**Robotic versus Laparoscopic Surgery in Colon and Rectal Cancer**

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Laparoscopic surgery is an acceptable option for colorectal cancer. Robotic surgery is an emerging field and may be a solution to some difficulties inherent to conventional laparoscopic surgery. In this lecture, the outcomes of laparoscopic and robotic surgery will be reviewed from literature, and the perspective of robotic surgery in treating colorectal cancer will be discussed. In rectal cancer, robotic surgery takes a longer operative time and a higher cost, but decreases conversion to open surgery and shortens the learning curve. It has a great potential for preserving bladder and sexual functions after total mesorectal excision (TME).

The TME quality may also be better. Robotic surgery can also modify the current standard anastomosis following rectal resection, which is a double-stapling technique. Robot enables a transanal specimen retrieval then a single circular stapled anastomosis, which is associated with low pain and fast recovery. More solid answers including long-term oncologic safety will be provided by ongoing randomized trials. In colon cancer, the ease of performing intracorporeal suture anastomosis may be a benefit. Since complete mesocolic excision with wide lymphadenectomy is more and more acceptable to achieve better oncologic outcomes, the role of robotic surgery with providing a stable environment for radically dissecting lymph nodes should be evaluated. Recently developed new technologies such as a fluorescent image or robotic stapler seem promising, with potentially providing further benefits such as a decrease of anastomotic leakage. Single port robotic surgery is also an interesting concept requiring a clinical evaluation. Robotic surgery is a developing field and may provide further functional and oncological benefits to colorectal cancer patients. Large scale randomized trials are timely important.
Development of Sphincter Saving Surgery for Rectal Cancer

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Development of Sphincter Saving Surgery for Rectal Cancer

Rectal cancer was for a long time assumed to be an incurable disease. The first successful resection of a rectal cancer was reported by Lisfranc in 1826. Since the opening of the peritoneum was at that time thought to be very dangerous, the rectal tumor was removed by the perineal route. This approach was used later by many other surgeons. The method was modified by Lockhardt-Mummery, who established a colostomy 2 weeks before rectal resection. The rectum was then resected and the remaining loop aboral from the colostomy closed, facilitating a blind loop. This method was widely used in England and USA for many years, it had a relatively low mortality, but a high recurrence rate and a very limited access to the upper rectum. In Germany and Austria a sacral approach was used in order to have a better access to the rectum. This was popularized by Kraske 1885. Hochenegg from the University of Vienna described 1888 for the first time a pull–through method for sphincter salvage. This was the precursor of coloanal anastomosis. Around 1908 the work of E.Miles on lymphatic spread of rectal cancer and the high local recurrence rates by the established methods stimulated the development of abdominopereineal resection as a standard procedure for all rectal cancers. It became a dogma for many years, that sphincter salvage was unradi cal cancer surgery.

Only a few surgeons continued with the advancement of sphincter saving procedures, such as Hochenegg, Mandl and Finsterer in Vienna and Dixon on the Mayo Clinic. In Vienna an abdominosacral approach was used, whereas Dixon used the abdominal route for the sphincter saving resection of tumors of the upper part of the rectum. It needed many years until sphincter saving procedures became accepted by the surgical community. Finally Dixon’s anterior resection became the standard operation for tumors of the upper and middle part of the rectum. Lower tumors were for a long time still a clear indication for abdomino-perineal resection since many authors still believed, that the distal resection margin had to be 5cm. In order to resect tumors of the lower part of the rectum new techniques were developed: the transsphincteric approach by Mason, the abdominosacral method by Localio and the coloanal anastomosis by Parks.

The ultimate sphincter saving procedure is intersphincteric resection, a method enabling us to resect even tumors extending into the anal canal by resecting the internal sphincter. This technique was developed by our group and modified by Shirouzu. This method has gained world wide interest and is now further developed as a minimal invasive operation with robotic assistance.

When sphincter salvage is not feasible, a reconstruction of the sphincter apparatus can be considered. Dynamic graciloplasty has been developed to avoid a stoma after APR. Although the method is not perfect, it was in our experience a good option for selected cases. Further developments in the technical equipment could improve the results considerably. There is some hope, that in the future no patient with rectal cancer will need a permanent colostomy.
Personalized Treatment Options for Patients with Colorectal Cancer

For physicians facing patients with organ limited metastases from colorectal cancer, tumor shrinkage and sterilization of micro-metastatic disease is the main goal, giving the opportunity for secondary surgical resection. At the same time, for the majority of patients who will not achieve a sufficient tumor response, disease control remains the predominant objective. Since FOLFOX or FOLFIRI have similar efficacies, the challenge is to define which could be the most effective targeted agent to achieve these goals. The *a priori* molecular identification of patients that could benefit from anti-EGFR or anti-VEGF monoclonal antibodies (i.e., the targeted therapies up to now available for mCRC) is of critical importance. In this setting, the *KRAS* mutational status is the first identified predictive marker of response to anti-EGFR therapy and is required prior treatment with anti-EGFR therapy. For *KRAS* wild-type patients, the choice is in between anti-VEGF and anti-EGFR. In the future, in addition to clinical considerations, molecular markers may provide critical information for selecting patients who might benefit preferentially from one of these drugs. Indeed, the tumor’s pathology and patient’s metabolism is driven by genetic make-up, influencing the individual response and toxicity. A great amount of exploratory data has been delivered. With the identification of actionable mutations/alterations such as braf, PI3k, PTEN, AKT and others, we have the challenge in designing molecular driven clinical trials in small patient subgroups. The challenge of treatments’ optimization through specific biomarkers gain special value for a potentially curable disease as mCRC with metastases confined to the liver, and it is even more important if we consider that we do really have the opportunity of mutually exclusive therapeutic choices in this setting. The high degree of complexity of the biological systems we are dealing with makes the discovery of determinant biomarkers a demanding endeavor per se. On the other hand, researchers have to face with all the difficulties of prospective verification and clinical validation of the most promising factors. In the future, to make translational research productive, affordable and more concrete it will be necessary to have a worldwide effort from the scientific community (from medical oncologists to surgeons and basic researchers, but also of national health systems, industries, regulatory agencies and academies).
30 Years of Learning about IBD

