Study of association between deep dyspareunia and endometriosis in a cohort of 2851 women operated for a benign gynecologic disorder

Yaniv Dahan[1], Louis Marcellin[1]

[1] Université de Paris, AP-HP, Hôpital Universitaire Paris Centre (CHU Cochin), Service de Gynécologie– Obstétrique II, Paris, France ;

CONTEXT

- Deep dyspareunia is a cardinal questioning item for the diagnosis of endometriosis and is associated to lesions of Douglas cul-de-sac.

- Little is known about the association between intensity of dyspareunia and disease severity.

AIM OF THE STUDY

- To evaluate the association between intensity of deep dyspareunia and anatomical sites of endometriosis.

MATERIAL AND METHODS

- We undertook a monocentric observational study including using data collected prospectively in non-pregnant patients aged between 18 and 42 years who had undergone surgical exploration for benign gynecological conditions in a single university tertiary referral center between January 2012 and December 2019.

- Among the 2861 included women, women with deep dyspareunia were compared with women with no dyspareunia taken as controls, for baseline characteristics and painful symptoms. Pain intensity was assessed with a 10-cm visual analogue scale (VAS). Painful symptoms were considered as severe when VAS was ≥ 7.

- Then, we compared anatomical distribution of deep infiltrating endometriosis (DIE) according to the presence of dyspareunia

CONCLUSION AND KEY MESSAGES

- **Deep dyspareunia is significantly associated with endometriosis and DIE.**

- **Severe dyspareunia is associated with rectal +/- vaginal localisation.**

- **Dyspareunia is not synonymous of exclusive vaginal localisation and is a marker of disease severity (intestine lesions)**

RESULTS

Table 1: General characteristics of women

	Dyspareunia n = 1543	No dyspareunia n = 1318	p-value
Age (years old)	31.3 ± 5.3	32.5 ± 5.3	< 0.01
BMI (kg/m2)	22.3 ± 4.3	23.1 ± 4.3	< 0.01
Tobacco use, n (%)	664 (43.0)	459 (34.8)	< 0.01
Menstrual cycle characteristic			
Regular cycle, n (%)	1176 (76.2)	1048 (79.5)	0.03
Menorrhagia, n (%)	800 (51.9)	539 (40.9)	< 0.01
Length of menstruations, (days)	5.6 ± 2.4	5.1 ± 2.2	< 0.01
Use of oral contraceptive pill, n (%)	1309 (84.8)	974 (73.9)	< 0.01
Use of intra-uterine device, n (%)	123 (8.0)	107 (8.1)	0.89
Pregnancies			
Nulligravidy, n (%)	1145 (74.2)	929 (70.5)	0.03
Nulliparity n (%)	1191 (77.2)	1008 (76.5)	0.66
Antecedent of uterine surgery (%)	152 (9.9)	160 (12.1)	0.05
Cesarean section	96 (63.1)	70 (43.7)	0.01
Myomectomy	28 (18.4)	48 (30.0)	0.03
Hysteroscopy	24 (10.8)	36 (12.5)	0.29
Main surgical indication			
Pain	936 (60.7)	346 (26.2)	
Infertility	160 (10.4)	400 (30.4)	
Pain and infertility	313 (20.3)	158 (12.0)	< 0.01
Ovarian cysts	54 (3.5)	187 (14.1)	
Myomas	65 (4.2)	162 (12.3)	
Other	14 (0.8)	55 (4.2)	
Endometriosis diagnostic, n (%)	1018 (66.0)	481 (36.5)	< 0.01
In a first degree relative, n (%)	141 (9.1)	62 (4.7)	< 0.01
Previous surgery for endometriosis, n (%)	398 (25.4)	99 (7.5)	< 0.01
Previous surgery for endometrioma, n (%)	169 (10.9)	38 (2.9)	< 0.01

Table 2: Comparison of clinical symptoms

	Dyspareunia n = 1543	No dyspareunia n = 1318	p-value
Infertility, n (%)	484 (31.4)	563 (42.7)	< 0.01
Duration of infertility, months	38.7 ± 30.9	34.3 ± 28.2	< 0.01
Painful symptoms and characteristics			
Pain, n (%)	1249 (81.0)	504 (38.2)	< 0.01
Duration of pelvic pain (months)	51.4 ± 57.3	32.9 ± 45.2	< 0.01
Primary dysmenorrhoea, n (%)	801 (51.9)	442 (33.5)	< 0.01
Secondary dysmenorrhoea, n (%)	552 (35.8)	304 (23.1)	< 0.01
Oral contraceptive administration for severe primary dysmenorrhoea, n (%)	333 (41.6)	119 (27)	< 0.01
School absenteeism, n (%)	497 (32.2)	221 (16.8)	< 0.01
Malaise during menses, n (%)	194 (12.6)	73 (5.5)	< 0.01
Mean VAS scores			
Dysmenorrhoea	6.7 ± 2.7	4.2 ± 3.3	< 0.01
Deep Dyspareunia	6 ± 2.3	0	< 0.01
Non-cyclic pelvic pain	3.4 ± 3.2	1.4 ± 2.6	< 0.01
Gastro-intestinal symptoms	3.2 ± 3.5	1 ± 2.3	< 0.01
Low urinary tract symptoms	1 ± 2.4	0.3 ± 1.3	< 0.01
Severe painful symptoms (VAS ≥ 7), n (%)			
Dysmenorrhoea	982 (63.6)	399 (30.5)	< 0.01
Deep dyspareunia	641 (41.5)	0	< 0.01
Non-cyclic pelvic pain	307 (19.9)	98 (7.5)	< 0.01
Gastro-intestinal symptoms	375 (24.3)	80 (6.1)	< 0.01
Low urinary tract symptoms	111 (7.2)	25 (1.9)	< 0.01

