DEEP ENDOMETRIOSIS INFILTRATING THE BOWEL: A CONTINUING DEBATE ABOUT THE BEST MANAGEMENT

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Abstract

Deep endometriosis infiltrating the bowel is a benign condition, with variable clinical symptoms and has generated an interesting debate over the last years about the best management.

Objective: The aim of this study was to assess the presence and spread of the bowel endometriosis and its particularity regarding the appropriate clinical assessment and the debate about the most adequate surgical technique.

Method: Patients referred to the Department of Gynecology and Obstetrics, Rouen University Hospital, France managed by colorectal resection between January and December 2013 presenting pain symptoms related to pelvic endometriosis. Self-questionnaires including clinical history, pain and digestive symptoms were filled in preoperatively.

Results: Twenty-six patients were included in the study. The represent 6% of those patients managed for colorectal endometriosis in this department. The values of the self-questionnaires MOS-36, KESS score and GIQLI score were generally impaired.

Conclusions: In patients with deep endometriosis infiltrating the bowel, cyclic constipation and cyclic defecation pain are the most common digestive complains, that are increased during the menstruation. Surgical treatment should take into consideration the main characteristics of deep endometriosis of the bowel and avoid complications related to the severe surgical management.

Rezumat: Endometrioza profunda cu infiltrarea intestinului: o dezbatere continuă cu privire la cel mai bun management

Endometrioza profundă care infiltrează intestinul este o boală benignă, cu un tablou clinic variabil şi care a generat o dezbatere aprinsă despre managementul optim al acesteia, în ultimii ani.

Obiectiv: Scopul acestui studiu este să investigheze prezenţa şi dispersia endometriozei intestinale şi particularităţile privind abordarea clinică adecvată, respectiv indicaţia actului chirurgical.

Metode : Au fost introduse în studiu paciente internate în cadrul Departamentului de Ginecologie şi Obstetrică, Spitalul Universitar Rouen, Franţa în perioada ianuarie - decembrie 2013, cu simptome algice pelvine legate de endometrioza profundă ; acestea au fost tratate chirurgical prin rezecţii colo-rectale. Preoperator pacientele au completat chestionare care vizează antecedentele personale, simptomele digestive şi gradul de intensitate al durerii.

Rezultate : Au fost incluse în studiu 26 de paciente care reprezintă 6% din totalul pacientelor tratate pentru endometrioză colo-rectală în acest serviciu. Valorile chestionarelor MOS-36, scorul KESS şi GIQLI au fost modificate.

Concluzie : În cazul pacientelor cu endometrioză profunda intestinală, constipaţia ciclică şi tenesmele, sunt cele mai frecvente simptome digestive, care sunt amplificate în perioada menstruală. Tratamentul chirurgical

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Introduction

Over the past years, more surgical teams are performing worldwide colorectal resection for bowel endometriosis, focusing on their surgical technique and reporting the results of this only approach [1], although the conservative route was first described, with strong arguments [2].

The size of the lesions does not coincide with the intensity of symptoms and surgical treatment for women with deep endometriosis is the option when medical symptoms are not improved by the medical treatment [3].

Surgical treatment should take into consideration the following characteristics of deep endometriosis infiltrating the bowel: multifocality of deep endometriosis [4; 5]; size of intestinal lesions: when the conservative technique can be used in large low rectal endometriosis [6]; distance to the anal verge: a radical approach when the localization of the rectal nodule is low, can be associated with severe complications, but a conservative technique using a combined laparoscopic and transanal approach avoids postoperative impairments [7].

The aim of this study was to assess the presence and spread of the bowel endometriosis and its particularity regarding the appropriate clinical assessment and the debate about the most adequate surgical technique.

Material and Methods

We included in the study consecutive patients with deep endometriosis infiltrating the bowel (sigmoid colon and/or rectum), and the surgical technique used was colorectal resection between January and December 2013, in the Department of Gynecology and Obstetrics, Rouen University Hospital, France [8]. Inclusion criteria were: deep endometriosis infiltrating at least the muscular layer of the sigmoid and/or rectum, presence of digestive symptoms (defecation related pain, constipation, rectal bleeding, diarrhea), and patient enrollment in the CIRENDO database (the ''North-West Inter Regional Female Cohort for Patients with Endometriosis'') (NCT02294825) [9].

Clinical history of each patient was prospectively recorded using CIRENDO database, a prospective cohort űnanced by the G4 Group (The University Hospitals of Rouen, Lille, Amiens, and Caen) and coordinated by Horace Roman. Preoperative digestive function was evaluated using standardized gastrointestinal questionnaires: the Gastrointestinal Quality of Life Index (GIQLI) [10], the Knowles-Eccersley-Scott-Symptom Questionnaire (KESS) [11], the Wexner score [12], the Bristol stool scale [13] and the Fecal Incontinence Quality of Life index [14]. Clinical history was carried out by a clinical research technician and was approved by the French authority CCTIRS (Advisory Committee on Information Processing in Healthcare Research).

