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Mathieu Jolivet

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UNIVERSITE GRENOBLE ALPES
FACULTE DE MEDECINE DE GRENOBLE

Année : 2017

N°

PROSPECTIVE EVALUATION OF FUNCTIONAL OUTCOME AFTER
LAPAROSCOPIC SIGMOID COLECTOMY WITH DIVISION OF THE INFERIOR
MESENTERIC ARTERY AT ITS ORIGIN FOR DIVERTICULAR DISEASE IN
CONSECUTIVE MALE PATIENTS

THESE
PRESENTEE POUR L'OBTENTION DU DOCTORAT EN MEDECINE

DIPLÔME D'ETAT

MATHIEU JOLIVET

[Données à caractère personnel]

THESE SOUTENUE PUBLIQUEMENT A LA FACULTE DE MEDECINE DE
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Le : 11 octobre 2017

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Prospective evaluation of functional outcome after laparoscopic sigmoid colectomy with division of the inferior mesenteric artery at its origin for diverticular disease in consecutive male patients

Introduction

Avoidance of subsequent acute episodes of diverticulitis and treatment of symptoms represent the main reasons for sigmoid resection in complicated diverticular disease.^{1,2} Significant improvement in quality of life and social functioning accrues from elective sigmoid colectomy in the majority of patients also represents another reason to offer operation.³ It is essential to ascertain exactly the potential long-term iatrogenic sequelae of surgery for the often benign course of the disease, especially in younger patients.^{3,4} As much as relieving symptoms arising from affected colonic segment, postoperative defecation patterns may be unsatisfactory because of the operation with the result that the intervention has merely replaced one set of symptoms with another.⁵ Furthermore, left colectomy may also detrimentally affect both bladder function and sexual performance through the inadvertent traumatization of the superior hypogastric plexus.⁶

Dissection of the inferior mesenteric artery (IMA) at its origin is needed to obtain complete lymph node removal in the treatment of left colonic or rectal cancer, but in the surgical management of diverticulitis, the IMA may be spared.⁷ Up to now there is still no consensus concerning the vascular approach.⁸ Preservation of the IMA during sigmoid colectomy for

diverticular disease theoretically preserves the natural blood supply of the colonic and rectal stump, and the ensuing performance of a healthy and well-nourished anastomosis may prevent anastomotic leakage. Furthermore, sectioning the sigmoid arteries close to the colonic wall without sectioning of the IMA at its origin may preserve the superior hypogastric plexus and could reduce defecatory disorder, as well as urinary and sexual dysfunction.⁹

The elective surgical procedure for sigmoid diverticulitis has long been standardized in our institution and includes high ligation of the IMA proximal to the left colic artery.¹⁰ Like Senagore et al., we consider that if laparoscopic sigmoid colectomy is to be a common and reproducible procedure regardless of the indications, the surgical technique must be standardized.¹¹ The potential benefits of a standardized technique include 1) standardization of surgical instrument sets, 2) definition of benchmarks for the decision to convert before inappropriate investments in time and equipment, and 3) provision of an easily transferred skill set for residents in training, and nurses.

The aim of this study was to prospectively determine the functional impact of elective laparoscopic sigmoid colectomy performed with ligation of the IMA at its origin for complicated diverticular disease in consecutive male patients. To achieve this goal, we therefore assessed intestinal, urinary and sexual function by standardized questionnaires administered at baseline and 6 months postoperatively. Furthermore, these functional results were correlated to relevant operative parameters, morbidity, and quality of life.

Methods

Study design and setting

We conducted a prospective study at a single 1836-bed university-affiliated hospital serving a predominantly urban population of 675,000 inhabitants in France. The study was conducted in accordance with the principles of the Declaration of Helsinki. According to the recommendations relative to the steps and means to be used for evaluation and diffusion of innovation in surgery published by an international panel of methodologists and surgeons, this study of ambulatory colectomy for consecutive patients can be classified as a phase 1 study. Informed consent was obtained from all individual participants included in the study.