Table 3: Anatomical distribution of endometriosis lesions in 1499 women with endometriosis according to the presence of deep dyspareunia

	Dyspareunia n = 1018	No dyspareunia n = 481	p-value	Moderate dyspareunia n = 557	Severe dyspareunia n = 461	p-value
Endometriosis phenotype						
Superficial	239 (23.4)	180 (37.4)	< 0.01	127 (22.8)	112 (24.3)	< 0.01
Endometrioma	199 (19.6)	138 (28.7)		132 (23.7)	67 (14.5)	
DIE	580 (57)	163 (33.9)		298 (53.5)	282 (61.2)	
Presence of endometrioma, n (%)	401 (39.4)	199 (41.4)	0.47	245 (44)	156 (33.8)	< 0.01
Bilateral	106 (26.4)	52 (26.1)	0.06	64 (26.1)	42 (26.9)	0.77
Unilateral	295 (73.6)	147 (73.9)		181 (73.9)	114 (73.1)	
Deep infiltrating endometriosis, n (%)	580 (57)	163 (33.9)	< 0.01	298 (53.5)	282 (61.2)	0.02
Mean number of DIE lesions	2.7 ± 0.1	2.3 ± 0.1	0.02	2.7 ± 0.1	2.7 ± 0.1	0.95
Number of women with DIE lesions						
n = 1, n (%)	197 (34)	80 (49.1)	< 0.01	100 (33.6)	97 (34.4)	0.83
n ≥ 2, n (%)	383 (66)	83 (50.9)		198 (66.4)	185 (65.6)	
Anatomical localisation of DIE lesions						
• Utero-sacral ligaments (USL)	431 (74.3)	103 (63.2)	< 0.01	225 (40.4)	206 (44.7)	0.20
○ Bilateral	155 (26.7)	32 (19.6)	0.01	85 (37.8)	70 (34.0)	0.23
○ Unilateral	276 (47.6)	71 (43.6)		140 (62.2)	136 (66.0)	
• Vagina	245 (42.2)	45 (27.6)	< 0.01	128 (43.0)	117 (41.5)	0.72
• Bladder	80 (13.8)	40 (24.5)	< 0.01	48 (16.1)	32 (11.4)	0.09
• Intestine DIE lesions	283 (48.8)	62 (38)	0.02	137 (46.0)	146 (51.8)	0.16
○ Mean number of intestinal lesions	2 ± 0.1	2 ± 0.2	0.86	2 ± 0.1	2 ± 0.1	0.88
• Ureter	41 (7)	17 (10.4)	0.37	24 (4.3)	17 (3.7)	0.43
○ Bilateral	5 (12.2)	2 (11.8)	0.96	2 (0.7)	3 (1.1)	0.68
○ Unilateral	36 (87.8)	15 (88.2)		22 (7.4)	14 (5.0)	
DIE Surgical classification, n (%)						
USL	183 (31.6)	48 (29.5)	< 0.01	95 (31.9)	88 (31.2)	0.39
Vagina	66 (11.4)	16 (9.8)		36 (12.1)	30 (10.6)	
Bladder	39 (6.7)	32 (19.6)		24 (8.1)	15 (5.3)	
Intestine	251 (43.3)	50 (30.7)		119 (39.8)	132 (46.8)	
Ureter	41 (7)	17 (10.4)		24 (8.1)	17 (6.1)	
ASRM stage						
Stage 1	243 (23.9)	145 (30.2)	< 0.01	135 (24.2)	108 (23.4)	0.06
Stage 2	219 (21.5)	92 (19.1)		103 (18.5)	116 25.2)	
Stage 3	248 (24.4)	135 (28.1)		147 (26.4)	101 (21.9)	
Stage 4	308 (30.3)	109 (22.7)		172 (30.9)	136 (29.5)	
ASRM score	1009 women	477 women				0.83
Mean total ASRM score	30.2 ± 0.9	26.3 ± 1.3	0.02	30.5 ± 1.3	29.8 ± 1.4	0.69
Mean implants ASRM score	13.3 ± 0.4	12.6 ± 0.5	0.3	13.8 ± 0.5	12.6 ± 0.6	0.09
Mean adhesions ASRM score	17.3 ± 0.7	13.4 ± 0.9	< 0.01	17.2 ± 1.0	17.5 ± 1.1	0.83
Pouch of Douglas involvement, n (%)	428 (42)	139 (30)				
Partial	217 (21.3)	69 (14.4)	< 0.01	118 (21.2)	99 (21.5)	0.96
Total	211 (20.7)	70 (14.6)		114 (20.5)	97 (21.0)	

Table 4: Determinants of dyspareunia according to endometriosis localisation in 1499 women

	Dyspareunia		Severe dyspareunia (EN ≥ 7)	
	OR	95% CI	OR	95% CI
Endometrioma	1.08	0.81 – 1.45	0.69	0.49 – 0.97
DIE without vaginal and/or rectal localisation	2.07	1.51 – 2.84	1.40	1.02 – 1.93
Vaginal	2.89	1.66 – 5.02	1.52	0.93 – 2.47
Rectal	2.30	1.50 – 3.53	2.03	1.36 – 3.02
Vaginal and rectal	3.91	3.13 – 7.69	2.03	1.43 – 2.89