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Conversion from Laparoscopic to Open Surgery in Colorectal Cancer Patients at Colombo South Teaching Hospital, Sri Lanka

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Abstract

Introduction: Colorectal cancer is a common disease with an increasing incidence as the population ages. The minimally invasive laparoscopic surgery has become standard regimen of treatment. Several factors are known to affect the risk for conversion to open surgery while the impact of conversion on outcome is still not established.

Aim: The study sets out to examine rate and causes of laparoscopic conversions in colorectal cancer patients and also to investigate whether conversions differ in amount and type of complications from non-converted resections in Sri Lanka.

Methods: A retrospective observational study was performed and data was collected from medical files. Colorectal cancer patients who underwent a laparoscopic resection at Colombo South Teaching Hospital in Sri Lanka during 2013-2018 were eligible for inclusion.

Results: Out of 58 patients included, 12 (20.7%) underwent conversion to open surgery. The most common reason for conversion was adhesions. The anterior resection was the most commonly performed procedure, but the right sided procedures were more frequently converted. No significant difference could be confirmed between the converted and non-converted group regarding age, gender or comorbidities. The duration of hospital stay was longer in the converted group. Complications occurred as often among the converted patients as the non-converted patients, but the rate of anastomotic leak was higher in the conversion group compared to the successfully completed laparoscopic group.

Conclusion: It was found that the rate of conversion from laparoscopic to open surgery was within the range reported previously. The patients who underwent conversion were not older or more comorbid. The results also suggested that complications following conversion are more severe.

Key words: Laparoscopic surgery, Conversion, Complications

Introduction

Colorectal cancer is the third most common cancer worldwide. (1) The recent shift in disease patterns from infections towards Non-Communicable Diseases (NCD), seen in many low and middle income countries, has increased the burden of such disorders as cancers, cardiovascular diseases and diabetes. (2) As countries undergo a rapid socioeconomic transition the population will age and adopt lifestyle behaviours associated with a higher risk of developing colorectal cancer, for example a diet low in fibre and high in protein and fat. While the number of cases is increasing in these countries, the incidence rather seems to be decreasing or at least stabilizing in some high developed countries, likely driven by improvements in early detection and reduced risk factors with a healthier lifestyle. (3) In summary, it has been shown that age in combination with dietary factors are important risk factors for developing colorectal cancer. There are several other known risk factors, including a family history of colorectal cancer and inflammatory bowel disease. (4)

Sri Lanka is a country in South Asia that has performed exceptional achievements in healthcare by managing maternal and child health as well as infectious diseases, and the country is now facing a rapidly aging population. A twofold increase of the population over 60 is expected in the next 25 years. (5) As mentioned previously, a result of the socioeconomic transition is that NCD's are increasing in the population. A trend of raised blood pressure and obesity is also seen on Sri Lanka. (6) According to a recently published fact sheet from the WHO International Agency for Research on Cancer, colorectal cancer is the fourth most commonly diagnosed malignancy in Sri Lanka for men and women together, and stood for 6.1% of all new cases of malignancies in 2018. (7) The National Cancer Control Programme reported the age standardized rate of colorectal cancer to be 5.6/100 000 in 2010, at that time the 5th leading cancer site. (8) Consequently, the incidence is increasing in Sri Lanka, which was also described in a study finding the incidence of colorectal cancer in the region of North Colombo changed

from 1.9/100 000 between 1992 and 1997 to 3.2/100 000 in women and 4.9 in men between 1996-2004. (9) Similarly, a more recent study including patients from the same district concludes a steady increase over time. (10) The median age at diagnosis in developed countries is about 70 years, (11) while studies from the south Asian region show a younger population with the major burden of colorectal cancer in the 50-70 years age group and a median of 60 years. (10)

Colorectal cancer is staged based on the TNM classification system where the depth of the primary tumor and spread to adjacent organs (T), regional lymph node involvement (N) and distant metastases (M) are graded, described in Figure 1 and Table 1. Extent of tumor spread is estimated on Magnetic Resonance Imaging (MRI) and/or computed tomography (CT) preoperatively. Depending on the TNM classification the cancer is staged in groups I-IV that provides prognostic information and affects treatment. (12)

