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La localisation tumorale des cancers du côlon droit ne modifie pas la longueur de résection colique : expérience du CHU de Grenoble

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N°

**LA LOCALISATION TUMORALE DES CANCERS DU COLON DROIT NE
MODIFIE PAS LA LONGUEUR DE RESECTION COLIQUE : EXPERIENCE
DU CHU DE GRENOBLE**

THESE
PRESENTEE POUR L'OBTENTION DU DOCTORAT EN MEDECINE

DIPLÔME D'ETAT

SOUTENUE PUBLIQUEMENT A LA FACULTE DE MEDECINE DE GRENOBLE*

le 28 octobre 2016

par SIEBERT Matthieu, [Données à caractère personnel]

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Abstract

Background : Colorectal cancer is increasingly recognized as representing a heterogeneous group of tumors. While left segmental colectomy is an accepted and oncologically safe practice for left-sided colonic cancer (CC), most authors agree that there is no room for effective segmental resection of right-sided cancer for oncological objectives. Length of the resected colon is an important point of debate. To our knowledge, caecum and ascending CC have not been analysed like different groups of tumors. The objective of this study is to see if retrospectively in our center, surgical treatment of caecal cancer would differ with ascending colon cancer.

Methods : A retrospective review of all consecutive patients with right colonic resection for cancer admitted to the University hospital of Grenoble from January 2005 to August 2016 was performed. Main outcome of this study was to compare the length of colonic resection, between caecal primary cancer and ascending colonic cancer.

Results : Among operated patients, tumor was localised preoperatively on caecum in 110 cases and on the right ascending colon in 119 cases. Preoperative localisation had no effect on the colonic length resected (mean 24.5, 24 +/-10.34 vs 25 +/-7.28, $p=0.95$), on the number of harvested lymph nodes with a mean of 15 (+/- 7.6) nodes in the caecal group versus 15.2 (+/-7.3) ($p=0.72$). We noticed 15 cases of discordance between pre and post operative location (4 vs 11, $p=0.08$).

Conclusion : In our center, we have not found statistical differences in length resection from tumors located on the caecum or in the ascendant colon.

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Background :

Radical surgery for colonic cancer is the only treatment modality for a definitive cure ¹ however the management of right colon cancer still lacks international standardization. While left segmental colectomy is an accepted and oncologically safe ² practice for left-sided colonic cancer (CC), most authors agree that there is no room for effective segmental resection of right-sided cancer for oncological objectives ³. Length of the resected colon is an important point of debate ⁴. Japanese scientific societies ⁵ recommend mucosal margins between 5 and 10 cm according the lymph flow direction, whereas western advice ⁶ still favours the “dogm” of 5cm-margin on the bowel. But the evidence for “5 cm resection” is weak (rated level IV) ⁷. There is still a debate about the interest of extended right hemicolectomy. Extensive mesenteric resection in right-sided colon cancer does not increase overall survival or produce a better oncological result, but increases perioperative morbidity ^{8,9}.

Another important point of debate is extent of the lymphadenectomy. Current Japanese ⁵ and western recommendations ⁶ advocate a D2 lymphadenectomy in most cases, and a D3 lymphadenectomy in cases of pre- or per-operative suspicion of lymphatic metastasis in this drainage territory. Anatomic variations in the distribution of the right-sided colic arteries make it difficult to standardize lymphadenectomy ¹⁰. Some studies show a clear advantage in high ligation ¹¹, whereas others show no demonstrable benefit ^{12,13}. Some studies have shown similar oncological results with an increase of perioperative morbidity ^{8,13}. Currently there is clearly no sufficient scientific proof to recommend high ligation, however this does not prevent some authors promoting it for right-sided colonic cancer ¹⁰.

Concerning lymphadenectomy, Park et al. ³ retrospectively reviewed the position of lymph node metastasis along the arterial trunks and interestingly found that the distribution of lymphatic metastasis for caecal tumors was 12.2% along the right colonic artery and 6.1% along the right branch of the middle colic artery. Such an important rate should be questioned, indeed the rate of 12.2% of lymphatic metastasis has to be balanced with the highly variable presence of the right colic artery (RCA) in the literature, ranging from 10% to 63% ¹⁴⁻¹⁶, with several authors reporting that a true right colic artery is rarely seen, with approximately 15% prevalence ^{15,17}. However those results clearly discourage a segmental colectomy like ileocaecal resection which could lead to insufficient lymphadenectomy.

Despite these findings countering extensive resection, the current trend in the literature is to adopt the complete mesocolic excision (CME) with central vascular ligation (CVL). The concept is to use the

analogy of TME to extend this practice to colonic resection. This technic incorporates three concepts¹⁸. Ligation of the mesenteric vessels near the origin, facilitates a D3 lymphadenectomy^{19,20} and large extensive bowel resection¹⁹ with proximal and distal mucosal margins of 10 cm²¹. They also insist on a third point, « en block » resection, with dissection conducted between the embryological planes. This technic is not yet recommended despite encouraging anatomopathological and clinical results^{17,22–26}. However, to our knowledge prospective, comparative multicentric studies which can lead to its generalization do not exist. The current studies comparing CME with « standard » surgery^{22,23} accumulate a lot of bias²⁷. The first study²² did not report any clinical data, the only difference was the rate of harvested nodes; while the other²³ found clinical benefits in retrospectively comparing outcomes coming from different centers, which is an inherent source of bias.

Most authors agree, that the number of lymph nodes harvested (NLNH) is closely related to the prognosis of CRC, and increased NLNH is significantly associated with decreased risk of disease recurrence and death^{28–34}. Likewise, with patients undergoing right hemicolectomy, the length of resected ileum does not influence local recurrence rates⁶. It also has been shown that a dissection along the planes, between parietal and visceral superior is pathologically and clinically superior when comparing it with an incomplete or partly torn specimen^{22,24,35}.