Patients

From May 2010 to July 2017, all consecutive male patients scheduled for elective laparoscopic sigmoid colectomy for at least one documented episode of diverticulitis at our institution that is both a tertiary referral center and university hospital were included. Diverticulitis attack was suspected on abdominal symptoms such as left inferior quadrant pain and constipation or diarrhea with fever, and biologic inflammatory syndrome. The diagnosis of diverticulitis was confirmed on at least one CT scan of the abdomen and pelvis at the time of an attack in every instance and included thickening of the sigmoid colon, presence of diverticulas, and corresponding inflammatory mesocolon. Thus, all patients had their disease confirmed by the current gold standard selection modality.^{8,12}

Exclusion criteria were patients with colorectal cancer, ulcerative colitis, volvulus, or other sigmoid conditions, along with patients with diverticular bleeding, recurrent diverticulitis after colectomy, or sigmoid undetermined stenosis. Patients with a previous intervention that could have modified the pelvic nerve pattern (i.e., rectal surgery, left nephrectomy, aortic surgery...) and those with peritonitis necessitating an emergency surgery (Hinchey 3-4)¹³ were also excluded from the study.

Operative technique

All the interventions were performed by experienced laparoscopic surgeons. The surgical technique has been previously reported.¹⁰ No mechanical bowel preparation was prescribed in accordance with the current guidelines.¹⁴ All eligible patients were asked to perform “modern fasting” which is a normal meal the previous evening, followed by oral intake of a 600 mL carbohydrate-loaded drink until 2 hours before surgery.¹⁵ A standardized antibiotic prophylaxis with cefoxitin 2 grams was administered at the induction of anesthesia. The patient was placed on the operating table with open legs and both thighs at the same level of the abdomen to enhance maneuverability of the laparoscopic instruments. A urinary catheter was inserted and removed at the end of the procedure.

The first 10-mm balloon port was placed in the umbilicus under direct vision for the 0° laparoscope and a pneumoperitoneum was created and maintained at a pressure ranging between 9 and 12 mm Hg, depending on the physiological state of the patient. The second 12-mm port was placed in the right iliac fossa, the third 5-mm port in the left iliac fossa and the fourth 5-mm port in the right upper quadrant of the abdomen under direct vision. The abdominal cavity was inspected to confirm the diagnosis and rule out unexpected difficulties. With the table tilted toward the right, the procedure started by transecting the peritoneum on the right of the inferior mesenteric vein to find the avascular plane behind the mesocolon. A medial to lateral dissection was used in every patient. The IMA was identified proximal to the left colic artery, and transected once skeletonized with an electrothermal bipolar vessel sealer, after systematic identification of the left ureter and superior hypogastric plexus, lying behind the fascia. Complete mobilization of the left colon including the splenic flexure and the rectosigmoid junction was performed, with division of the inferior mesenteric vein at the inferior border of the pancreas. With the table tilted in Trendelenburg position, the distal resection was performed in every case with a laparoscopic articulating linear stapler always

aiming to include the rectosigmoid junction. The colorectal anastomosis was performed at upper part of the rectum, side to end, ensuring compliance of the proximal side and was always created intracorporeally using a circular stapler passed transanally. The specimen was removed in every case through a transverse, suprapubic incision without sectioning the rectus abdominis muscles. No drain was left behind. Operating time was considered from first incision to end of wound closure. On return to the surgical unit, patients received no intravenous perfusion; only oral analgesia was administered. Within the following 2 hours, they were encouraged to walk and food was allowed.

Primary outcomes: digestive, urinary and sexual functions

Patients were asked to answer a standardized questionnaire to evaluate preoperative and 6-month postoperative bowel symptomatology, urinary and sexual function. Concerning bowel symptomatology, we evaluated the presence and consistency of incontinence and constipation using the Wexner Incontinence Score¹⁶ and the KESS Score.¹⁷ The Wexner Incontinence Score consists of five questions scored from 0 to 4 points (0 for no symptom and 20 for total incontinence). The KESS (Knowles Eccersley Scott Symptom) Score consists of thirteen questions scored from 0 to 3 or 4 points (0 for no symptom and 45 for maximum constipation).

The evaluation of urinary function was completed with the International Prostatic Symptom Score (IPSS).¹⁸ The IPSS consists of seven questions scored from 0 to 5 points (0 for no symptom and 35 for the maximum symptom score).

