



Right colon cancer surgery: current state

In 1883, Lowson of Aberdeen University published in *The Lancet*, the earliest record of a right colectomy (RC) with an anastomosis for cancer. In 1922 Starr published “*The Surgery of the Right Bowel*” in *Surgery, Gynecology and Obstetrics*. He reported 38 ileocolic resections, with only 5 mortalities (Fong, Corman).

The open approach to colon and rectal resection remains the “gold standard”. In Corman’s textbook of Colon and Rectal Surgery, is a classic step by step description of the medial to lateral approach for right colectomy for malignant lesions of the cecum, ascending colon and hepatic flexure is described.

Probably one of the most significant advances in the surgical approach to colon and rectal resection for benign and malignant diseases over the past 3 decades are the minimally invasive platforms (MIP). The authors of this “Focused Issue” have captured the salient advances in the surgical approach to RCCS and postoperative management (ERAS).

Martinek has shown that the minilaparotomy for RC *vs.* Laparoscopic RC have similar outcomes; however, he believes that the laparoscopic RC remains the standard. Ozuner found no superiority of results when comparing SILS *vs.* MPLS. In his review of the SILS platform he discusses the challenges that the surgeon is confronted with. I feel over time and with the advancement of the instrumentation and experience, the SILS approach will more accepted for RC hemicolectomy.

Utilization of the Robot for colon resection is becoming more common especially with the advances in the robotic platform (RP) (Gorgun). The question of increases cost of utilization of the RP for RC should be a consideration it is application.

The technique of complete mesocolic excision (CME) with central vascular ligation (CVL) is purported to provide a better “quality pathologic specimen”; which includes all lympho-vascular and nodal components. The discussion of the surgical technique of CME-CVL begins with the embryologic development and anatomic properties of the mesocolon. They mentioned that the open CME is performed by “lateral to medial” *vs.* the laparoscopic approach by “medial to lateral” for cancer. The concern with CME-CVL is that there are no RCT to support the notion that there is a better OS and rate of local recurrence. All studies to date are retrospective cohort series (Burga).

The impact and controversies of RCCS with D2 and D3 lymphadenectomy is discussed by Kontovounisios and Dziki respectively in their chapters. It is proposed that D2 Lymphadenectomy can lead to downstaging due to micrometastases, “stage migration” and “skip metastases”. The oncologic outcomes in open *vs.* laparoscopic hemicolectomy with D2 lymphadenectomy are comparable for DFS and OS.

The concept of D3 lymphadenectomy for RCCS has been proposed to improve surgical and oncological outcomes. The oncologic advantage of D3 lymphadenectomy in right hemicolectomy is based on the increased the number of lymph node harvested per patient with a mean of 31 lymph nodes. There is a higher risk of morbidity in the D3 lymphadenectomy in female patients, with a higher increase in number of bowel function for a longer duration than men (Ignjatovic). The question that has not been answered is should D3 Lymphadenectomy be implemented as a standard surgical technique or only in select patients with T3 and T4 lesions?

In patients that present with RCC with associated peritoneal carcinomatosis is one of the more challenging management problems that colon and rectal surgeons and surgical oncologists face. The options are “poor”, and the results are “marginal”. The discussion on cytoreductive surgery in association with HIPEC or EPIC has been controversial since the late 1990’s. There may be a limited subset of patients with improved survival, but there is a very high morbidity and mortality. In this chapter, Dong does an excellent job of presenting historical and the current status of this controversial approach.

Laparoscopic-assisted colonoscopic polypectomy (LACP) is indicated for large endoscopically inaccessible or sessile polyps not amenable to colonoscopic resection. The justification is that LACP decreases the risks associated with major colon resection and its complications. A major concern is the 15–35% risk of malignancy in the resected polyp. The patient will most likely require a second operation to achieve an adequate oncologic resection (Essani).

The chapter on surgical options for resection of a transverse colon cancer (TCC), highlights the conundrum that surgeons are confronted with in patients with TCC. The most important “point” is that the quality of the oncologic resection must be maintained no matter which resection is utilized by the surgeon (de Angelis). I neither perform nor support a transverse colectomy with a colo-colo-anastomosis, for several reasons: oncologic quality of the resection and the high incidence of

anatomic leak (colo-colo) for example.

The use of ICG in left hemicolectomy and rectal resections does have some benefit in confirming the surgeon's "subjective" evaluation of colonic perfusion. I agree that there is data supporting its use with right hemicolectomy (Macina). However I believe ICG is rapidly becoming the standard of care for open and MIS for colon and rectal resections nationally and internationally.

The chapter on ERAS is a very detailed and informative discussion that solidifies ERAS programs as standard practice for colon and rectal resections. The guidelines are based on strong evidence for perioperative management and recovery for patients indicated for colon or rectal resections. ERAS programs stress the importance of the preoperative visit for identifying "modifiable" risk factors, detailed counseling preparing the patient for the psychologic stress of surgery and the diagnosis of colon cancer. ERAS programs have been made successful by the multidisciplinary approach to the perioperative management of patients for colon and rectal resections (Holubar).

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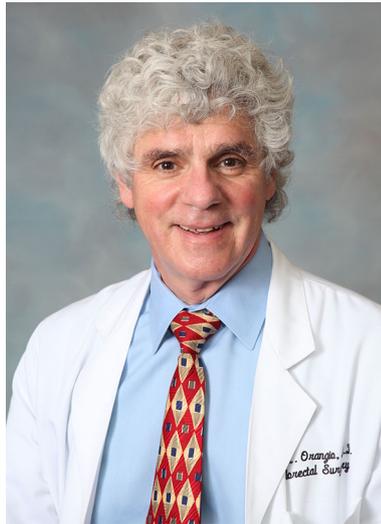
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