In order to be as clear as possible, in this study, we used the following definitions: A right hemicolectomy is defined as removal of the terminal ileum and the ascending right colon followed by an ileo-transverse anastomosis³⁶. Extended right hemicolectomy refers to extension of the distal resection margin to include the distal transverse colon up to the splenic flexure. We used the most widely accepted definition of the caecum : the colon under the superior edge of the ileocaecal valve, with the ileocecal valve being included in the caecum³⁷. Most authors agree that right hemicolectomy is indicated in patients with cancer of the right colon, caecum to the right segment of the transverse colon. Mesocolon excision must include the ileocolic artery, the right colic artery and the right branch of the middle colic artery³⁸. Most authors recommendations agree that an adequate lymph node evaluation needs to gather at least 12 lymph nodes³⁹.

Colorectal cancer is increasingly recognized as representing a heterogenous group of tumors⁴⁰, which is why an analysis on the basis of tumor location is essential. To our knowledge, caecum and ascending CC have not been analysed like different groups of tumors. Their characterisation could be a first step leading to segmental resection in right-sided colonic cancer.

The objective of this study is to see if retrospectively in our center, surgical treatment of caecal cancer would differ with ascending colon cancer.

Methods :

Data sources

A retrospective review of all consecutive patients with right colonic resection for cancer admitted to the University hospital of Grenoble from January 2005 to August 2016 was performed. Patients were identified using the medical information department.

We excluded patients with factor who could impact the length of colon resection : Patients with Chron's disease, colorectal cancer antecedent, synchronous colorectal tumors, nonepithelial malignancies (lymphoma or carcinoid, appendical neoplasms...), peritoneal carcinomatosis, generalized peritonitis and occlusion resistant to a medical treatment, pediatric patients (aged less than 18).

Demographics

Patient demographics, including age at diagnosis, gender, signs and symptoms present at the first medical examination were collected. Signs and symptoms involved in CRC were classified as follows : associated with bleeding or anemia (melena, positive fecal occult blood and anemia ; associated with passage trouble (ileus, abdominal pain, altered bowel habit, abdominal distension and vomitus), abdominal mass, and others (e.g. general fatigue, fever, weight loss)

Population

Among the 294 patients who underwent right colonic resection for cancer in our center, 3 patients had a history of inflammatory bowel disease, 4 had synchronous colorectal disease or colorectal antecedent. 22 patients with colic tumor other than adenocarcinoma were excluded. 4 patients diagnosed with peritoneal carcinomatosis were also excluded. Characteristics of the 22 patients with right transverse colonic tumors were not analysed.

To establish the localisation of the tumor, abdominal tomodensitometry and colonoscopy were used : To assess preoperative location, colonoscopy was preferred to CT-scan. CT scan was used to define the preoperative location in the case of absence of preoperative colonoscopy or in case of incomplete colonoscopy, all tumors astride the ileo-colic valvula were included in the caecum group. Definitive location of the tumor was defined conforming to the anatomopathological piece.

Technical details

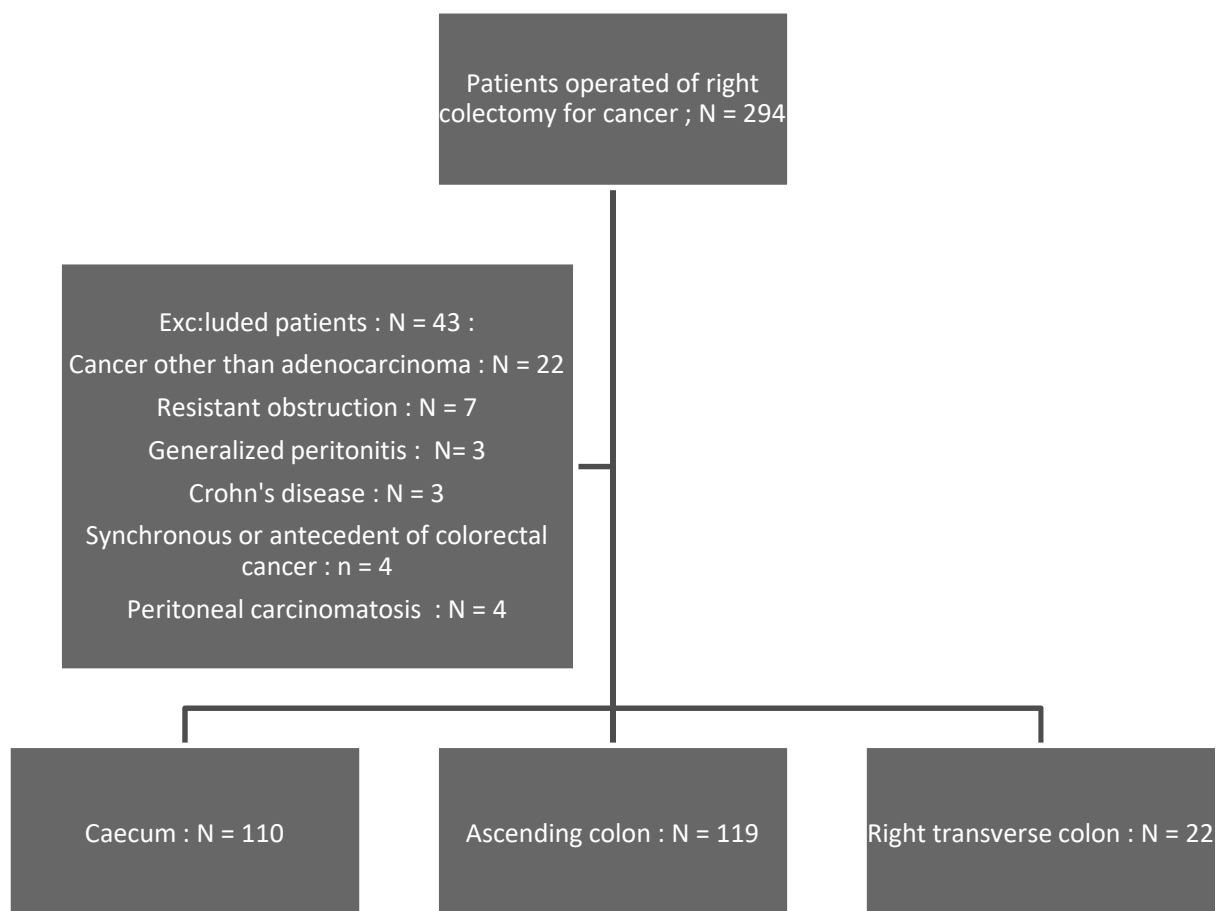
CME with CVL as it is described by Hohenberger²⁴ is not currently practiced in our center. The most current technic used in our center could be described as « standard » right hemicolectomy, with ileocolic anastomosis and D2 type lymphadenectomy.