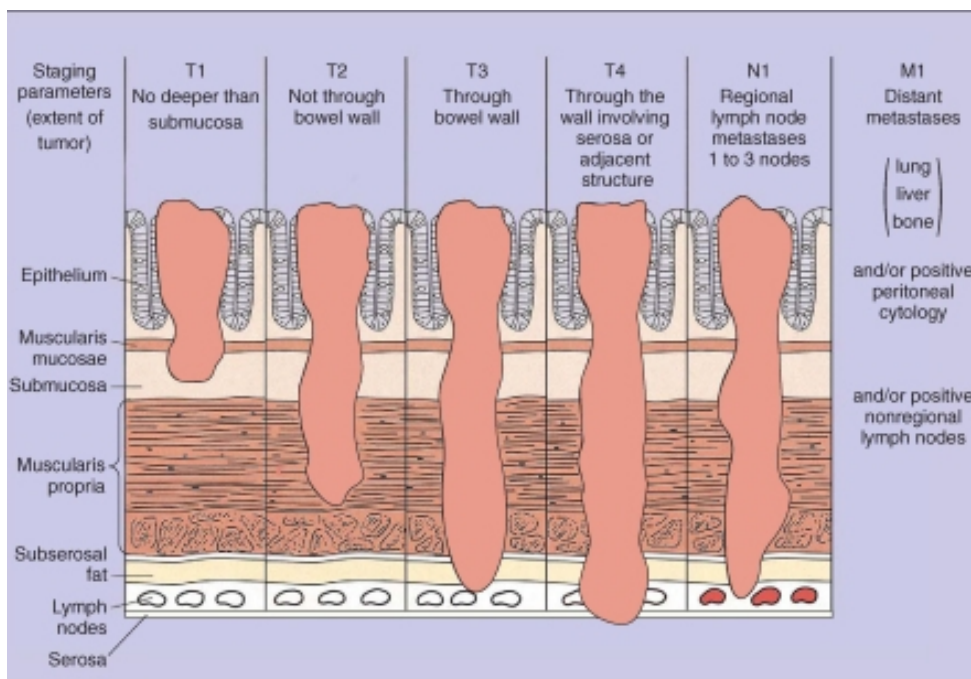


Figure 1. Staging of colorectal cancer depending on the depth of the primary tumor. Source: <http://suncoastsurgicalassociates.com/areas-of-expertise/colorectal-surgery/rectal-cancer/>

Table 1. Staging of colorectal cancer in groups I-IV based on the TNM classification according to the American Joint Committee on Cancer.

Stage	T	N	M
I	T1-T2	N0	M0
IIa	T3	N0	M0
IIb	T4	N0	M0
IIIa	T1-T2	N1-N2	M0
IIIb	T1-T4	N1-N2	M0
IIIc	T3-T4	N1-N2	M0
IV	Any T	Any N	M1

Colorectal cancer treatment consists of surgical resection of the diseased bowel segment. Preoperative radiotherapy is given to limit the risk of local recurrence in rectal cancer patients. Adjuvant chemotherapy is often given in stage III disease to decrease the risk of tumor recurrence. Depending on where the tumor is located in the intestine there are different procedures to remove the particular segment. For rectal cancer the anterior resection takes away part of the rectum and part of the sigmoid colon. The remaining sections are then reattached by constructing an anastomosis. This can be done in two different ways, either with open surgery through one single long incision or with laparoscopy. Laparoscopic surgery is performed by navigating special surgical instruments through small ports in the bowel wall overlooking the intestine at a screen. (4) The utilization of the laparoscopic technique is nowadays preferable over conventional open surgery, since the minimally invasive procedure correlates with faster postoperative recovery demonstrated for biliary as well as colorectal surgery. (13, 14) In addition no difference in oncological outcome, measured by recurrence and disease free survival, has been found in large randomized trials. (15-18)

If the laparoscopic procedure gets too technically challenging it is necessary to convert it to open surgery in order to complete the resection safely. A reduction in conversion rates is seen with gained experience during the surgeons learning curve. (19) Reasons for conversion could be technical, including adverse events, poor visualization etc. More common causes of conversion are disease or patient related factors such as extensive adhesions, large tumor,

narrow pelvis and obesity. Those factors are of interest to predict possible conversion before surgery in order to decrease the conversion rate. (20) Several studies have investigated the impact of different factors on the risk for conversion. For laparoscopic colorectal surgery in general, an inflammatory process in the intestine is known to increase the risk of conversion, for example Crohn's disease or complicated diverticulitis. For colorectal cancer surgery specifically, the resection type seems to be one of the most important predictive factors with rectal resections predisposing. (21) Advanced cancer stage, male gender and obesity have also been found to increase the risk for conversion, while an older age is not considered as a significant predictor. (20, 22-24)

There is still a conflict in the literature regarding postoperative morbidity and mortality associated with conversion. Some studies have demonstrated an increased rate of mortality among converted patients (24-26) while others in contrast have found no increased mortality compared to successfully completed laparoscopy. Oncological outcome, evaluated as disease recurrence, is also discussed as a potential consequence to conversion. (23, 27) However, numerous studies have reported that conversion correlates with a prolonged hospital stay (28, 29) and an increased rate of several postoperative complications. Infectious and anastomotic problems are most commonly mentioned. Conversion has been associated with an increased rate of superficial surgical site infection compared to both open surgery and successfully completed laparoscopy. That is consistent with laparoscopy having lower rates of surgical site infection compared to open surgery. The increase of surgical site infection in converted patients may be related to a longer operation time and widened incision. (27, 30) Anastomosis leakage is a complication to colorectal surgery associated with a high morbidity. It does not occur more frequently in patients undergoing laparoscopic compared to open surgery but could however be a more common complication to conversion. (13) The impact of conversion on postoperative outcome compared to non-converted laparoscopic surgery is still not fully established.