The evaluation of sexual function was completed with the International Index of Erectile Function (IIEF-5).¹⁹ The IIEF-5 consists of five questions on erection scored from 0 to 5 points (0 for the maximum symptom score and 25 for no symptom).

Secondary outcomes: Surgical data and quality of life

The demographics of all patients (age, body mass index, comorbidity), specific past history of diverticular disease (severity, frequency), and surgical data (operating time, morbidity, mortality, and length of hospital stay), were detailed on a dedicated prospective database.

Finally, Quality of life and the impact of the functional outcome on normal life habits were assessed by the standard Medical Outcomes Survey Short Form 36 (SF-36) questionnaire.²⁰

Divided into three categories: general health, medical status over the last 4 weeks and limitation of activities. General health was evaluated from 6 to 30 points (6 points being the best general health feeling). Medical status over the last 4 weeks was evaluated from 20 to 89 points (20 points being the best medical status). Limitation of activities was completed from 10 to 30 points (10 for the maximum limitation of activities and 30 for no limitation). As for functional scores, patients were evaluated preoperatively and 6 months postoperatively.

Statistical analysis

Baseline patient characteristics were reported as medians and ranges for continuous variables and number and percentages for categorical variables. Fluctuations in the Jorge-Wexner Incontinence, KESS, IPSS, IIEF-5 and SF-36 scores after the six-month follow-up were analyzed using Wilcoxon signed-rank test. Two-sided p-values lower than 0.05 were considered statistically significant. All analyses were performed using Stata version 14.0 (Stata Corporation, College Station, TX, USA).

Results

Patients

Between May 2010 and July 2017, 19 consecutive male patients scheduled for elective laparoscopic sigmoid colectomy for diverticular disease were prospectively enrolled in the study. Median age was 51 years (range, 32-80 years) and a median BMI was 25 kg/m² (range, 16-33 kg/m²). Ten patients (47%) had at least one past digestive surgical history.

Concerning diverticular disease, median number of diverticulitis episodes before surgery was 2 per patient (range, 1-12) with a majority of diverticulitis grade 1 or 2 (95%) (Table 1).

Primary outcomes: digestive, urinary and sexual functions

Concerning the scores about bowel symptomatology, urinary function and sexual function, there were no significant differences between the preoperative and 6 months postoperative total scores.

The digestive scores, with the median of the KESS score and the Wexner score were respectively: 7 and 0 points before surgery, versus 6 and 0 points after ($p = 0.39$ for KESS score and $p = 0.73$ for Wexner score) (Tables 2 and 3). For KESS score, the only item significantly different was abdominal pain, with 2 points (range, 0-4) before surgery versus 1 point (range, 0-2) 6 months after ($p < 0.01$).

The urinary function with the median IPSS was 2 points before surgery versus 3 points 6 months later ($p = 0.39$) (Table 4).

About the sexual function, the median IIEF-5 score before the surgery was 17.5 points versus 18 points 6 months after ($p = 0.55$) (Table 5). No patient reported sexual dysfunction following such a proximal ligation of the IMA in our series.

No patient was lost to follow-up, but three patients did not answer completely the IIEF-5 score.

Secondary outcomes: Surgical data and quality of life

The median operative time was 175 minutes (range, 101-374 minutes). There were no conversions to laparotomy. There were no perioperative deaths. The morbidity rate was 11%, including 2 minor events according to Clavien classification, with a wound abscess evacuated at the patient's bed, and an atrial fibrillation treated medically in one further patient. The median length of hospital stay was 6 days (range, 5-11 days) (Table 6).

Quality of life, evaluated by the SF-36 questionnaire, demonstrated statistically greater general health ($p < 0.01$) and greater medical status over the last 4 weeks ($p < 0.01$), 6 months after surgery, compared to baseline. There were no difference about limitation of activities ($p = 0.27$) (Table 7).

Discussion

Historically, Parks' work in 1969 recommended sigmoid colectomy after the second episode of diverticulitis, to prevent the occurrence of a subsequent serious complication.²¹ Works in the early 2000s completely challenged these practice.¹ Indeed, in all patients operated after the second episode, many are operated erroneously, with the consequent risk of morbidity, mortality and impairment of quality of life. Current recommendations tend to propose a conservative medical treatment as far as possible, and delay the surgical treatment for specific, well-defined cases of complications or frail patients in the natural history of diverticular disease, except emergency or doubtful stenosis.^{1,22} This explains in part why this series has small number of patients.