Other data :

Anatomopathologic grades, TNM (American Joint committee on cancer 2009), size of the tumor, imaging information, BMI, as well as therapeutic interventions and hospital disposition were extracted prospectively and comprehensively recorded from the classic and the computerized medical record.

Clinical data, such as survival or relapse aswell as histopathological data, such as intact mesocolon or distal margins was not recorded.

Table 1 : Population



Main outcome of this study was to compare the length of colonic resection, between caecal primary cancer and ascending colonic cancer.

Number of lymph nodes gathered, TNM stage, pT stage, pN stage, demographics, diameter of the tumor, discordance between preoperative and postoperative location and preresection status (non metastatic, carcinosis, metastasis), laparoscopic versus open resection were also analysed.

Categorical data was compared using the chi-squared test. Continuous data was compared using the independent sample Student's T test.

Results :

Profiles of enrolled patients, discovery circumstances, surgical approach and staging of the disease are sum-marized in Table 2.

The mean age of patients was 74 years, and 52.4 % (n = 120) of patients were male. Among operated patients, tumor was localised preoperatively on caecum in 110 cases and on the right ascending colon in 119 cases. The two groups were comparable in terms of gender, BMI, discovery circumstances and surgical approach. Patients affected with caecal tumors were older than those with ascending colonic cancer (77 +/- 11.28 vs 74 +/-10.70, p=0.01), were suffering more advanced disease (p = 0.035), with larger tumors (5.5 +/-2.47 vs 4.5 +/- 2,59; <0.01).

Preoperative localisation had no effect on the colonic length resected (mean 24.5, 24 +/-10.34 vs 25 +/-7.28) (Table 3) on the number of harvested lymph nodes with a mean of 15 (+/- 7.6) nodes in the caecal group versus 15.2 (+/-7.3) (p=0.72).

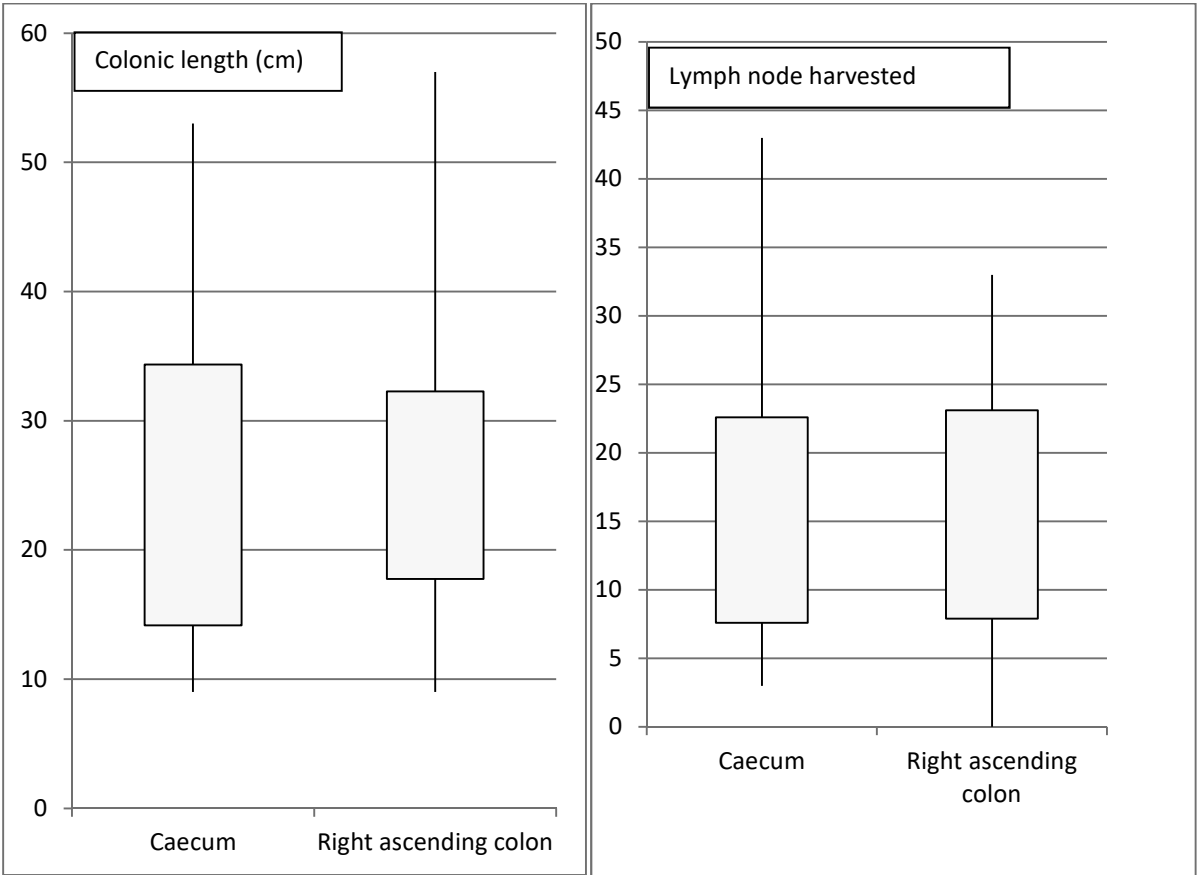
74% (N = 170) of all patients received adequate lymph node evaluation, and there was no statistical difference between the two groups.

We noticed 15 cases of discordance between pre and post operative location (4 vs 11, p =0.08), with statistical difference.

