

Surgical Treatment of Colorectal Cancer: Recent Studies on Clinical Implications

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Short Communication

Colorectal cancer is the third most malignant disease and one of the major fatal cancer forms. Each year more than 1.2 million people are newly diagnosed with colorectal cancer and nearly six lakh people succumb to the disease. Radical resection is the most effect surgical option for the treatment of colorectal cancer. However, the rate of post-surgical complications is very high nearing to almost 30%. One of the prominent risk factor for colorectal cancer is the high BMI which is also a risk factor for post-surgical complications. Studies have shown that the body visceral fat is negatively associated with the outcomes of surgery due to higher morbidity. General loss of skeletal muscle mass and strength also known as sarcopenia was identified as poor prognostic marker for patients suffering from cancer. Rather sarcopenia was positively associated with colorectal cancer surgery outcomes and post-surgical complications such as infection and prolonged stay at the hospital. The most severe form of sarcopenia is considered as an independent risk factor for post-operative complications. Therefore, patients with sarcopenia and higher visceral obesity are at higher risk for adverse outcomes for post-operative complications of pancreatic cancer surgery. In a recent study comprising of patients having visceral obesity and sarcopenia it was found that there are highest incidence of total, surgical and medical complications. It was observed that patients with visceral obesity and sarcopenia has to face longer hospital stays and higher hospitalization cost. Both the visceral obesity and sarcopenia are independent risk factors in addition to higher age for complications. In such cases laproscopic assisted operations were safer for restricting medical complications. For colorectal cancer patients undergoing surgery visceral obesity and sarcopenia are risk factor for higher complications [1].

Colorectal cancer is one of the most frequently occurring forms of cancer and almost two third are related to liver metastasis. This condition is considered as the major public health problem. In the past two decades many of the advanced countries including Singapore, Japan, South Korea the incidence of the colorectal cancer increased two to four folds. In patients suffering from colorectal cancer liver metastasis occurs in almost half of the patients. The only treatment available for prolonged survival is the hepatic resection. Majority of the patients were found to be unresectable at the time of diagnosis. Several advanced treatment strategies were devised for increasing the prognosis and improving the possibility of resectability. Advanced systematic chemotherapy either with or without targeted therapies has enabled surgical treatment by down-sizing of the tumour size. This has enabled the clinical benefits in several independent studies with higher resection rate. Additionally, innovative surgical techniques a long with perioperative management strategies has enabled resectability with several studies the efficacy and safety of such shifts. Surgical procedures such as portal vein embolization, radiofrequency ablation, hepatectomy, associating liver partition and portal vein ligation are practiced. It was proposed that physicians must personalize treatment for patients via multidisciplinary approach. Colorectal cancer liver metastasis is the most common risk factor for mortality among colorectal cancer patients. Surgical resection treatment is very effective for prolonged

survival of the affected patients. Novel treatment approaches such as immune checkpoints and liver transplantations can potentially contribute to the improved prognosis and therefore multidisciplinary approaches are recommended [2].

Post-operative infectious complications and anastomotic leakage affect nearly thirty percent of the patients affected with colorectal cancer surgery. Recently, a multicenter randomized trial was conducted to know whether selective decontamination of the digestive tract reduces the complications of colorectal cancer surgery. In this study oral colistin tobramycin and amphotericin B were administered for decontamination of digestive tract. For the resections the anastomotic leakage was the primary outcome. The secondary outcomes were the infectious complications and mortality. In the study it was found that selective decontamination reduced the infectious complications after colorectal cancer resection but however it could not reduce the anastomotic leakage in the trial study [3].

During the COVID-19 pandemic the surgical options for the colorectal cancer treatment needed to be conscientiously weighed against the efforts for the conservation of the hospital resources and health care providers. Several professional surgeries have suggested for deferral of the surgical and perioperative interventions. The study was conducted using the GRADE system and the published evidence for determining the when the surgery should be performed and the duration of the oncologically acceptable delays and the timing of the non-surgical modalities for bridging of the waiting time. The results have suggested that colorectal cancer surgeries were categorized as emergency, urgent and imminent emergency or even the oncologically urgent. It was noted that surgeries in the COVID-19 patients need to be avoided. As per the standard practices elective and deferral cases are postponed to non-surgical methods for stage II/III rectal and metastatic colorectal cancer and the oncologically urgent cases can be deferred to upto 12 weeks without jeopardizing the oncological outcomes. The study concludes that COVID-19 pandemic has stressed the limited health care resources and has enforced rationing, triage and prioritization of care particularly in case of surgical interventions [4].

For colorectal cancer resection laproscopic surgery was preferred as a standard treatment. The use of the laproscopic surgery is variable across different counties. Laproscopic surgery results in faster post-operative recovery, lower risk of small bowel resection and incisional

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hernia. However, there is growing concern for possibility for conversion in to open surgery. Some studies have reported contradictory results of such conversions on the oncological outcomes. Body mass index, left sided and sigmoid tumors pT4 stage, acute surgery, metastatic setting and higher age are regarded as the tumor related risk factors. Laproscopy was introduced in the Netherlands for the surgical treatment of colorectal cancer resection with structured training programme. Recently a population based study was performed for the analysis of the laproscopic conversions to open surgeries while determining the risk factors for conversion and predictors of post-operative outcome.