While recent guidelines exist for indication of sigmoid colectomy in the case of complicated diverticular disease,⁸ the surgical technique is still debated. If it is admitted that laparoscopy must be performed preferentially, and sigmoid colectomy must resected the rectosigmoid junction, the level of the section of the IMA is not clearly established.²³

In our Department of Colorectal Surgery of Grenoble Alps University Hospital, the IMA is sectioned at its origin, since 1995, for every left colon resection (cancer, inflammatory bowel disease, diverticular disease, etc...). Our experience did not seem to show any increase in functional disorders.¹⁰ In our prospective study, we included consecutive male patients scheduled for elective laparoscopic sigmoid colectomy with ligation of the IMA at its origin for diverticular disease. All patients answered to the same validated questionnaire before and 6 months after surgery in order to detect the occurrence of a functional disorder. Thus each patient was his own control. There were no significant differences for the digestive, urinary and sexual functions scores. Actually, during our surgery, the IMA was sectioned at 2 cm from its origin, leaving absolutely free the sympathetic innervation lying on the aorta. Because we were quite far from the plexus, it could not be injured.

In the literature, functional troubles following laparoscopic sigmoid colectomy varies from 8% to 20%, whatever the type of vascular ligature.⁹ It includes anorectal disorders like in the study of Levack et al, urinary disorders,²⁴ and sexual disorders in 3-9% of cases, mostly with ejaculation disorders.

The frequency of these functional troubles could be increased with the ligature of the IMA at its origin, because of a lesion of the pre-aortic plexus around the origin of the IMA during the dissection. These para-aortic plexus leading sympathetic innervation impulses into the pelvis for anorectal, urinary and sexual functions. Few studies have investigated functional outcomes after sigmoid colectomy with ligature of the IMA at its origin for diverticular disease, with discordant results. In a prospective randomized study of 107 patients, Masoni et al. concluded to a better quality of life and less digestive disorders when the ligature of the IMA is not at its origin.⁵ Similarly, Dobrowski et al., in a non randomized controlled study on a smaller population found fewer anorectal disorders when the IMA is preserved.²⁵ At the opposite, Lesurtel et al., like this series, did not find any significant difference according to the ligature height of the IMA, for urinary and sexual functions.⁹

Although we systematically perform complete mobilization of the left colon including the splenic flexure, the median operative time in our series was comparable with the one of others.²⁶⁻²⁸ In addition to this, our population was constituted by only male patients in whom pelvic dissection is presumably more difficult due to a narrower pelvis than in female patients. Of course the teaching mission of our institution supposes to spend time training the medical and paramedical staff.

The morbidity rate, according to Clavien classification, was similar or even better than the mean values reported in the literature. According to the meta-analysis of Cirocchi et al.²⁹ and Gaertner et al.²⁶, postoperative sigmoid colectomy morbidity varies from 8 to 29% with an

average of almost 17%. The sigmoid colectomy with the ligation of the IMA at its origin is safe.

Our patients were hospitalized the day before the operation. They systematically followed an enhanced recovery protocol except in case of medical or social reasons.³⁰ They were allowed to leave hospital when they ate normally, had bowel motion, and no clinical or biological sign of infection. The total postoperative hospital stay was most of the time around the fourth postoperative day, like in the literature.^{15,26}

Our results about quality of life, evaluated by the SF-36 questionnaire, demonstrated statistically greater general health and greater medical status after operation. The impact of surgical treatment for diverticular disease on quality of life varies from one study to another. If Forgione et al. concluded toward an improvement in the quality of life after surgery,³ Scarpa et al. were more moderate, demonstrating a significant benefit from surgery only for severe forms of diverticulitis.³¹ Well-established indications to elective surgery probably play a major role at reaching the best long-term postoperative functional results and quality of life whatever the surgical technique was carried out.³²