Table 2 : Population, results

	Total N = 229	Caecum N = 110	Right ascending colon N = 119	P
Sex				0.198
Male	120	63	57	
Female	109	47	62	
Age	74	77	73	0.0118
Discovery circumstances				Comparison impossible
Associated bleeding or anemia	111	47	64	
Passage trouble	52	31	21	
Abdominal mass	4	4	0	
Others (AEG, fever, weight loss)	22	14	8	
No symptoms	40	14	26	
BMI median	24,74	24,69	24,98	0.1772
Surgery				Comparison impossible
Right hemicolectomy	225	106	119	
Ileocaecal resection	4	4	0	
Surgical approach				0.2641
Laparotomy	135	69	66	
Laparoscopy	85	33	52	
Converted laparoscopy	9	8	1	
Colonic length resected (median)	24.5	24	25	0.9517
Nb of lymph nodes harvested (median)	15	15	15.2	0.7211
Adequate lymph nodes evaluation	170 (74%)	81 (73.6%)	89 (74.7%)	0.9194
Discordance Pre/post surgery	15	4	11	0.086619
Tumor diameter	5	5,5	4,5	<0.001
Stage TNm				0.0357
I	47	14	33	
II	86	48	38	
III	71	35	36	
IV	25	13	12	

Table 3 : Colonic length and number of lymph node harvested regarding to the tumor location



Discussion

The first consequence we can get from this study that there is apparently no variations of the length of colonic resection whether the tumor is located on the caecum or the right ascending colon in our center. Retropectively, this data suggests that the type of colonic resection is the same, whether the tumor is located on the caecum or on the ascendant colon. This is in agreement with the previous descriptions of right colonic resection in the western world.

Study	Year	CME with CVL	Lymphadenectomy	Lenght of colon	NLNH	Adequate lymph node evaluation (%)	Tumor size
Siebert and al	2016	No	D2	24.5	15	74	5
Subbiah and al ²⁵	2016	Yes	D3	34	24	97	5
West and al, ⁴ <i>Erlangen</i>	2012	Yes	D3	25.1	32	n.c.	n.c.
West and al, ⁴ <i>Tokio</i>	2012	No	D3	16.8	24	n.c.	n.c.
West and al, ²² <i>Leeds</i>	2009	No	D2	18.3	16	n.c.	n.c.

Table 4 : Comparison with the results in the literature

The data provided in this study show comparable results with the D2 and non-CME techniques, but inferior compared to the technique using CME or D3 lymphadenectomy.

It is accepted that NLNH is a very important factor for prognosis in colonic surgery, but its significance should be interpreted with caution. Indeed, the NLNH has many confounding factors and many potentials sources of bias are identified in the literature : demographic variables such as age^{26,34}, geographic location⁴¹⁻⁴³ (17), BMI⁴³, surgery-related factors, such as experience and case volume^{44,45}, level of resection of the supplying artery, segments of bowel, location of the tumor^{29,42} or even disease related factors such as tumor size, higher T stage (3)³⁴. Pathologist-related factors or pathology technique used can also influence results^{46,47}.

Only two studies comparing^{22,23} CME versus “standard” hemicolectomy fail to described what is “standard” colectomy and compare different centers, sometimes between differents countries²².

One major criticism of these studies is that those confounding factors that entails could contribute to these results.

It's not surprising in the light of the description of the technique that this procedure tends to remove a longer length of colon in right-sided colonic cancer, and leads to a greater lymph node yield ^{4,22,24}. But oncological outcomes are very controversial, and any possible benefit to survival is still unproven ^{2,13,27,48-50}. But CME benefits remain untested in comparative prospective trials and more importantly, some advocate that routine implementation of CME carries the risk of patient harm due to longer operating times, vascular damage and autonomous nerve damage ²⁷. Furthermore, large mucosal margins do not seem to be mandatory because Japanese D3 resection, with more limited bowel resection, has shown similar results to CME surgery ^{4,51,52}.

These findings on the increased NLNH with the CME procedure lead some authors to discuss its benefit to survival ²⁷, and argue that observed relationship between nodal counts and outcome in CC is most probably not causal but a confounded factor. Indeed local recurrences potentially prevented by CME are very rare events compared to rectal cancer ⁵³, are not caused by less extensive resection ^{54,55}, and as it has been described in earlier comparative studies, have failed to demonstrate any survival benefit associated with extensive, additional or extra-mesenteric lymphadenectomy.

In our opinion, CME should not be interpreted as an original technique, because it is just a combination of 3 components among which only one (« along the plane dissection ») shows clear scientific benefit, while there is no benefit demonstrated for the two others. Some propose that « en block resection » is only a marker of good practice, which has not been introduced by the concept of CME ^{27,56}. In deed, a recent meta-analysis demonstrated that performing a high arterial ligation in CC does not improve overall survival ⁵⁷. Together, this data fails to demonstrate that extensive surgery improves survival in CC, which argues against a surgical therapeutic effect as an explanation of the observed relationship between NLNH and survival.

Right colonic cancers are frequently described as poorer prognosis cancers because of higher TNM-stage, larger tumors, increased frequency of vascular invasion, mucinous type, high grade and invasive tumor border compared to left colorectal cancer (LCRC) ⁵⁸⁻⁶¹. That could be an explanation why historically surgeons have excluded the option of the segmental resection. However, the recent mass screening generalization could lead to an earlier diagnosis with less advanced tumors.

In colorectal surgery, segmental resection needs a precise preoperative assessment. In deed, the preoperative localisation has to be reliable. The necessity is even more important because of the trend toward laparoscopic resection. Our results are comparable with existing literature.

Colonoscopy is the most accurate and versatile diagnostic test for CC⁶². With localisation error described from 4.0 to 20.8 % in the literature⁶²⁻⁶⁴. It should be noted that preoperative tattooing has been described as a technique who could improve preoperative localisation accuracy⁶⁵⁻⁶⁸. Its impact on and benefit in relation to LN retrieval and CRC staging is controversial⁶⁹⁻⁷⁵.

Diagnostic colonoscopies performed by an operating surgeon rather than a non operative colonoscopist are independently associated with a lower localization error rate⁶².

This study does present some weaknesses : it is a retrospective, monocentric, historic study with elderly patients which can explain the large part of laparotomy's resection. Although we attempted to account for cofounding factors, the risk of inadvertently introduction is raised due to the retrospective nature of our study.

One criticism that could be argued is that some authors have already described difficulties in defining the point at which the caecum meets the ascending colon, and that is why they are often described as part of a common structure. One point that could explain why caecum cancers are described at most advanced stage is that tumors originating from the ascending colon invading the ileo-caecal valvula have probably been included in the caecum's group.

The current scientific advice can not totally eliminate a segmental resection as an oncologically safe procedure which deserves to be explored further.