Challenges remain in predisposing if patients that would benefit the minimally invasive laparoscopy are subjected of conversion and potentially worse outcome. Although a lot of research has been done on colorectal cancer surgery worldwide, further studies are needed in Sri Lanka. Until now there is limited information about complications following conversion to open surgery in Sri Lankan patients. This study will contribute with knowledge about conversions at Colombo South Teaching Hospital.

Aim

To investigate the rate and causes of laparoscopic procedures being converted to open surgery at Colombo South Teaching Hospital in Sri Lanka and to analyze the frequency and type of complications to the conversions compared to successfully completed laparoscopic surgery.

Specific Objectives

In specific we aim to examine how many elective laparoscopic colorectal surgeries for cancer that were converted to open surgery. Specific objectives are also to identify which types of resections that were converted and the reason for the conversion. Furthermore, to evaluate the patient's physical status at the time of surgery according to the American Society of Anesthesiologists (ASA) classification. Finally, we aim to analyse whether conversions differ in amount and type of complications as well as in hospital stay from non-converted laparoscopic colorectal resections.

Material and Methods

Study design

A retrospective observational survey was performed, and patient data was collected from medical records on site at Colombo South Teaching Hospital (CSTH), the second largest government hospital in Sri Lanka.

Study population and data collection procedures

Patients who underwent surgery between the 1st of September 2013 and the 15th of October 2018 were included in the study. Patients were included if they underwent an elective laparoscopic resection of a solitary adenocarcinoma in colon or rectum. Patients undergoing surgery for other reasons than cancer were excluded from the study. Laparoscopic colorectal resections have been performed at CSTH since 2009. Medical records were generally kept for five years and therefore some years could not be represented.

Initially patients who underwent colorectal surgery were found in the Operation Theater B (OT B) register book where their Bed Head Ticket number (BHT), an identification number, name, ward, surgical procedure and date of surgery were logged. The most previous register book available in the OT B covered surgeries from August 2014. Complementary, patients who had surgery more previous than accessible by the register book were found in a colorectal database at the Department of Surgery at the University of Sri Jayewardenepura storing preoperative examination results and some postoperative data of patients that had colorectal surgery. Some patients that had surgery before 2014 found in the database could not be requested since the BHT number was missing.

From the register book 84 patients who underwent planned open surgery resection, emergency surgery or Hartmann's reversal were excluded. A list of 78 patients that had laparoscopic surgery was approved by the hospital director and given to the Medical Records Unit.

From the list of 78 patients, 61 were found and 58 included. Three patients were excluded because they had surgery for another reason than a colorectal adenocarcinoma, presented as sigmoid volvulus, appendicitis and FAP (multiple polyps throughout large bowel) with no evidence of malignant transformation. A summary of the patient enrollment is presented in Figure 2. Postoperative histology reports were collected at the Department of Surgery.

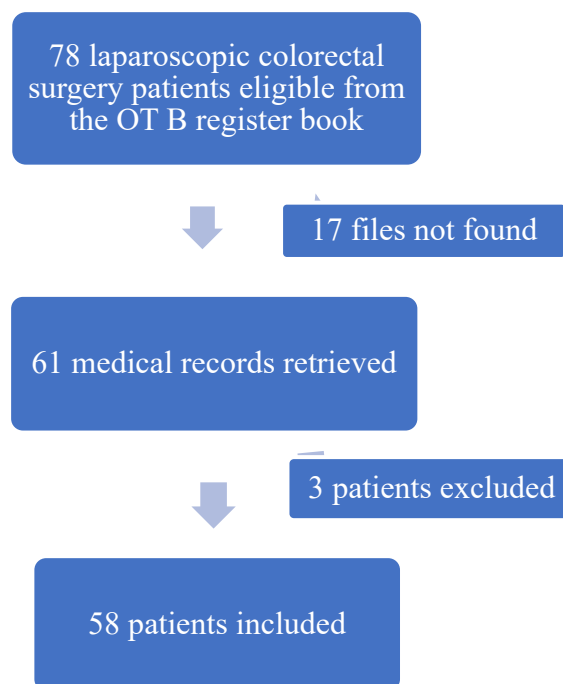


Figure 2. Flow chart of the patient enrollment

Most of the patients included in the study underwent surgery during 2017 and 2018. The number of patients from each year is presented in Table 2 below.