Our studies, although prospective on consecutive patients with strict inclusion and exclusion criteria, presents some limitations. First, the number of patients included is small. This can be explained by the decrease tendency in surgical indications for diverticular disease in recent years in our institution, following the recent guidelines. Also, by the monocentric aspect of the study, by the choice to include only male patients, and by the exclusion of patients needing an emergency operation for complicated diverticulitis. A significant difference might have been not detected by a lack of power. Concerning our choice to include only male patients, we found it easier to study sexual function disorders in men. Erection and ejaculation are rather objective and easily measurable phenomenon, which are directly impacted by a lesion of the plexus. Since the consequence of a nervous plexus injury in women is not very

well known, we decided not to include female patients in this study. Secondly, this series is a phase 1 study, each patient being his own control. It would have been more powerful to construct a prospective, randomized, controlled study to compare the results of sigmoid colectomy with ligation of the IMA at its origin versus a sigmoid colectomy with preservation of the IMA. But in our group, we considered that all the advantages of a standard operation applicable to all indications of left colectomy overcome the risk of having functional disorders, if any. Moreover, preservation of the superior rectal artery might be responsible for some cases of hemorrhage described after colorectal anastomosis that we will not encounter when sectioning the IMA at its origin. Finally, another limitation of the study is the short follow-up of 6 months, while other studies conducted a follow-up of one year or more. Maybe it was too short, but it seemed to us that 6 months postoperative was sufficient not to confuse immediate outcomes with well-established disorders. In the same line of thought, other questionnaires could have been used like the GIQLI for evaluation of quality of life. Those we have chosen are nevertheless validated and widely used in the literature.

Conclusions

Laparoscopic sigmoid colectomy with division of the IMA at its origin for diverticular disease does not increase functional disorders incidence 6 months after surgery. The benefit of the operation on the quality of life is even significantly greater for general health and medical status. These results probably need to be confirmed by a prospective randomized controlled trial.

THESE SOUTENUE PAR : JOLIVET Mathieu

TITRE : Prospective evaluation of functional outcome after laparoscopic sigmoid colectomy with division of the inferior mesenteric artery at its origin for diverticular disease in consecutive male patients

CONCLUSION :

Background: While exist recent guidelines for the indication of sigmoid colectomy for diverticular disease, the surgical technique is still debated. If it is admitted that laparoscopy must be performed preferentially, and sigmoid colectomy must resect the rectosigmoid junction ; the level of the section of the inferior mesenteric artery (IMA) is not clearly established. Few studies have investigated functional outcomes after sigmoid colectomy with ligation of the IMA at its origin for diverticular disease, with discordant results about functional outcomes.

Objective: To prospectively determine the functional impact of elective laparoscopic sigmoid colectomy performed with ligation of the inferior mesenteric artery at its origin for complicated diverticular disease in male patients.

Methods: Between May 2010 and July 2017, all consecutive male patients scheduled for elective laparoscopic colectomy for diverticular disease were prospectively studied at baseline (preoperative) and again subsequently 6 months postoperatively regarding, bowel symptomatology (KESS score, Wexner score), urinary function (IPSS score), sexual function (IIEF score). Operative data, technical results and quality of life (SF-36) were also recorded.

Results: Nineteen patients with a median age of 51 years (range, 32-80 years) were included. There were no significant difference between the preoperative and

postoperative total scores for the bowel symptomatology, urinary function and sexual function : KESS score ($p = 0.39$), Wexner score ($p = 0.73$), IPSS score ($p = 0,39$) and IIEF-5 score ($p = 0.55$). The median surgical time was 175 minutes (range, 101-374 minutes). There were no conversions. The morbidity rate was 11%, with only 2 minor events according to Clavien classification. The median length of hospital stay was 6 days (range, 5-11 days). Concerning quality of life, our study demonstrated statistically greater general health ($p < 0.01$) and greater medical status ($p < 0.01$) after surgery. There were no differences about limitation of activities ($p = 0.27$).

Conclusions: Laparoscopic sigmoid colectomy with division of the inferior mesenteric artery at its origin for diverticular disease does not increase functional disorders incidence 6 months after surgery. Quality of life is improved for general health and medical status postoperatively. These results have to be confirmed with a controlled randomized trial.