Conclusion :

In our center, we have not found statistical differences in length resection from tumors located on the caecum or in the ascendant colon. Tumors located in the caecum were wider than those located on the ascendant colon. The NLNH were similar to the « standard » resection technique but inferior than the CME with CVL. The preoperative localisation was concordant with the ratio observed in the literature.

These findings should be completed by a larger prospective, randomized trial comparing standard resection and CME. Regards to the literature, segmental resection of the caecum with adequate lymphadenectomy should be considered as an option, but would deserve an other prospective, randomized study.

In our serie, tumors located on the caecum were wider and operated at a more advanced stage.

References

- 1 van de Velde CJH, Boelens PG, Tanis PJ, Espin E, Mroczkowski P, Naredi P, et al. Experts reviews of the multidisciplinary consensus conference colon and rectal cancer 2012: science, opinions and experiences from the experts of surgery. *Eur J Surg Oncol J Eur Soc Surg Oncol Br Assoc Surg Oncol*. 2014 Apr; **40**: 454–468.
- 2 Rouffet F, Hay JM, Vacher B, Fingerhut A, Elhadad A, Flamant Y, et al. Curative resection for left colonic carcinoma: hemicolectomy vs. segmental colectomy. A prospective, controlled, multicenter trial. French Association for Surgical Research. *Dis Colon Rectum*. 1994 Jul; **37**: 651–659.
- 3 Park IJ, Choi G-S, Kang BM, Lim KH, Jun SH. Lymph node metastasis patterns in right-sided colon cancers: is segmental resection of these tumors oncologically safe? *Ann Surg Oncol*. 2009 Jun; **16**: 1501–1506.
- 4 West NP, Kobayashi H, Takahashi K, Perrakis A, Weber K, Hohenberger W, et al. Understanding optimal colonic cancer surgery: comparison of Japanese D3 resection and European complete mesocolic excision with central vascular ligation. *J Clin Oncol Off J Am Soc Clin Oncol*. 2012 May 20; **30**: 1763–1769.
- 5 Watanabe T, Itabashi M, Shimada Y, Tanaka S, Ito Y, Ajioka Y, et al. Japanese Society for Cancer of the Colon and Rectum (JSCCR) Guidelines 2014 for treatment of colorectal cancer. *Int J Clin Oncol*. 2015; **20**: 207–239.
- 6 Nelson H, Petrelli N, Carlin A, Couture J, Fleshman J, Guillem J, et al. Guidelines 2000 for colon and rectal cancer surgery. *J Natl Cancer Inst*. 2001 Apr 18; **93**: 583–596.
- 7 Hida J, Okuno K, Yasutomi M, Yoshifuji T, Uchida T, Tokoro T, et al. Optimal ligation level of the primary feeding artery and bowel resection margin in colon cancer surgery: the influence of the site of the primary feeding artery. *Dis Colon Rectum*. 2005 Dec; **48**: 2232–2237.
- 8 Olofsson F, Buchwald P, Elmståhl S, Syk I. No benefit of extended mesenteric resection with central vascular ligation in right-sided colon cancer. *Colorectal Dis Off J Assoc Coloproctology G B Irel*. 2016 Feb 20;
- 9 Olofsson F, Buchwald P, Elmståhl S, Syk I. Wide excision in right-sided colon cancer is associated with decreased survival. *Scand J Surg SJS Off Organ Finn Surg Soc Scand Surg Soc*. 2013; **102**: 241–245.
- 10 Cotte E, Glehen O. Lymphadenectomy for colon cancer: is there a consensus? *Ann Surg Oncol*. 2009 Jun; **16**: 1454–1455.
- 11 Slanetz CA, Grimson R. Effect of high and intermediate ligation on survival and recurrence rates following curative resection of colorectal cancer. *Dis Colon Rectum*. 1997 Oct; **40**: 1205–1218–1219.
- 12 Surtees P, Ritchie JK, Phillips RK. High versus low ligation of the inferior mesenteric artery in rectal cancer. *Br J Surg*. 1990 Jun; **77**: 618–621.
- 13 Tagliacozzo S, Tocchi A. Extended mesenteric excision in right hemicolectomy for carcinoma of the colon. *Int J Colorectal Dis*. 1997; **12**: 272–275.
- 14 Alsabilah J, Kim WR, Kim NK. Vascular Structures of the Right Colon: Incidence and Variations with their Clinical Implications. *Scand J Surg SJS Off Organ Finn Surg Soc Scand Surg Soc*. 2016 May 23;
- 15 Weber K, Hohenberger W. Right hemicolectomy with central vascular ligation in colon cancer. *Surg Endosc*. 2012 Jan; **26**: 282.
- 16 Lee SJ, Park SC, Kim MJ, Sohn DK, Oh JH. Vascular Anatomy in Laparoscopic Colectomy for Right Colon Cancer. *Dis Colon Rectum*. 2016 Aug; **59**: 718–724.
- 17 García-Ruiz A, Milsom JW, Ludwig KA, Marchesa P. Right colonic arterial anatomy. Implications for laparoscopic surgery. *Dis Colon Rectum*. 1996 Aug; **39**: 906–911.
- 18 West NP, Hohenberger W, Finan PJ, Quirke P. Mesocolic plane surgery: an old but forgotten technique? *Colorectal Dis Off J Assoc Coloproctology G B Irel*. 2009 Nov; **11**: 988–989.
- 19 Søndena K, Quirke P, Hohenberger W, Sugihara K, Kobayashi H, Kessler H, et al. The rationale behind complete mesocolic excision (CME) and a central vascular ligation for colon cancer in open and laparoscopic surgery: proceedings of a consensus conference. *Int J Colorectal Dis*. 2014 Apr; **29**: 419–428.
- 20 Ignjatovic D, Sund S, Stimec B, Bergamaschi R. Vascular relationships in right colectomy for cancer: clinical implications. *Tech Coloproctology*. 2007 Sep; **11**: 247–250.
- 21 Bae SU, Saklani AP, Lim DR, Kim DW, Hur H, Min BS, et al. Laparoscopic-assisted versus open complete mesocolic excision and central vascular ligation for right-sided colon cancer. *Ann Surg Oncol*. 2014 Jul; **21**: 2288–2294.
- 22 West NP, Hohenberger W, Weber K, Perrakis A, Finan PJ, Quirke P. Complete mesocolic excision with central vascular ligation produces an oncologically superior specimen compared with standard surgery for carcinoma of the colon. *J Clin Oncol Off J Am Soc Clin Oncol*. 2010 Jan 10; **28**: 272–278.
- 23 Bertelsen CA, Neuenschwander AU, Jansen JE, Wilhelmssen M, Kirkegaard-Klitbo A, Tenma JR, et al. Disease-free survival after complete mesocolic excision compared with conventional colon cancer surgery: a retrospective, population-based study. *Lancet Oncol*. 2015 Feb; **16**: 161–168.
- 24 Hohenberger W, Weber K, Matzel K, Papadopoulos T, Merkel S. Standardized surgery for colonic cancer: complete mesocolic excision and central ligation—technical notes and outcome. *Colorectal Dis Off J Assoc Coloproctology G B Irel*. 2009 May; **11**: 354–364–365.
- 25 Subbiah R, Bansal S, Jain M, Ramakrishnan P, Palanisamy S, Palanivelu PR, et al. Initial retrocolic endoscopic tunnel approach (IRETA) for complete mesocolic excision (CME) with central vascular ligation (CVL) for right colonic cancers: technique and pathological radicality. *Int J Colorectal Dis*. 2016 Feb; **31**: 227–233.
- 26 Storli KE, Søndena K, Furnes B, Eide GE. Outcome after introduction of complete mesocolic excision for colon cancer is similar for open and laparoscopic surgical treatments. *Dig Surg*. 2013; **30**: 317–327.
- 27 Willaert W, Ceelen W. Extent of surgery in cancer of the colon: is more better? *World J Gastroenterol*. 2015 Jan 7; **21**: 132–138.