The patients underwent a clinical examination by a senior surgeon with experience in endometriosis, MRI examination and computed tomography-based virtual colonoscopy was performed in order to search for bowel stenosis, other digestive localizations and to measure the distance from bowel nodule inferior limits to the anal verge [15].

All patients were managed by colorectal resection and the route was laparoscopic and robotic-assisted laparoscopic.

Colorectal resection was performed in patients with stenosis due to large infiltrations of the rectum, large nodules infiltrating the upper rectum, multiple nodule with short disease-free bowel segment, and patients with desire of future pregnancy [15]. Histological analysis of slides examined the spread of microscopic endometriosis thorough the specimens [8].

Statistical analysis was performed using Stata 9.0 software (StataCorp). Percentages were obtained for qualitative variables, and median values, range, mean values, and SD for continuous variables.

Results

Twenty-six patients with deep endometriosis infiltrating the rectum and/or sigmoid colon, managed by colorectal resection laparoscopically or robotic assisted laparoscopically were included in our study.

Table 1 **Patient characteristics and principal symptoms in relationship with pelvic endometriosis**

	N=26 (%) Mean (SD)
Age	30.25 ±5.6
BMI (kg/m^2)	
Smoking	8 ±30
Cystectomy	
Right ovary	3 (12)
Left ovary	2 (8)
Adhesiolysis	1 (4)
Unilateral salpingectomy	0
Psychological care	7 (27)
Patients with suspicion of infertility	8 (31)
Obstetrical antecedents	
Nulligesta	16 (62)
Nullipara	19 (73)
Pregnancy intention before the surgery	18 (69)
MOS 36-item short form health survey score, mean (SD)	
Physical Functioning (PF)	78.6 (22.9)
Role Physical (RP)	53.7 (30.7)
Bodily Pain (BP)	49.6 (18.9)
General Health (GH)	53.1 (9.9)
Vitality (VT)	50 (9.4)
Social Functioning (SF)	48.1 (12.3)
Role Emotional (RE)	53 (37.2)
Mental Health (MH)	58.2 (8.6)
Health Transition (HT)	3.7 (0.8)
Physical Composite Score (PCS)	44.5 (6.7)
Mental Composite Score (MCS)	39.3 (7.2)
Dysmenorrhea	26 (100)
Primary dysmenorrhea	16 (62)
Biberoglou & Behrman dysmenorrhea score	2.8 ±0.6
Intensity of dysmenorrhea (VAS scale >4)	26 (100)
Cyclic symptoms associated with dysmenorrhea	
Defecation pain	18 (69)
Rectorrhage	6 (23)
Constipation	11 (42)
Diarrhea	13 (50)
Appetite disorders	9 (35)
Bloating	13 (50)
Urinary pain	6 (23)
Having had sexual intercourse	
Deep dyspareunia	17 (65)
Biberoglou & Behrman deep dyspareunia score	1.3 ±1.4
Intensity of dyspareunia (VAS>4)	11 (42)

Table 2. Clinical assessment using gastrointestinal standardized questionnaires before surgery.

Evaluation of digestive function	
Knowles-Eccersley-Scott-Symptom Questionnaire (KESS)	
Total KESS value	11.3 (6.8)
KESS <=10	14 (51.8)
Item 1. Duration of constipation (0-18 months=0; 18 months-5 y=1; 5-10 y=2; 10-20 y=3; >20 y=4)	1.25 (1.45)
Item 2. Laxative use (none=0; for short duration=1; regular, long duration=2; long duration, ineffective=3)	0.37 (0.62)
Item 3. Frequency of bowel movement (1-2 times/1-2 days=0; 2 or less/wk=1; less than once/wk=2; less than once/2 wk=3)	0.22 (0.42)
Item 4. Unsuccessful evacuatory attempts (never/rarely=0; occasionally=1; usually=2; always, manual evacuation=3)	0.7 (0.91)
Item 5. Feeling incomplete evacuation (never=0; rarely=1; occasionally=2; usually=3; always=4)	1.74 (0.98)
Item 6. Abdominal pain (never=0; rarely=1; occasionally=2; usually=3; always=4)	2.03 (0.93)
Item 7. Bloating (never=0; perceived by patient only=1; visible to others=2; severe causing satiety or nausea=3; severe with vomiting=4)	1.22 (0.97)
Item 8. Enemas/Digitation (non=0; enemata/suppositories occasionally=1; enemata/suppositories regular=2; manual evacuation occasionally=3; manual evacuation always=4)	0.25 (0.8)
Item 9. Time taken to evacuate (<5 min=0; 5-10 min=1; 10-30 min=2; >30 min=3)	0.88 (0.75)
Item 10. Difficulty evacuating causing a painful evacuation effort (never=0; rarely=1; occasionally=2; usually=3; always=4)	1.3 (1.1)
Item 11. Stool consistency without laxatives (soft/loose/normal=0; occasionally hard=1; always hard=2; always hard, usually pellet-like=3)	1.3 (1.4)
Gastrointestinal Quality of Life Index (GIQLI)	
Total GIQLI value	93.76 (18.87)
Item 7. Bowel frequency (always=0; usually=1; occasionally=2; rarely=3; never=4)	2.92 (1.14)
Item 30. Bowel urgency (always=0; usually=1; occasionally=2; rarely=3; never=4)	2.92 (1.07)
Item 31. Diarrhoea (always=0; usually=1; occasionally=2; rarely=3; never=4)	3.03 (1.09)
Item 32. Constipation (always=0; usually=1; occasionally=2; rarely=3; never=4)	2.29 (1.35)
Item 34. Blood in stool (always=0; usually=1; occasionally=2; rarely=3; never=4)	3.18 (1.21)
Item 36. Uncontrolled stools (always=0; usually=1; occasionally=2; rarely=3; never=4)	3.81 (0.48)
WEXNER anal incontinence score	
1. How often does the gas escape without your knowledge or control? (never=0; less than 1/month=1; less than 1/wk=2; more than 1/wk=3; daily =4)	0.51 (1; 4)
2. How often do t-you have accidents to liquid stool/diarrhea? (never=0; less than 1/month=1; less than 1/wk=2; more than 1/wk=3; daily =4)	0.07 (0; 2)
3. How often do you have accidents to solid, well-formed stool? (never=0; less than 1/month=1; less than 1/wk=2; more than 1/wk=3; daily =4)	0 (0; 0)
4. How often do you wear a pad/depends or change underwear? (never=0; rarely=1; sometimes=2; often=3; always =4)	0.01 (0; 3)
5. How much do the above answers alter your lifestyle or activities? (no=0; slight=1; little=2; enough=3; major=4)	0.41 (0.82)
Ability to defer defecation (less than 5min=0; 5 to 10min=1; 10 to 15 min=2; longer than 15min=3)	1.96 (0; 3)

