Low anterior resection of the rectum (LARR) with total mesorectal excision (TME) for rectal cancer by laparoscopy is considered very technically demanding, particularly at the stages of dissection around the mesorectal fascia deep into the pelvis and transection of the rectum distally to the tumour. These technical difficulties translate to an increased conversion-to-open rate, higher than that seen after laparoscopic surgery for colon cancer. Conversion-to-open is considered as a technical limitation of the approach rather than a complication. There are reports claiming that converted cases are associated with higher morbidity rates than the laparoscopically completed. However, a review of the published articles indicates that conversion-to-open shows similar overall morbidity and mortality rates to those seen in the laparoscopically completed LARR-TME cases, and only duration of surgery is longer and wound infection rate is higher in the former group. Similarly, the overall oncological outcomes, namely local recurrence, distant metastasis and overall survival rates, are similar between the two groups.

Key words rectal cancer, laparoscopy, conversion

INTRODUCTION

There is substantial evidence showing that laparoscopic surgery for the treatment of colon cancer is associated with faster immediate post-operative recovery, reduced and of less severity morbidity, shorter hospital stay, reduced rate of readmissions because of adhesive ileus, reduced rate of abdominal wall hernia, but similar oncological outcomes, as compared to the standard open approach. However, laparoscopic surgery for rectal cancer has not been widely accepted, because of the specific technical demands related to the dissection and transection of the rectum and concerns about the oncological safety of the approach. Despite those concerns there is some evidence, including only one multicentre trial, showing than the laparoscopic approach for rectal cancer is associated with faster recovery and similar oncological outcomes to the open surgery.

Conversion of a laparoscopic approach for colorectal cancer in open is considered a limitation of the approach itself rather than a complication. Although definition is not clear, conversion refers to the point at which the surgeon realizes that continuation of the operation as a laparoscopic procedure is no longer appropriate and, for the benefit of the patient, it has to be converted to open. The rate of conversion-to-open of a laparoscopic colectomy for cancer ranges between 4% and 25%. Obesity, intraperitoneal adhesions, difficulty to identify vascular anatomy, bulky T4 tumours, bleeding and visceral perforation are of the main reasons for conversion. The rate of conversion-to-open of a laparoscopic total mesorectal excision (TME) for rectal cancer has been reported to be even higher, above 30% according to the CLASICC trial. The additional reasons for rates that high are the difficulties in the dissection of the mesorectum into the pelvis, particularly in the male obese patient, and the transection of the rectum distal to the tumour.

IMPACT OF CONVERSION TO OUTCOMES

The evidence on the impact of conversion to the short-term and oncological outcomes is not conclusive. There are studies supporting the view that outcomes of converted rectal cancer cases are worse than those completed by laparoscopy, while others have shown similar results between laparoscopically completed cases and open.
those converted to open. This may primarily be attributed to the discrepancy in the definition of conversion among studies, as well as to the rather not sound quality of most of them. Greater concern exists for the converted rectal cancer cases, because conversion to open as a result of difficulty in the dissection of the rectum and violation of the mesorectal fascia may translate to an increased local recurrence rate. Obesity and advanced disease seem to be high risk factors for conversion. Understandably, these two factors pose great technical difficulties in mesorectum dissection and rectal transection by laparoscopy.

Converted vs Laparoscopically Completed

According to the existing data converted cases are associated with increased duration of surgery. However overall morbidity and mortality do not seem to differ significantly, although converted cases seem to be associated with an increased rate of abdominal wound infection. In any case, it is hypothesized that early conversion is not associated with increased adverse effects, although timing of conversion is not reported by most of the studies.

Oncological outcomes are reported by very few studies. It seems that local recurrence rate, distant metastasis rate and overall survival do not differ significantly between converted and laparoscopically completed cases. The worse disease free survival rate seen in the converted cases can be interpreted by the increased rate of advanced disease in that subset of patients as compared to the laparoscopically completed ones.

Although it has been suggested that level of experience of the operating surgeon and volume of laparoscopic rectal cancer surgery are factors predicting conversion, this is not adequately supported by current evidence.

Converted vs Open

From the existing very limited evidence, converted cases seem to be associated with similar morbidity, mortality, local recurrence and distant metastasis rated as compared to the open ones.

CONCLUSION

Conversion remains a limitation of the laparoscopic approach for the surgical treatment of rectal cancer, although it does not seem to have a significantly negative impact on short-term results or oncological outcomes. Improvement in technical instrumentation rather than in experience and volume of cases is expected to reduce the conversion-to-open rate.

SUMMARY

KONVERZIJA LAPAROSKOPSKE OPERACIJE KARCINOMA REKTUMA: UTICAJ NA REZULTATE

Prednja niska resekcija rektuma sa totalnom mezorektalnom ekscizijom kod carcinoma rektuma laparoskopskim pristupom se smatra tehnički veoma zahtevnom, naročito u aktu disekcije oko mezorektalne fascije duboko u karlici i transekcije rektuma distalno od tumora. Ove tehničke poteškoće vode do povećanog broja konverzija u otvorenu operaciju, više nego što se to dešava kod laparoskopske hirurgije kolona. Konverzija se smatra tehničkim ograničenjem pristupa, pre nego komplikacijom. U ovaj rad pokazuje se da je u slučajevima kada se pribeglo konverziji bio značajno veći morbidiitet u odnosu na laparoskopski završene operacije. Ipak, pregled objavljenih radova pokazuje da kod pacijenata kod kojih je učinjena konverzija postoji slična stopa morbidiiteti i mortaliteta, kao i u grupi laparoskopski učinjenih prednjih niskih resekcija rektuma sa totalnom mezorektalnom ekscizijom. Kod pacijentata sa konverzijom bilo je samo produženo vreme operacije i češća infekcija rane. Onkološki rezultati, tj. lokalni recidiv, udaljene metastaze i ukupno preživljavanje, su slični u obe grupe.

Kljuniće reći: karcinom rektuma, laparoskopija, konverzija

REFERENCES