- 28 Baxter NN, Virnig DJ, Rothenberger DA, Morris AM, Jessurun J, Virnig BA. Lymph node evaluation in colorectal cancer patients: a population-based study. *J Natl Cancer Inst.* 2005 Feb 2; **97**: 219–225.
- 29 Shen SS, Haupt BX, Ro JY, Zhu J, Bailey HR, Schwartz MR. Number of lymph nodes examined and associated clinicopathologic factors in colorectal carcinoma. *Arch Pathol Lab Med.* 2009 May; **133**: 781–786.
- 30 Märkl B, Schaller T, Kokot Y, Endhardt K, Kretsinger H, Hirschbühl K, et al. Lymph node size as a simple prognostic factor in node negative colon cancer and an alternative thesis to stage migration. *Am J Surg.* 2015 Jul 31;
- 31 Chang GI, Rodriguez-Bigas MA, Skibber JM, Moyer VA. Lymph node evaluation and survival after curative resection of colon cancer: systematic review. *J Natl Cancer Inst.* 2007 Mar 21; **99**: 433–441.
- 32 Chen SL, Bilchik AJ. More extensive nodal dissection improves survival for stages I to III of colon cancer: a population-based study. *Ann Surg.* 2006 Oct; **244**: 602–610.
- 33 Le Voyer TE, Sigurdson ER, Hanlon AL, Mayer RJ, Macdonald JS, Catalano PJ, et al. Colon cancer survival is associated with increasing number of lymph nodes analyzed: a secondary survey of intergroup trial INT-0089. *J Clin Oncol Off J Am Soc Clin Oncol.* 2003 Aug 1; **21**: 2912–2919.
- 34 Tsai H-L, Huang C-W, Yeh Y-S, Ma C-J, Chen C-W, Lu C-Y, et al. Factors affecting number of lymph nodes harvested and the impact of examining a minimum of 12 lymph nodes in stage I-III colorectal cancer patients: a retrospective single institution cohort study of 1167 consecutive patients. *BMC Surg.* 2016; **16**: 17.
- 35 West NP, Morris EJA, Rotimi O, Cairns A, Finan PJ, Quirke P. Pathology grading of colon cancer surgical resection and its association with survival: a retrospective observational study. *Lancet Oncol.* 2008 Sep; **9**: 857–865.
- 36 Turrado-Rodríguez V, Targarona Soler E, Bollo Rodríguez JM, Balagué Ponz C, Hernández Casanovas P, Martínez C, et al. Are there differences between right and left colectomies when performed by laparoscopy? *Surg Endosc.* 2016 Apr; **30**: 1413–1418.
- 37 Sadahiro S, Ohmura T, Yamada Y, Saito T, Taki Y. Analysis of length and surface area of each segment of the large intestine according to age, sex and physique. *Surg Radiol Anat SRA.* 1992; **14**: 251–257.
- 38 Pramateftakis MG. Optimizing colonic cancer surgery: high ligation and complete mesocolic excision during right hemicolectomy. *Tech Coloproctology.* 2010 Nov; **14 Suppl 1**: S49–51.
- 39 Edge SB, Compton CC. The American Joint Committee on Cancer: the 7th edition of the AJCC cancer staging manual and the future of TNM. *Ann Surg Oncol.* 2010 Jun; **17**: 1471–1474.
- 40 Bhangu A, Kiran RP, Slesser A, Fitzgerald JE, Brown G, Tekkis P. Survival after resection of colorectal cancer based on anatomical segment of involvement. *Ann Surg Oncol.* 2013 Dec; **20**: 4161–4168.
- 41 Rajput A, Romanus D, Weiser MR, ter Veer A, Niland J, Wilson J, et al. Meeting the 12 lymph node (LN) benchmark in colon cancer. *J Surg Oncol.* 2010 Jul 1; **102**: 3–9.
- 42 Chou JF, Row D, Gonen M, Liu Y-H, Schrag D, Weiser MR. Clinical and pathologic factors that predict lymph node yield from surgical specimens in colorectal cancer: a population-based study. *Cancer.* 2010 Jun 1; **116**: 2560–2570.
- 43 Kent I, Rudnicki Y, Abu-Ghanem Y, White I, Spitz B, Avital S. Mesenteric root dissection with individualized ileo-colic vessel ligation versus mesenteric pedicle stapling. *Surg Endosc.* 2015 Oct 20;
- 44 Stocchi L, Fazio VW, Lavery I, Hammel J. Individual Surgeon, Pathologist, and Other Factors Affecting Lymph Node Harvest in Stage II Colon Carcinoma. Is a Minimum of 12 Examined Lymph Nodes Sufficient? *Ann Surg Oncol.* 2010 Sep 14; **18**: 405–412.
- 45 Barbas A, Turley R, Mantyh C, Migaly J. Advanced Fellowship Training is Associated With Improved Lymph Node Retrieval in Colon Cancer Resections. *J Surg Res.* 2011 Sep 1; **170**: e41–e46.
- 46 Kelder W, Inberg B, Plukker JTM, Groen H, Baas PC, Tiebosch ATMG. Effect of modified Davidson's fixative on examined number of lymph nodes and TNM-stage in colon carcinoma. *Eur J Surg Oncol.* 2008 May 1; **34**: 525–530.
- 47 Duldulao M, Booth C, Denham L, Choi A, Friedman G, Kazanjian K. Alcohol fat clearing increases lymph node yield after surgery for colorectal cancer. *Am Surg.* 2014 Oct; **80**: 1054–1058.
- 48 Killeen S, Mannion M, Devaney A, Winter DC. Complete mesocolic resection and extended lymphadenectomy for colon cancer: a systematic review. *Colorectal Dis Off J Assoc Coloproctology G B Irel.* 2014 Aug; **16**: 577–594.
- 49 Storli KE, Søndena K, Furnes B, Nesvik I, Gudlaugsson E, Bukholm I, et al. Short term results of complete (D3) vs. standard (D2) mesenteric excision in colon cancer shows improved outcome of complete mesenteric excision in patients with TNM stages I-II. *Tech Coloproctology.* 2014 Jun; **18**: 557–564.
- 50 Kontovounisios C, Kinross J, Tan E, Brown G, Rasheed S, Tekkis P. Complete mesocolic excision in colorectal cancer: a systematic review. *Colorectal Dis Off J Assoc Coloproctology G B Irel.* 2015 Jan; **17**: 7–16.
- 51 Hashiguchi Y, Hase K, Ueno H, Mochizuki H, Shinto E, Yamamoto J. Optimal margins and lymphadenectomy in colonic cancer surgery. *Br J Surg.* 2011 Aug; **98**: 1171–1178.
- 52 Lee SD, Lim S-B. D3 lymphadenectomy using a medial to lateral approach for curable right-sided colon cancer. *Int J Colorectal Dis.* 2009 Mar; **24**: 295–300.
- 53 Efferink M a. G, Visser O, Wiggers T, Otter R, Tollenaar R a. EM, Langendijk JA, et al. Prognostic factors for locoregional recurrences in colon cancer. *Ann Surg Oncol.* 2012 Jul; **19**: 2203–2211.
- 54 Yun HR, Lee LJ, Park JH, Cho YK, Cho YB, Lee WY, et al. Local recurrence after curative resection in patients with colon and rectal cancers. *Int J Colorectal Dis.* 2008 Nov; **23**: 1081–1087.