Table 3. Intraoperative findings

Intraoperative Findings	Women without positive margins of endometriosis n= 8 (31%) Mean±SD	Women with positive margins of endometriosis n= 18 (69%) Mean±SD
Management of ovarian endometriomas		
Right	2	8
Left	6	10
Adhesiolysis		
Right adnexa	6	5
Left adnexa	8	7
Deep posterior endometriosis nodules		
Left uterosacral ligament	3	4
Right uterosacral ligament	2	2
Surgical procedures on urinary tract		
Resection of bladder	0	4
Advanced ureterolysis	0	2

Table I present patient main characteristics and the symptomatology related to deep endometriosis infiltrating the bowel. The mean age of the patients was 30, and 18 patients expressed their intention of future pregnancy. The quality of life and health status (the MOS 36-Item Short-Form Health Survey) is generally impaired.

Table II shows that suggestive symptoms, emotions, social dysfunction, physical status and effects of medical treatment are below the best quality of life by using the Gastrointestinal Quality of Life Index (GIQLI). Total score median values score 94, in contrast to the maximum value of 144, that represents the best quality of life. The Knowles-Eccersley-Scott-Symptom Questionnaire (KESS) values 11.3 and it was used to diagnose constipation. From a maximum possible of 39 points, 14 patients were presenting with KESS total score below 10.

Table III reveals intraoperative findings and over half of the patients were managed for ovarian endometriomas, and 10 patients presented positive margins of endometriosis and presented left endometriomas. All the patients included in our study were managed by colorectal resection due to stenosis caused by deep posterior endometriosis nodules and 4 of the patients presented positive margins of endometriosis and involvement of left uterosacral ligament. Resection of bladder was necessary in 4 patients with positive margins of endometriosis and advanced ureterolysis was performed in 2 cases.

Discussions

In patients with deep endometriosis infiltrating the bowel, cyclic constipation and cyclic defecation pain are the most common digestive complains, that are increased during the menstruation [16].

Radical surgery involves rectal or colon resection of the affected segment and is based on improvement in pain and quality of life after follow-up, but not on cross improvement, meaning no rectal recurrence and no rectal function impairment together with improvement in pain and quality of life. Also the complications (fistulae) due to radical surgery of bowel often leads to affecting the fertility [16].

Radical excision of rectovaginal endometriosis is almost invariably a traumatic procedure that entails extensive adhesiolysis, systematic vaginal opening, occasional rectal perforation of incidental resection and wide pelvic deperitonealization. Because this is a benign condition, the decision to undergo conservative surgery should be undertaken in selected circumstances, tailored to the patient's needs, based on convincing evidence [9], and taking into account that intra- and postoperative morbidity is not negligible [18; 19; 20; 21; 22; 23; 24; 25; 26, 27].

Noteworthy, a recent study comparing surgery and medical treatment in women with rectovaginal lesions documented a more rapid

improvement in women receiving surgery but the difference between the two approaches lessens with time and, at one-year follow-up, pain symptoms were similar in the two study groups [28].

Surgical treatment should take into consideration the following characteristics of deep endometriosis of the bowel: multifocality of deep endometriosis [4; 5]; size of the intestinal deep endometriosis when the conservative technique can be used in large low rectal endometriosis [29]; distance to the anal verge: a radical approach when the localization of the rectal nodule is low, may be associated with severe complications, but a conservative technique using a combined laparoscopic and transanal approach avoids postoperative impairments [29].

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