VU ET PERMIS D'IMPRIMER
Grenoble, le 15/09/2017

LE DOYEN
J.P. ROMANET



Pour la Présidents
et par délégation
Le Doyen de Médecine
Pr. Jean-Paul ROMANET

LE PRESIDENT DE LA THESE
PROFESSEUR JL. FAUCHERON



Annexes

Table 1 – Demographic and clinical data

	(n = 19)
Age (years)	51 (32-80) ^a
Body Mass Index (kg/m ²)	25 (16-33) ^a
Antecedents	
Digestive surgery	10 (47%)
Immunosuppression	3 (16%)
Number of diverticulitis	2 (1-12) ^a
Hinchey classification	
Grade 1	12 (63%)
Grade 2	6 (32%)
Grade 3	1 (5%)
Grade 4	0 (0%)

^a Data are presented as median value (range)

Table 2 – KESS Score

	Preoperative	6-month postoperative	p value
Constipation length	0 (0-4)	0 (0-4)	1.00
Laxatives use	0 (0-1)	0 (0-2)	0.65
Stools number	0 (0-0)	0 (0-2)	0.32
Difficult defecation	0 (0-2)	0 (0-2)	0.12
Incomplete defecation	1 (0-4)	1 (0-3)	0.69
Abdominal pain	2 (0-4)	1 (0-2)	< 0.01
Bloating	1 (0-4)	1 (0-3)	0.09
Help for defecation	0 (0-1)	0 (0-3)	0.97
Defecation length	0 (0-2)	0 (0-2)	0.93
Painful defecation	1 (0-3)	0 (0-2)	0.05
Consistency of stool	0 (0-2)	0 (0-2)	0.71
Unsuccessful defecation	0 (0-2)	0 (0-2)	0.51
Impact on sexuality	0 (0-2)	0 (0-2)	0.16
Total	7 (1-19)	6 (1-17)	0.39

Data are presented as median value (range)

Table 3 – Jorge-Wexner Incontinence Score

	Preoperative	6-months postoperative	p value
Gas	0 (0-4)	0 (0-4)	0.86
Liquid	0 (0-3)	0 (0-2)	1.00
Solid	0 (0-1)	0 (0-2)	0.16
Wears pad	0 (0-1)	0 (0-0)	0.32
Lifestyle alteration	0 (0-3)	0 (0-1)	0.71
Total	0 (0-9)	0 (0-7)	0.73

Data are presented as median value (range)

Table 4 – IPSS Score

	Preoperative	6-months postoperative	p value
Incomplete emptying	0 (0-3)	0 (0-1)	0.77
Frequency	0 (0-3)	1 (0-5)	0.26
Intermittency	0 (0-1)	0 (0-1)	0.56
Urgency	0 (0-4)	0 (0-3)	0.95
Weak stream	0 (0-2)	0 (0-1)	0.47
Straining	0 (0-2)	0 (0-1)	0.95
Nocturia	1 (0-2)	1 (0-2)	0.44
Total	2 (0-9)	3 (0-9)	0.39

Data are presented as median value (range)

Table 5 – IIEF-5 Score

	Preoperative	6-months postoperative	p value
Able to have erection	4 (1-5)	4 (1-5)	0.18
Erection efficient for penetration	3 (0-5)	4 (0-5)	0.11
Erection during the act	3 (0-5)	4 (0-5)	0.72
Erection until the end	4 (0-5)	4 (0-5)	0.64
Satisfaction	3.5 (0-5)	3.5 (0-5)	0.41
Total	17.5 (1-25)	18 (1-25)	0.55

Data are presented as median value (range)

Table 6 – Per- and Post-operative data

	(n = 19)
Surgical findings	
Abscess	6 (32%)
Fistula	3 (16%)
Stenosis	5 (26%)
Conversion	0 (0%)
Operative time (minutes)	175 (101-374) ^a
Post-operative Morbi-mortality (Clavien classification)	
Minor events (I-II)	2 (11%)
Major events (III-V)	0 (0%)
Length of hospital stay (days)	6 (5-11) ^a

^a Data are presented as median value (range)

Table 7 – SF-36

	Preoperative	6-months postoperative	p value
General health	18 (11-29)	15 (7-24)	< 0.01
Medical status over the last 4 weeks	52 (35-68)	39 (21-66)	< 0.01
Limitation of activities	27 (15-30)	29 (10-30)	0.27

Data are presented as median value (range)