- 55 Read TE, Mutch MG, Chang BW, McNevin MS, Fleshman JW, Birnbaum EH, *et al.* Locoregional recurrence and survival after curative resection of adenocarcinoma of the colon. *J Am Coll Surg.* 2002 Jul; **195**: 33–40.
- 56 Hogan AM, Winter DC. Complete mesocolic excision (CME): a ‘novel’ concept? *J Surg Oncol.* 2009 Sep 1; **100**: 182–183.
- 57 Cirocchi R, Trastulli S, Farinella E, Desiderio J, Vettoretto N, Parisi A, *et al.* High tie versus low tie of the inferior mesenteric artery in colorectal cancer: a RCT is needed. *Surg Oncol.* 2012 Sep; **21**: e111-123.
- 58 Lee GH, Malietzis G, Askari A, Bernardo D, Al-Hassi HO, Clark SK. Is right-sided colon cancer different to left-sided colorectal cancer? - a systematic review. *Eur J Surg Oncol J Eur Soc Surg Oncol Br Assoc Surg Oncol.* 2015 Mar; **41**: 300–308.
- 59 Nawa T, Kato J, Kawamoto H, Okada H, Yamamoto H, Kohno H, *et al.* Differences between right- and left-sided colon cancer in patient characteristics, cancer morphology and histology. *J Gastroenterol Hepatol.* 2008 Mar; **23**: 418–423.
- 60 Nahas SC, Nahas CSR, Bustamante-Lopez LA, Pinto RA, Marques CFS, Campos FG, *et al.* Prognostic factors of surgically-treated patients with cancer of the right colon: a ten years’ experience of a single university institution. *Arq Bras Cir Dig ABCD Braz Arch Dig Surg.* 2015; **28**: 3–7.
- 61 Benedix F, Kube R, Meyer F, Schmidt U, Gastinger I, Lippert H, *et al.* Comparison of 17,641 patients with right- and left-sided colon cancer: differences in epidemiology, perioperative course, histology, and survival. *Dis Colon Rectum.* 2010 Jan; **53**: 57–64.
- 62 Azin A, Saleh F, Cleghorn M, Yuen A, Jackson T, Okrainec A, *et al.* A comparison of endoscopic localization error rate between operating surgeons and referring endoscopists in colorectal cancer. *Surg Endosc.* 2016 Jul 22;
- 63 Atkin W, Dadswell E, Wooldrage K, Kralj-Hans I, von Wagner C, Edwards R, *et al.* Computed tomographic colonography versus colonoscopy for investigation of patients with symptoms suggestive of colorectal cancer (SIGGAR): a multicentre randomised trial. *Lancet Lond Engl.* 2013 Apr 6; **381**: 1194–1202.
- 64 Pickhardt PJ, Hassan C, Halligan S, Marmo R. Colorectal cancer: CT colonography and colonoscopy for detection--systematic review and meta-analysis. *Radiology.* 2011 May; **259**: 393–405.
- 65 Ellis KK, Fennerty MB. Marking and identifying colon lesions. Tattoos, clips, and radiology in imaging the colon. *Gastrointest Endosc Clin N Am.* 1997 Jul; **7**: 401–411.
- 66 Yeung JMC, Maxwell-Armstrong C, Acheson AG. Colonic tattooing in laparoscopic surgery - making the mark? *Colorectal Dis Off J Assoc Coloproctology G B Irel.* 2009 Jun; **11**: 527–530.
- 67 Beretvas RI, Ponsky J. Endoscopic marking: an adjunct to laparoscopic gastrointestinal surgery. *Surg Endosc.* 2001 Oct; **15**: 1202–1203.
- 68 Lacy AM, Garcia-Valdecasas JC, Delgado S, Castells A, Taurá P, Piqué JM, *et al.* Laparoscopy-assisted colectomy versus open colectomy for treatment of non-metastatic colon cancer: a randomised trial. *Lancet Lond Engl.* 2002 Jun 29; **359**: 2224–2229.
- 69 Dawson K, Wiebusch A, Thirlby RC. Preoperative tattooing and improved lymph node retrieval rates from colectomy specimens in patients with colorectal cancers. *Arch Surg Chic Ill 1960.* 2010 Sep; **145**: 826–830.
- 70 Bartels SAL, van der Zaag ES, Dekker E, Buskens CJ, Bemelman WA. The effect of colonoscopic tattooing on lymph node retrieval and sentinel lymph node mapping. *Gastrointest Endosc.* 2012 Oct; **76**: 793–800.
- 71 Kang J, Park HS, Kim I, Song Y, Baik SH, Sohn S-K, *et al.* Effect of preoperative colonoscopic tattooing on lymph node harvest in T1 colorectal cancer. *Int J Colorectal Dis.* 2015 Oct; **30**: 1349–1355.
- 72 Feo CV, Portinari M, Zuolo M, Targa S, Matarese VG, Gafà R, *et al.* Preoperative endoscopic tattooing to mark the tumour site does not improve lymph node retrieval in colorectal cancer: a retrospective cohort study. *J Negat Results Biomed.* 2015; **14**: 9.
- 73 Spatz H, Probst A, Oruzio D, Anthuber M, Messmann H, Arnoldt HM, *et al.* Sentinel lymph node mapping as a side-effect of colonoscopic tattooing. *Surg Endosc.* 2010 Mar; **24**: 589–593.
- 74 Viehl CT, Guller U, Hamel CT, Riehle H-M, Plaass C, Marti WR, *et al.* Carbon dye staining of sentinel lymph nodes facilitates microstaging of colon cancer patients. *World J Surg.* 2006 Mar; **30**: 453–456.
- 75 Cahill RA, Lindsey I, Cunningham C. Sentinel node mapping by colonic tattooing. *Surg Endosc.* 2010 Sep; **24**: 2365–2366.
- 76 Phillips M, Patel A, Meredith P, Will O, Brassett C. Segmental colonic length and mobility. *Ann R Coll Surg Engl.* 2015 Sep; **97**: 439–444.