The conversion of the laproscopic colorectal cancer to open surgeries was associated with worst outcomes. A study was conducted to evaluate the incidence, predictive factors, and outcomes of the laproscopic conversion after the implementation of the laproscopic surgery at population level. It was found that there was no impact of the conversion on the colon and the rectal cancer. At the National level the preference for laproscopic colorectal cancer increased to more than eighty percent accompanied with decrease in the conversion rate. The conversion to open surgery was associated with the complicated course of colon cancer and intraoperative complications

Colorectal cancer surgery can lead to post-operative complications, reduction of the quality of life and fatigue. Reduction of the risk for prolonged periods of recovery was studied. The study found that the preoperative physical inactivity and the functional capacity are associated with post-operative recovery. Exercise before the major abdominal surgery was found to have positive influence. Pre-rehabilitation has been recommended before the colorectal cancer surgery by several of the international medical committees. A recent study was conducted to determine the effect of short term physical activity before the colorectal cancer surgery on the short term recovery. The study revealed that there was no effect of the physical activity intervention with before or after the colorectal cancer surgery on the self-assessed physical recovery [5].

Patients suffering from the colorectal cancer suffer from anemia and the concomitant reduction in the quality of life. One of the recent studies analyzed the effect of the intravenous iron administration on the colorectal cancer associated anaemia by comparing the haemoglobin levels and transfusion requirements in patients opting for elective surgery. A follow-up study compared the efficacy of the intravenous and oral iron at improving the quality of life. The study indicated that intravenous iron is more effective in improving the quality of life than oral iron among the anaemic colorectal cancer patients.

Nearly, 40% of the newly diagnosed colorectal malignancy patients suffer from the anaemia. Anaemia is frequently associated to iron deficiency either due to chronic blood loss or impaired utilization of iron stores, lack of iron sequestration or called as functional iron

deficiency. Surgical treatment of the colorectal cancer or chemotherapy can lead to worsening of the anaemia. Anaemia can lead to fatigue, lethargy and dyspnea along with reduction in the haemoglobin levels and decrease in the quality of life. Oral intake of iron can have deleterious side-effects on such as abdominal pain, constipation, and diarrhea. Moreover, the absorption of iron can be impaired among patients with malignancy. Intravenous iron administration was found to be effective safer and well-tolerated for the treatment of deficiency anaemia [6].

Disproportionate loss of the skeletal muscle is regarded as the independent prognostic factor among colorectal cancer patients. Systemic inflammatory response is regarded as a common mechanism for specific loss of the skeletal muscle. A recent study was conducted to relate the systematic inflammation, skeletal muscle mass, skeletal muscle density and overall survival among the colorectal cancer patients. The results revealed that age, body mass index, visceral obesity were significantly associated with overall survival. The study delineated the association between the loss of skeletal muscle quality and quantity, the systematic inflammatory response the survival rate and the operable colorectal cancer [7].

Acknowledgement

None

Conflict of Interest

None

References

1. Chen WZ, Chen XD, Ma LL, Zhang FM, Lin J, et al. (2018) Impact of visceral obesity and sarcopenia on short-term outcomes after colorectal cancer surgery. *Dig Dis Sci* 63(6): 1620-1630.
2. Adam R, Kitano Y (2019) Multidisciplinary approach of liver metastases from colorectal cancer. *Ann Gastroenterol Surg* 3(1): 50-56.
3. Abis GS, Stockmann HB, Bonjer HJ, van Veenendaal N, van Doorn-Schepens ML, et al. (2019) Randomized clinical trial of selective decontamination of the digestive tract in elective colorectal cancer surgery (SELECT trial). *Br J Surg* 106(4): 355-363.
4. O Leary MP, Choong KC, Thornblade LW, Fakh MG, Fong Y, et al. (2020) Management considerations for the surgical treatment of colorectal cancer during the global Covid-19 pandemic. *Ann Surg* 272(2): e98.
5. Onerup A, Andersson J, Angenete E, Bock D, Börjesson M, et al. (2022) Effect of short-term homebased pre-and postoperative exercise on recovery after colorectal cancer surgery (PHYSSURG-C): a randomized clinical trial. *Ann Surg* 275(3): 448-455.
6. Keeler BD, Dickson EA, Simpson JA, Ng O, Padmanabhan H, et al. (2019)
7. Dolan RD, Almasaudi AS, Dieu LB, Horgan PG, McSorley ST, et al. (2019) The relationship between computed tomography-derived body composition, systemic inflammatory response, and survival in patients undergoing surgery for colorectal cancer. *J Cachexia Sarcopenia Muscle* 10(1): 111-122.