7 to 8 (high score)	3		
	If age is 36 to 39 years	1		If LF Score = 4 to 6 (moderate score)	2		
	If age is ≥ 40 years	0		If LF Score = 1 to 3 (low score)	0		
Years Infertile	If years infertile is ≤ 3	2	AFS Endometriosis Score	If AFS Endometriosis Lesion Score is < 16	1		
	If years infertile is > 3	0		If AFS Endometriosis Lesion Score is ≥ 16	0		
Prior Pregnancy	If there is a history of a prior pregnancy	1	AFS Total Score	If AFS total score is < 71	1		
	If there is no history of prior pregnancy	0		If AFS total score is ≥ 71	0		
Total Historical Factors			Total Surgical Factors				
EFI = TOTAL HISTORICAL FACTORS + TOTAL SURGICAL FACTORS:			<input style="width: 80px; height: 25px;" type="text"/>	+	<input style="width: 80px; height: 25px;" type="text"/>	=	<input style="width: 80px; height: 25px;" type="text"/>
			Historical		Surgical		EFI Score

ESTIMATED PERCENT PREGNANT BY EFI SCORE





Endometriosis Fertility Index - Validierung

Endometriosis fertility index predicts live births following surgical resection of moderate and severe endometriosis.

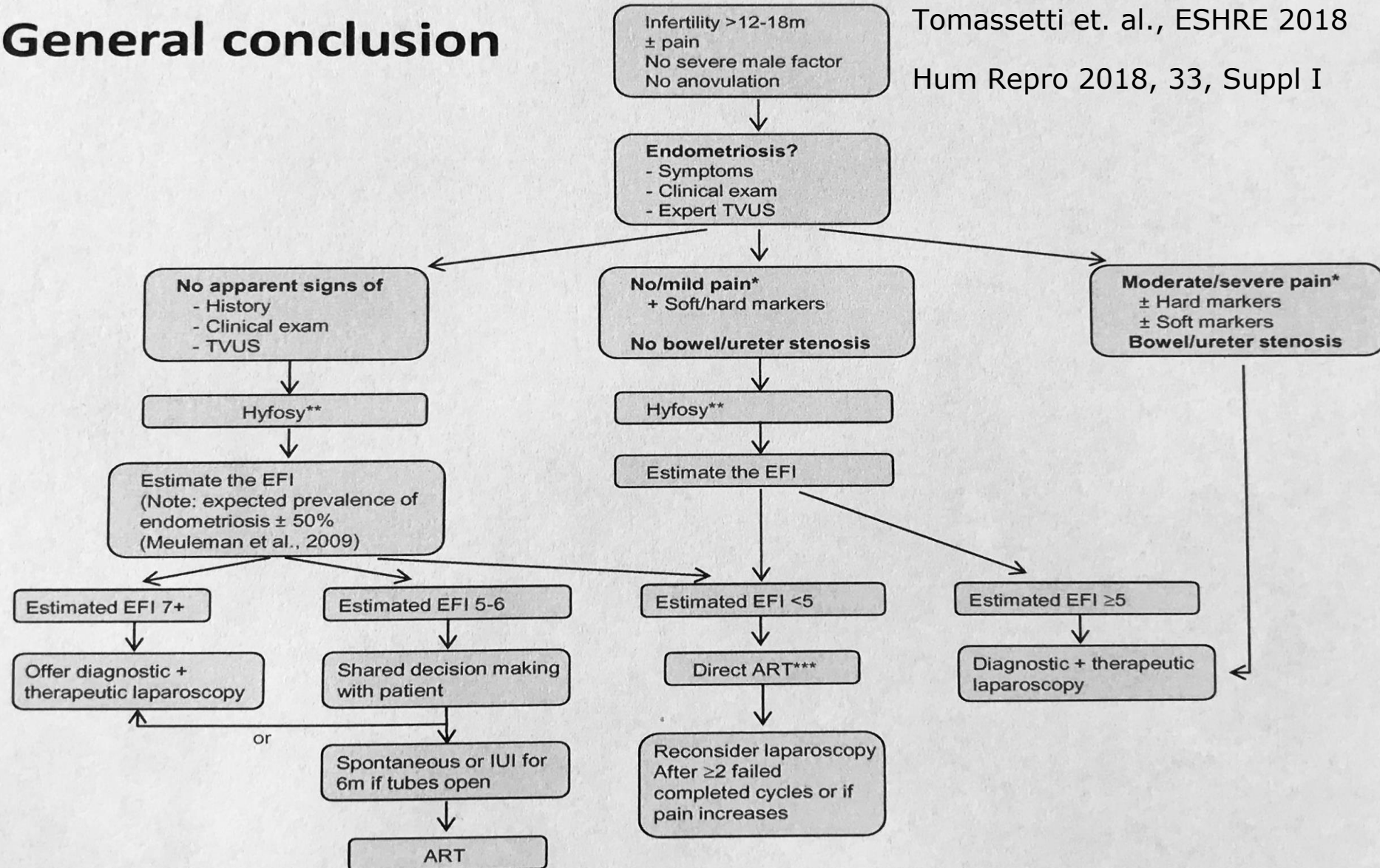
Maheux-Lacroix S, Nesbitt-Hawes E, Deans R, Won H, Budden A, Adamson D, Abbott JA.
Hum Reprod. 2017 Nov 1; 32(11): 2243-2249

External validation of the endometriosis fertility index (EFI) staging system for predicting non-ART pregnancy after endometriosis surgery.

Tomassetti C, Geysenbergh B, Meuleman C, Timmerman D, Fieuws S, D'Hooghe T.
Hum Reprod. 2013 May; 28(5): 1280-8

General conclusion

Tomassetti et. al., ESHRE 2018
Hum Repro 2018, 33, Suppl I



Quintessenz

- Endometriose als mögliche Ursache
- Alter der Patientin und Dauer des Kinderwunsches als wichtiger Prognosefaktor
- Rechtzeitige Vorstellung in einem Kinderwunsch- bzw. Endometriosezentrum

VIELEN DANK FÜR IHRE AUFMERKSAMKEIT!