Table 2. Number of patients included and not found during each year represented in the study

	2013	2014	2015	2016	2017	2018
Included	1	2	11	9	15	20
Not found	3	4	2	4	1	3

Variables

A laparoscopic assisted resection is defined as a procedure where the bowel segment is mobilized laparoscopically but a small incision is made to remove the resected specimen and to complete the anastomosis extracorporeally. (14) Conversion from laparoscopic to open surgery was defined as when a midline incision was needed to proceed with the mobilization of the colon or rectum or when an incision was widened more or earlier than planned. The headline of the operation note declared the presence of conversion. The reason for conversion was described in the operation story and categorized as surgery related (technical problems) or disease and patient related (adhesions, large tumor, narrow pelvis etc.).

Patient characteristics and preoperative parameters as follows were studied. The American Society of Anesthesiologists (ASA) score was used to categorize the patient's physical status. (31) For eight patients, data of ASA classification was missing. A categorization was then made out of the information available regarding comorbidities etc. Data of the patients height was only available in ten of the records, making it difficult to calculate body mass index (BMI). The weight of the patient was available in almost all records and is taken into consideration as itself in this study. Data of medical and surgical history, tumor site, TNM-classification and adjuvant chemo and/or radiotherapy was collected.

Length of hospital stay was measured in number of days from surgery until discharge from the ward. One patient was still admitted at the final day of data collection and is presented with the number of days at that time. Evaluated postoperative complications were events presented during hospital stay and included reoperation, surgical site infection, other infections (pneumonia, urinary tract infection), ileus, bowel obstruction, bleeding, wound disruption and abscess.

Statistical methods

Descriptive statistics was done to compare the groups in terms of baseline characteristics. The Mann-Whitney test was run to compare the conversion and non-conversion group regarding length of hospital stay. Pearson Chi-Square and Fisher's Exact test was run to compare variable frequencies between the groups. All analyses were conducted using IBM SPSS 25.

Ethics

The study aligned to the principles of the Helsinki Declaration. Ethical approval was given from the Ethics Review Committee at the University of Sri Jayewardenepura as well as from the Hospital Director. All medical files were kept within the Medical Records Unit and all patients were treated anonymously by keeping their identification number in a separate file.

Results

The study population

A total of 58 patients that underwent laparoscopic surgery between September 2013 and October 2018 because of colorectal cancer were included in the study. 26 (44.8%) of the patients were female and 32 (55.2%) were men. The mean age of the patients was 61 years and the median age 62 years.