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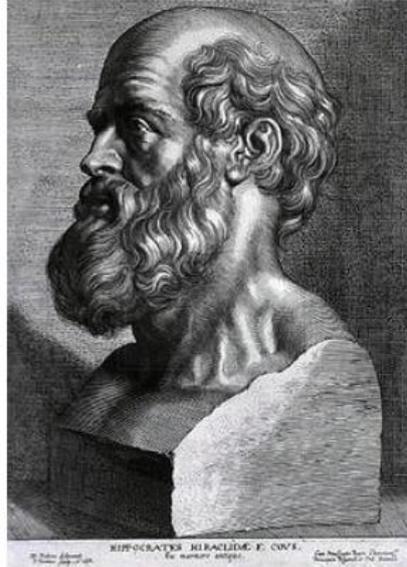
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SERMENT D'HIPPOCRATE

En présence des Maîtres de cette Faculté, de mes chers condisciples et devant l'effigie d'HIPPOCRATE,

Je promets et je jure d'être fidèle aux lois de l'honneur et de la probité dans l'exercice de la Médecine.

Je donnerais mes soins gratuitement à l'indigent et n'exigerais jamais un salaire au dessus de mon travail. Je ne participerai à aucun partage clandestin d'honoraires.

Admis dans l'intimité des maisons, mes yeux n'y verront pas ce qui s'y passe ; ma langue taira les secrets qui me seront confiés et mon état ne servira pas à corrompre les mœurs, ni à favoriser le crime.

Je ne permettrai pas que des considérations de religion, de nation, de race, de parti ou de classe sociale viennent s'interposer entre mon devoir et mon patient.

Je garderai le respect absolu de la vie humaine.

Même sous la menace, je n'admettrai pas de faire usage de mes connaissances médicales contre les lois de l'humanité.

Respectueux et reconnaissant envers mes Maîtres, je rendrai à leurs enfants l'instruction que j'ai reçue de leurs pères.

Que les hommes m'accordent leur estime si je suis fidèle à mes promesses.

Que je sois couvert d'opprobre et méprisé de mes confrères si j'y manque.

Prospective evaluation of functional outcome after laparoscopic sigmoid colectomy with division of the inferior mesenteric artery at its origin for diverticular disease in consecutive male patients

ABSTRACT :

This is a monocentric prospective observational study that included consecutively 19 male patients between May 2010 and July 2017, who had a laparoscopic sigmoid colectomy with division of the inferior mesenteric artery at its origin for diverticulitis. Patients completed a questionnaire before and 6 months after surgery to determine the functional impact of this surgical technique. Whether for sexual, urinary or anorectal functions, we did not find any significant difference between preoperative and postoperative results. On the other hand, there is a significant improvement in the quality of life after surgery. The mean operating time was 175 minutes. Mortality was zero. Morbidity was 11% (2 minor events). The length of hospital stay was 6 days. Ligature at the origin of the inferior mesenteric artery does not increase the incidence of functional disorders. This result have to be confirmed by a randomized controlled trial.

Etude prospective des résultats fonctionnels après sigmoïdectomie laparoscopique par ligature à l'origine de l'artère mésentérique inférieure pour diverticulite sigmoïdienne chez des patients masculins consécutifs.

RESUME :

Il s'agit d'une étude observationnelle prospective monocentrique ayant inclus consécutivement 19 patients masculins entre mai 2010 et juillet 2017, opérés d'une sigmoïdectomie par voie coelioscopique avec ligature à l'origine de l'artère mésentérique inférieure pour diverticulose colique. Les patients remplissaient un questionnaire avant puis 6 mois après la chirurgie afin de déterminer un impact fonctionnel de cette technique chirurgicale. Que ce soit pour les fonctions sexuelle, urinaire ou bien anorectale nous n'avons pas retrouvé de différence significative entre le pré-opératoire et le post-opératoire. Par contre il existe une amélioration significative de la qualité de vie après la chirurgie. Le temps opératoire moyen était de 175 minutes. La mortalité était nulle. La morbidité était de 11% (2 évènements mineurs). La durée moyenne d'hospitalisation était de 6 jours. La sigmoïdectomie par ligature à l'origine de l'artère mésentérique inférieure n'augmente pas l'incidence des troubles fonctionnels. Ce résultat est à confirmer par un essai contrôlé randomisé.