The Differences of IBD Between Eastern and Western, Experience from Taiwan

從台灣出發，看發炎性腸道疾病東西方的差異

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Inflammatory bowel diseases (IBDs), used to be presumed as the Western disease, since their prevalence and incidence increased significantly after the 1950’s in Western countries. This phenomenon spread to Asia, including Taiwan, after the 1980’s. Although the significantly increased of both the ulcerative colitis (UC) and Crohn’s disease (CD) in Taiwan, the incidence and prevalence was still lower than the reports from the Western countries. The gender ratio for IBDs is almost equal in the Western, but in Asia, male is still more prevalent for IBD, though female is catching up recently.

The pathogenesis of IBDs are thought to be related to the genetic, environmental, and immune factors. With the progress in the genetic analysis, we understood that the genetic background is different between the Eastern and Western. The concordance rate of twins, the family history with IBDs are lower in the Eastern than the Western. While NOD2 (CARD15), IRGM, IL23R play major roles for the Western’s CD, TNFSF15 is the only CD associated gene validated in Korean, Japanese, Chinese, and Taiwanese.

Thiopurine is a commonly used immunomodulator for IBD patients. In Western countries, the standard dose is 2-2.5mg/kg/d. However, when we use this dosage, more than expected number of patients suffered from leukopenia was observed in Asia. NUDT15, found by Korean’s genome wide associated study, was confirmed to be the possible genetic background to explain this difference.

Local endemic diseases, for example, the hepatitis B and tuberculosis, also affect the management of IBDs. Compared to the practice in Western, we need to exclude and monitor more cautiously about tuberculosis in Asia.

Although there are differences about IBDs in Western and Eastern, the effort we putting in disease awareness and improvement in quality of care are the same.
Ulcerative colitis (UC) is a major form of inflammatory bowel disease (IBD), characterized by chronic inflammation involving the colon and rectum. It is a cause of significant morbidity worldwide and its incidence and prevalence appear to be increasing with time. Patients with UC frequently experience episodes of bloody diarrhea with or without mucous, abdominal pain, fever and weight loss. For most people, ulcerative colitis has a frustrating pattern of flares and remissions. Therefore, two main goals of treatment for ulcerative colitis are to reduce symptoms (achieve remission) and prevent symptoms flare (maintain remission). Among the pro-inflammatory cytokines, the role of TNF-α has been the most extensively studied. Excessive production of TNF-α from activated macrophages and T-lymphocytes leads to further activation of macrophages and T-lymphocytes, expression of adhesion molecules on vascular endothelium and recruitment of neutrophils, resulting in a vicious cycle of increasing inflammation. TNF-α is expressed at high levels in the colonic mucosa of patients with UC and has been considered to play a central role in the pathogenesis of UC. Anti-TNF-α biologics have profoundly influenced the management of UC patients, especially those with refractory disease. Dr Sung-Ae Jung is the professor of School of Medicine at Ewha Womans University Hospital and has extensive clinical experience of treating IBD. She is the main principle investigator of the multicenter registry of IBD led by Korean Association for the Study of Intestinal Disease. In this lecture, she will talk about the role of anti-TNF-α inhibitors in ulcerative colitis in achieving mucosal healing and symptom relief. She will share the registry data from South Korea and how anti-TNF-α inhibitors performed in the real-world setting in terms of efficacy and safety.
The role of radiologist in management of IBD patients

The incidence of inflammation bowel disease (IBD) is increasing throughout the world, including Asia. Conventional endoscopy with biopsy is the reference standard for assessing mucosal disease activity of IBD. However, it is invasive and gives limited information about transmural and extraenteric disease extent. Over the years, multiple imaging modalities have been used to investigate the small bowel and colon. Unlike an enteroclysis technique that requires intestinal intubation, MR and CT enterography with oral administration of neutral contrast agents developed as a noninvasive alternative for bowel loops evaluation are becoming increasingly used.

This presentation will review the MR and CT enterography technique and provide practical tips in imaging interpretation.
Surgical Management for IBD Patients: When and How

外科手術在發炎性腸道疾病治療的角色

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Surgery for inflammatory bowel disease (IBD) has become safer and less invasive and has been refined to offer a better quality of life to IBD patients.

In terms of Crohn’s disease (CD), it is estimated that up to 80% of patients with CD will require at least one intestinal surgery during their course. The rates of surgical recurrence from the first surgery are reported to range 16-36% at 5 years and from 28-55% at 10 years. Then, CD patients often require multiple surgeries, which increases the risk for intestinal failure (IF). The cumulative risk of IF after the initial surgery was 0.8% (5 years), 3.6% (10 years), 6.1% (15 years), and 8.5% (20 years) in Japanese multicenter study (Watanabe K, et al. J Gastroenterol. 2014). There are some surgical techniques for CD to avoid the occurrence of IF. Strictureplasty is a well-established surgical procedure for fibrostenotic obstructive disease, which widen the luminal diameter without bowel resection. In terms of anastomotic technique, functional end-to-end anastomosis is one of the most standard techniques. We recently performed “antimesenteric cutback end-to-side isoperistaltic anastomosis” (Tohoku University’s method), as a new reconstructive procedure.