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For the last thirty years, I have had the good fortune to work in an institution in which the highest level of medical care is practiced, and there is continual striving for the best outcomes, but also there is a desire to continually learn from our patients. I have had the privilege of working with some of the greatest inflammatory bowel disease surgeons in the world, and some of the most knowledgeable IBD gastroenterologists. This relationship and interaction is as good as an integrated practice can be, where the only concern is the patient’s best interest. In my discussion, I would like to review some of the work that has been published over the years through the efforts of my colleagues and myself, and to describe how by reviewing our results, we have come to modify and hopefully improve our practice in inflammatory bowel disease.

【Crohn’s Disease】
We have published fairly extensively in Crohn’s disease over the years, and, in my own case, starting with margins in Crohn’s disease, which was an issue in the 1980’s. This issue has been made somewhat moot by the administration later of prophylactic drugs, but we always were heavily involved in assessing the effect of recurrence rates, and were a key part of a prospective randomized trial showing efficacy of Mesalamine. In addition, we have studied anorectal Crohn’s, looking at the predictive nature of the presence or absence of an effect of proximal resection on anorectal Crohn’s. We have also been interested in the use of infliximab in fistula surgery for anorectal Crohn’s. We have reviewed various aspects of abdominal surgery for Crohn’s, including gastric bypass versus duodenal strictureplasty. We have also been interested in the place of bypass surgery in Crohn’s, which has utility in certain unusual situations, as well as the use of strictureplasty. There has been extensive study of colonic Crohn’s, both in terms of segmental resection, total proctocolectomy, and subtotal colectomy with ileorectostomy. Surgical techniques have been tested such as stapled right hemicolectomy, and we were involved in a large prospective randomized trial comparing side to side ileotransverse colostomy verses end to end ileotransverse colostomy with the impact on recurrence rates in ileocolic Crohn’s.

【Chronic Ulcerative Colitis and the Ileo Pouch Anal Anastomosis】
Mayo has been a leader in ileal pouch surgery since 1980, when Professor Utsunomiya described the J pouch, which immediately became the standard pouch in our hands. We have learned a great deal from the pouch about physiology, in terms of normal function. We have reported pouch results over the years with the most recent reporting of a twenty year follow up of over 400 patients, and we find that their functional results and lifestyle is surprisingly good. We have written about colorectal cancer and pouch surgery, about persistent anastomotic sinus, about one-stage, two-stage, and three-stage procedures, and about pouchitis and indeterminate colitis. We have found that development of Crohn’s disease does not necessarily lead to a mandatory diversion with an ileostomy, but have found that 67% of patients can be managed with the newer biologic agents who have Crohn’s disease. With a success rate of over 92%, the ileal pouch procedure is one of the most successful operations ever devised.
Current Progress in Treatment for Colorectal Cancer in China

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The incidence of colorectal cancer (CRC) is increasing in China. Characteristics of CRC in China differ from those in western countries. Sphincter preservation rate has increased over the past decade for low-lying rectal cancer. The concepts of multimodality treatment, neoadjuvant therapy, minimal invasive surgery have gain wide acknowledgement in China. Scientific publications and patents related to CRC are also increasing. However, research on etiology is inadequate. The prevention of CRC is suboptimal and early diagnosis is low. There is few high level evidence from China.
The Clinical Observation of Mixed Circular Hemorrhoid by Hemorrhoid Injection Combined with Milligan-Morgan Operation

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Objective: To observe the curative effect of mixed circular hemorrhoid treated by Hemorrhoid Injection Combined with Milligan-Morgan Operation and the Single Operation.

Methods: 480 cases of mixed circular hemorrhoid were divided into two groups: treatment group 360 cases was treated by hemorrhoid injection combined with Milligan-Morgan operation, control group 120 cases by single operation. Cure rate, the complications of anus pain, anus lip dema, bleeding, anus bearing-down pain and gas pain, time of off-line, healing time and relapse rate were compared.

Results: The Cure rate, anus bearing-down pain and gas pain, the relapse rate of 3 month, 6 month and 1 year between the 2 groups had no significant difference (P > 0.05); the complications of anus pain, anus lip dema, bleeding, time of off-line, healing time, the relapse rate of 3 years and 5 years between the 2 groups had significant difference (P < 0.05).

Conclusion: Hemorrhoid injection combined with Milligan-Morgan operation is better than the single operation.

Key words: Xiao- zhi- ling; Milligan-Morgan Operation; Mixed hemorrhoid; Curative effect; Clinical observation