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Année 2016-2017

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POUR LA CONCLUSION DE VOTRE THESE,
INDICATIONS A RECOPIER (*).

THESE SOUTENUE PAR : SIEBERT Matthieu

TITRE : La localisation tumorale des cancers du côlon droit ne modifie pas la longueur de résection colique : Expérience du CHU de Grenoble

Résumé

Introduction : Le cancer colorectal est de plus en plus reconnu comme une entité composée de lésions hétérogènes. Alors que la pratique d'une résection colique gauche segmentaire est acceptée et reconnue, la plupart des auteurs admettent qu'il n'existe pas de place pour une résection colique droite économe pour des raisons oncologiques. La longueur de la pièce de résection colique est toujours sujet à controverse. A notre connaissance, les cancers du caecum et du côlon ascendant n'ont pas encore été analysés séparément. L'objectif de cette étude est d'étudier la longueur de résection colique en fonction de la localisation préopératoire.

Matériel et méthode : Etude retrospective, monocentrique, registre de l'ensemble des patients opérés au CHU de Grenoble entre Janvier 2005 et Août 2016 au CHU de Grenoble d'une colectomie pour cancer du côlon droit. Le critère de jugement principal de cette étude est la longueur de la pièce de résection colique.

Résultats : La tumeur était localisée au niveau du caecum dans 110 cas et au niveau du côlon ascendant dans 119. Il n'a pas été mis en évidence de différence significative entre les deux groupes au niveau de la longueur de la pièce de résection colique (médiane 24 +/-10,34 vs 25 +/-7,28, $p=0,95$), sur le nombre de ganglions recueillis avec une médiane de 15 (+/- 7,6) contre 15,2 (+/-7,3) ($p=0,72$). Nous avons identifié 15 cas de discordance entre localisation pré et post opératoire (4 vs 11, $p=0,08$).

Conclusion : Au CHU de Grenoble, nous n'avons pas trouvé de différence de longueur de résection colique entre tumeurs du caecum et du colon ascendant.

(*) VU ET PERMIS D'IMPRIMER

(*) Grenoble, le 17 octobre 2016

(*) LE DOYEN

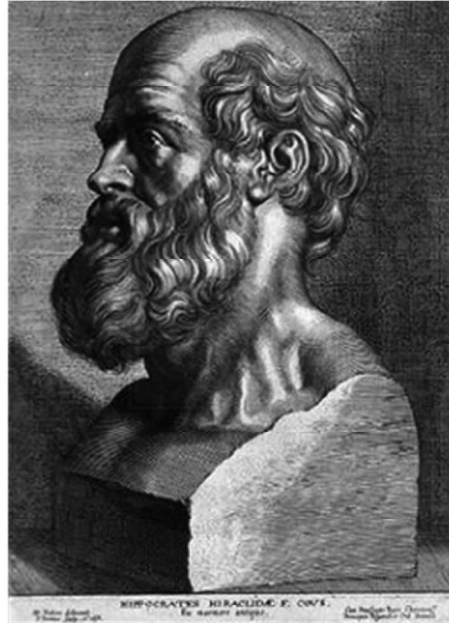


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[Signature] Dr JL Fanchon

(*) PROFESSEUR



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 donnerai mes soins gratuitement à l'indigent et n'exigerai 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.

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Merçi à mes amis d'avant toujours aussi présents Clément et Cécile.

Résumé

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Conclusion : Au CHU de Grenoble, nous n'avons pas trouvé de différence de longueur de résection colique entre tumeurs du caecum et du colon ascendant.

Mots clés :

Cancer, Colon, caecum, laparoscopie, curage