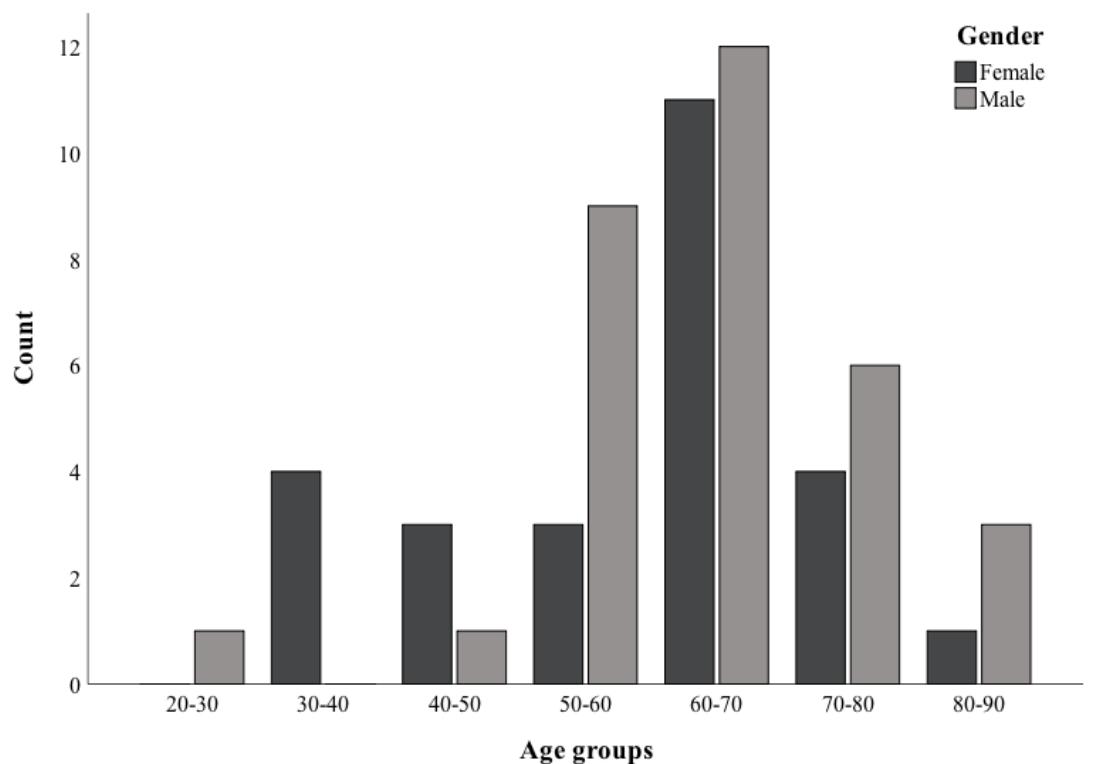


Figure 3. The distribution of age and gender in the study population

In the vast majority of patients (88%), the site of tumor was rectum (43%), sigmoid colon (26%) or both rectum and sigmoid colon (19%). A minor part of the patients had a tumor located in the right (5%) or transverse colon (7%). This is also demonstrated as the most common laparoscopic procedure was the anterior resection, shown in Table 4.

Characteristics of the conversions

The procedures were mainly performed by one surgeon and all patients were admitted to the surgical wards at CSTH. Out of 50 laparoscopic and 8 laparoscopic assisted procedures, 12 were converted to open surgery. The conversion rate was 20.7 % (12 out of 58). The most common reason for conversion was adhesions followed by locally advanced disease. All causes are shown in table 3. The conversion rate for rectal resections and colon resections separately was 9.3% and 41.7%. Intraoperative complications occurred in 2 cases of which 1 had already required conversion for another reason. The adverse events mentioned were purulent material spilling (contamination) and urethral injury.

Table 3. Reasons for conversion in 12 of 58 patients.

Cause	Patients, n
Tumor adhesions	6
Large tumor/locally advanced disease	2
Anatomical anomaly	1
Narrow pelvis	1
Technical difficulties (stapler application)	1
Inadequate mobilization	1

Table 4. The different procedures and how many conversions of each.

Laparoscopic procedure	Total number performed	Number of conversions
Anterior resection	25	3
Ultralow anterior resection	3	0
Low anterior resection	5	0
High anterior resection	3	0
Abdominoperineal resection	1	0
Sigmoid colectomy	5	2
Right hemicolectomy	6	4
Total colectomy	1	0
Laparoscopic assessment	1	1
Laparoscopic assisted		
• total proctocolectomy	1	1
• anterior resection	1	0
• low anterior resection	3	1
• sigmoid colectomy	1	0
• abdominoperineal resection	2	0

Characteristics of the patients

Table 5 and Table 6 summarizes the characteristics of the patients that underwent conversion and successfully completed laparoscopic surgery respectively. Of the 12 patients in the converted group, 7 (58.3%) were men and 5 (41.7%) were women. The patients in the conversion group tend to be younger as the mean age was 58 years compared to 62 years in the successfully completed laparoscopic group, even though the difference was not significant ($p=0,139$ two-tailed). The physical status was similar in both groups according to the distribution of ASA grade. 6 patients in the converted group were previously healthy while 6 patients had a medical history of hypertension ($n=6$), diabetes mellitus ($n=2$) and chronic liver disease ($n=1$). 3 patients also had previous abdominal surgery (laparoscopic cholecystectomy, laparoscopic gynecologic cystectomy and lower segment Caesarean section). No significant

difference was found in analyses regarding procedure type, health state, previous abdominal surgery or comorbidities between the conversion and no conversion group. Neither was any substantive difference noted between the groups in terms of gender.

Table 5. Comparison of patient characteristics between converted and non-converted group

	No conversion n=46	Conversion n=12	
Age (years)			
Mean (s.d)	62 (12.6)	58 (11.7)	p = 0.139
Median	63	60	
Range	23-84	33-81	
Gender			
Male	25 (54.3%)	7 (58.3%)	
Female	21 (45.7%)	5 (41.7%)	
ASA			
1	21 (45.7%)	6 (50.0%)	
2	23 (50.0%)	6 (50.0%)	
3	2 (4.3%)	0 (0.0%)	
Body weight (kg)			
Median	57	64	
Missing data	4	0	
Previous abdominal surgery	8 (17.4%)	3 (25.0%)	
Comorbidity			
Hypertension	15	6	
Diabetes	14	2	
Ischemic heart disease	6	0	
Dyslipidemia	1	1	
Chronic liver disease	-	1	
Bronchial asthma	3	0	
COPD*	1	0	

*COPD = Chronic obstructive pulmonary disease

Table 6. Counts of neoadjuvant therapy and pathological characteristics of the patients.

	No conversion n=46	Conversion n=12
Neoadjuvant		
Chemo & radiotherapy	10	3
Radiotherapy	2	-
Chemotherapy	2	-
None	3	-
Missing data	29	9
T stage		
T1	1	1
T2	3	-
T3	15	3
T4	3	2
N stage		
N0	11	4
N1	5	2
N2	1	-
Missing data or not found	24	6

Among the patients that underwent conversion because of adhesions only one had previous abdominal surgery and only one was given preoperative radiotherapy, the remaining four patients had no previous abdominal surgery and missing data about radiotherapy.