In terms of ulcerative colitis (UC), the standard procedure is a 2- or 3-staged restorative proctocolectomy with an ileal pouch-anal anastomosis (IPAA). With advances of laparoscopic devices and experience of laparoscopic surgery, several studies have reported the feasibility and safety of laparoscopic surgery for UC in the elective setting. Though laparoscopic surgery was also induced in patients with severe UC, standard laparoscopic surgery for severe UC is still technically difficult because of bowel friability and hypervascularity, creating a high likelihood of perforation and bleeding. In the acute setting, hand-assisted laparoscopic surgery (HALS) is a useful surgical technique in which laparoscopic procedures are performed with the aid of a hand inserted into the abdomen through a small incision. Surgeons are enabled to obtain tactile sensation, manual retraction, and digital vascular control, which could allow complex laparoscopic operations to be performed more effectively and satisfactorily (Watanabe K, et al. Dis Colon Recum. 2009).
Inflammatory bowel disease (IBD) is rare in Asia in the past. Today, the importance of IBD in Asia is exemplified by its rapidly increasing incidence, complicated disease behavior, and substantial morbidity. (From 0.60 to 3.44 per 100 000)

Diagnosis and classification of IBD depend on a combination of clinical, endoscopic and pathological features. Several entities can mimic IBD clinically and histologically. Correlation of histological features with clinical and endoscopic findings is essential and is facilitated by participation in multidisciplinary meetings where IBD cases are discussed. Indeed, better interaction between histopathologists and endoscopists has been formally recommended in clinical guidelines.

The reasons for taking a biopsy include: confirmation of the diagnosis of IBD, distinction between UC and CD, exclusion of dysplasia, exclusion of coexistent conditions or complications and the activity and extent may also be assessed.

Histological evaluation of endoscopic biopsy samples and resection specimens is an important component of the diagnosis and management of patients with IBD. Unfortunately, many problems inherent to IBD pathology remain the subject of intense scrutiny and debate. These problems include, but are not limited to, lack of standardized and/or validated diagnostic criteria, lack of uniformity in diagnostic reporting, lack of specificity of histopathological features, lack of adequate clinical correlation.

In summary, a detailed clinical information, adequate sampling and good communication between physicians and pathologists can make great improvement in the diagnosis and treatment of IBD.
Perioperative management of inflammatory bowel disease

如何改善發炎性腸道疾病手術前後的治療與追蹤

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Major surgery is common (up to 70%) in patients with Crohn’s disease and is needed in 20% of patients with ulcerative colitis, despite considerable advances in the therapeutics. Short-term outcomes from surgery are influenced by pre-operative optimisation and disease recurrence can be impacted by post-operative management strategies in patients with Crohn’s disease. The timing of surgery is an important predictor of outcome. In acute severe ulcerative colitis, delaying surgery beyond the time when futility of medical management is reached or when features of impending perforation are present increases post-operative morbidity and mortality. In Crohn’s disease, there is a balance between aggressive medical therapy attempting to get the patient in premium condition for surgery (draining abscesses, using antibiotics and reducing inflammation) and the effects of prolonged exposure to drugs that might impair healing or increase the risk of infection; this balance has to be individualised utilising clinical experience and acumen of a multidisciplinary team. However, there are several aspects that need attention in nearly all patients facing surgery. These especially include psychological and nutritional management, the cessation of smoking, prophylaxis against thromboembolism (essential in all patients), and minimisation of therapies that do impact on post-operative course, such as high-dose corticosteroids. Nutritional repletion of the undernourished patient is clearly of importance. This applies equally to macronutrients and micronutrients; for example, healing ability should optimised by, for example, protein and zinc repletion, and the ability to cope with operative blood loss will be improved by attention to anaemia per se and to iron repletion. The use of pre-operative exclusive enteral nutrition has benefits in patients with Crohn’s disease due to its ability to replenish nutrition and to reduce inflammation.

A strategy of medical management of Crohn’s disease post-curative resection is essential in order to reduce the risk and severity, and to mitigate the likelihood of repeated surgical resection. Randomised controlled trials have provided quality guidance on a stratified approach to drug therapy together with surveillance techniques (faecal calprotectin, colonoscopy) to pick up recurrence early requiring escalation of therapy. For ulcerative colitis, the issues are quite different and relate more to the timing of second and third-stage procedures following colectomy. Nutritional issues in this setting are less prominent as the patients are generally well. However, psychological issues and education about outcomes become key aspects requiring active intervention.

Hence, optimal perioperative management of patients with IBD is a multi-disciplinary responsibility that includes the gastroenterologist, surgeon, IBD nurse, psychologist, dietitian, pharmacist and, most importantly, patient.