Length of hospital stay

The mean length of hospital stay was 14 days in the conversion group and 5 days in the successfully completed laparoscopic group. One patient had a long duration of hospital stay and was still admitted at the last day for data collection (seen in Figure 4). The median values are presented in Table 7.

Table 7. The length of hospital stay in days for patients with or without conversion.

	No conversion	Conversion	
Median days spent in hospital (min-max)	4 (3-17)	5 (3-90)	p (two-tailed) 0.053

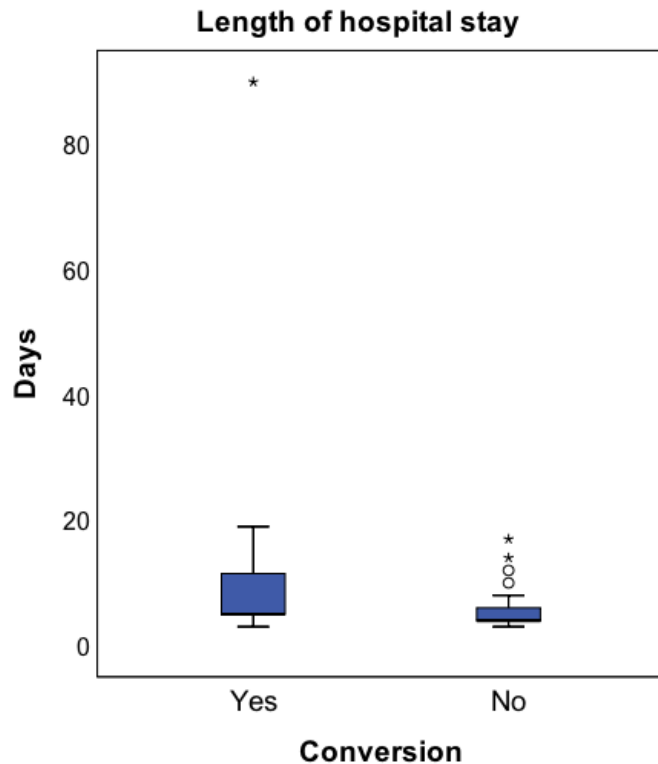


Figure 4. The length of hospital stay for converted and non converted patients with the spread demonstrated

Postoperative complications

The overall complication rate was 32.8%, and the number of patients with complications was 16 of 58. Surgical site infection was the most common complication followed by anastomosis leakage, presented in Table 8. All patients with anastomosis leakage underwent exploratory laparotomy when presenting with symptoms of sepsis. There was no significant difference between the groups regarding the rate of any complication presented during hospital stay, demonstrated in figure 5, but patients in the conversion group had more reoperations.

Table 8. Postoperative complications presented during hospital stay and how often they occurred.

Complication	No conversion (n=46)	Conversion (n=12)
Reoperation due to		
– Anastomosis leakage	2	2
– Ileostomy not functioning	0	1
Surgical site infection	5	1
Paralytical ileus	1	1
Bowel obstruction	1	0
Abdominal wound dehiscence	1	0
Bleeding	1	0
Pneumonia	2	0
Intraabdominal abscess	1	0
Missing data	3	0

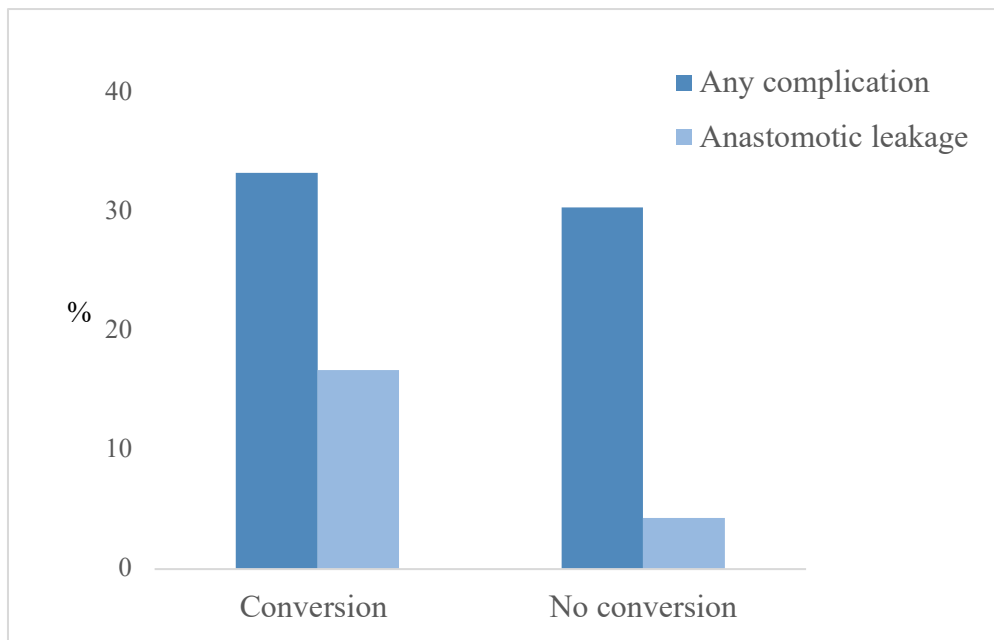


Figure 5. Comparison of the rate of any complication and anastomotic leakage between the conversion and no conversion group.

Discussion

Key findings

This study aimed to map the rate and causes of conversion from laparoscopic to open surgery at Colombo South Teaching Hospital in Sri Lanka, and also to analyse the frequency and type of complications to the conversions. We found that the conversion rate was 20.7%. The patients who underwent conversion were not older or more comorbid than the non-converted group. Patients in the converted group had a longer hospital stay and more reoperations, but not an elevated overall complication rate compared with successfully completed laparoscopic surgery. Another key finding is that the median age is lower compared to previous studies. (32)

The conversions

The conversion rate in this study was considerably high but is consistent with the rates reported previously; conversion rates vary from around 10-30% (14, 16, 29, 33). In a study from Sri Lanka the conversion rate was found to be 17 % comparing laparoscopic and open colorectal surgery. (34) One limitation when calculating the conversion rate is that not all records of laparoscopic procedures were found and therefore not included in this study, hence the true rate is probably slightly different. In addition, the small number of patients from the earlier years could also be due to an increase over time of laparoscopic resections performed per year.

Rectal resections made a majority in this study, thus when analyzing the conversion rate for the rectal resections separately it appears to be much lower (9.3%), which indicates a considerable experience. The higher conversion rate in the right-sided resections may on the other hand be due to the low number of cases in this study. This result is in contrast to earlier findings that right hemicolectomies are less likely converted (28) and that the conversion rate is higher in left-sided and rectal resections. (14) The wide variance of reported conversion rates is probably

depending on the surgeons experience. The most practiced resection will naturally be equal with a greater amount of experience. This study did not evaluate the learning curve of the particular surgeon since the design and method used was not constructed for a comparison of early and late years. The most common resection was the anterior resection which also align with the aforementioned distribution that left sided cancers being more common than right sided in developing countries compared to western countries, discussed in Sri Lankan studies. (9, 10) Why that is would be of interest to investigate further. A possible explanation for the presentation of cancer site in this study could be that right sided cancers were more likely planned for open surgery.

We found the most common reason for conversion was adhesions. Adhesions often develop after major abdominal surgery, but could also be due to neoadjuvant radiotherapy or the tumor itself if it has spread in adjacent organs, which makes a conflict since a regression of the tumor size is desirable before surgery. The difficulty lies in quantifying the extent of adhesions on preoperative imaging and predict intraoperative complications that may lead to the need for conversion. It is possible that radiotherapy may cause adhesions, but among the patients that underwent conversion because of that specific reason in this study, only one was given radiotherapy before surgery. But the sample was small and because of missing data radiotherapy may took place. This study found that a greater part of the patients in the converted group had a stage T4 tumor compared to non-converted patients. But about half of the data was missing or not found which makes it hard to draw conclusions. Previously, T4 tumors have been described as a factor independently associated with conversion. (26) Advanced tumor stage should however alert the surgeon that there could be a higher risk for conversion.

The patients

The mean age in this study was low, 58 years in the converted group compared to 62 years in the non-conversion group. Similarly, Marie Jerabek found a low mean age among colorectal cancer patients in Sri Lanka compared to other countries. (35) This study was not fully representative of all colorectal cancer patients since only patients treated with laparoscopic surgery and not open surgery were included, and the mean age is often lower in patients treated laparoscopically compared with open surgery. (33) As mentioned previously, age has not been considered a risk factor for conversion. To summarize, the patients who underwent conversion were not older than the non-converted patients, but since the difference was not significant it cannot be confirmed that they were younger either.

This study showed a slight tendency of more men among the converted patients. Even though the number of patients was low, the ratio between male and female appears to align with previous findings that men seem to have a higher risk for conversion. (22) According to the distribution of ASA groups, the physical status was similar in the conversion and no conversion group. Overall there were few patients with ASA grade III in this study, meaning other studies may produce a different result on the likelihood of conversion among patients with more comorbidities. It is also worth investigating the possibility of obesity influencing the risk for conversion. The median weight was higher among the patients that underwent conversion in this study, but it was not possible to evaluate if each patient was overweight or normal weight since the height was missing. Further research regarding any correlation between overweight and conversion to open surgery is needed.

Complications

The difference between the groups regarding days spent in hospital indicates conversion correlates with a longer hospital stay compared to successfully completed laparoscopy.

Previous studies have shown conversion has as long duration of hospital stay as open surgery, but compared with non-converted laparoscopic surgery conversion prolongs the hospital stay with about 2-3 days. That is consistent with the finding in this study. (36) The rate of any postoperative complication was similar between the conversion and successfully completed group. Even though surgical site infection was the most common complication, we found no increased rate among converted patients, described in previous studies. (30) On the other hand this study revealed an increased rate of anastomotic leakage in converted patients; 16.7% compared to 4.3%. It may be outstanding due to the low number of cases, but the rate in the non-converted group is consistent with previous findings. The rate of anastomotic leakage was 4.0% recently reported on Sri Lanka. (34) Likewise, Marie found a low incidence of anastomosis leakage in rectal cancer patients. (35) According to the Clavien-Dindo classification system (37) where severity of postoperative complications are graded, a complication requiring surgical intervention is more severe than one treated pharmacologically. This implies that conversion in this study seem to be associated with more severe complications.

There is a lack of studies regarding the timing of the conversion. If the conversion is strategic or reactive could affect the outcome. (38) But most likely the conversion itself is not the only reason for postoperative complications occurring. It would also be interesting with further studies regarding the long term outcome of conversion.

Limitations

Since the patient's medical record is temporary during the hospital visit it was not possible in this study to do a follow up on complications occurring after discharge. As this study involved only a small number of cases few analyses have significant results. One must also consider results may be different due to missing or not found data.

Conclusions

We found that the rate of conversion from laparoscopic to open surgery was within the range reported previously. The patients who underwent conversion were not more comorbid and they were neither older, nor significantly younger compared with the non-converted patients. Conversion from laparoscopic to open surgery in colorectal cancer patients was associated with a longer hospital stay and more severe complications with anastomotic leaks, even though the overall complication rate was not elevated compared to successfully completed laparoscopic surgery. Because of the small sample size in this study, further research needs to be done in order to confirm the impact of conversion on postoperative outcome.

Populärvetenskaplig sammanfattning

Konvertering från tithålskirurgi till öppen kirurgi hos patienter med tjock- och ändtarmscancer i Sri Lanka

Tjock- och ändtarmscancer är en av de vanligast förekommande cancerformerna i världen. I många länder i södra Asien där de ekonomiska förutsättningarna förbättrats ser man att befolkningen blir allt äldre. Ålder är en viktig riskfaktor till att tjock- och ändtarmscancer utvecklas och Sri Lanka är ett av de länder där antalet som insjuknar har ökat stadigt. En del av behandlingen är att kirurgiskt ta bort den del av tarmen där tumören finns. Traditionellt har det gjorts med öppen kirurgi genom ett längre snitt i bukväggen. På senare år har man allt mer övergått till laparoskopi (tithålskirurgi), som innebär att instrument används genom mindre hål i bukväggen. Det har visat sig att de patienterna som opereras med tithålskirurgi vistas en kortare tid på sjukhus, har mindre behov av smärtlindring och återhämtar sig snabbare efter operationen, jämfört med de patienter som opereras med öppen kirurgi.

Av olika anledningar (t.ex. en stor tumör) kan man under en laparoskopisk operation behöva gå över till öppen kirurgi för att slutföra den. Det benämns konvertering. I takt med att erfarenheten av den laparoskopiska tekniken ökar har man sett att antalet gånger en konvertering behövs sjunker. Syftet med den här studien var dels att titta på i vilken omfattning och hos vilka patienter konvertering sker, dels att undersöka om dessa patienter drabbas av fler komplikationer efter operationen.

58 patienter som opererades laparoskopiskt på grund av en cancer i tjock- eller ändtarmen mellan 2013–2018 på ett statligt sjukhus i Sri Lankas huvudstad Colombo, studerades genom en journalgranskning. Vi fann att konvertering var nödvändig i 20,7% av fallen och att den vanligaste anledningen var sammanväxningar i tarmen. Detta stämmer överens med vad som visats i tidigare studier. Patienter som genomgick konvertering var inte äldre och hade inte fler

samtidiga sjukdomar, som exempelvis hjärt- och kärlsjukdom, jämfört med de icke konverterade patienterna. Resultatet visade också att konvertering leder till att patienten behöver en något längre vistelse på sjukhus efter operationen. Det verkar även som att patienterna som genomgick konvertering drabbades av allvarigare komplikationer i högre utsträckning jämfört med de patienter vars operation slutfördes laparoskopiskt. Studiens storlek gör att mer forskning behövs för att säkerställa resultaten. Fler studier behövs också för att kunna identifiera de patienter som har en ökad risk för konvertering för att på så vis kunna minska komplikationer.

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