The age standardized incidence rates of inflammatory bowel disease (IBD), ulcerative colitis (UC) and Crohn’s disease (CD) in Malaysia are low at 0.67, 0.49 and 0.18 per 100,000 persons respectively. However, the incidence appears to be increasing, which is in keeping with other Asian countries. The prevalence rates of IBD, UC and CD respectively are 9.24, 6.67 and 2.17 per 100,000 persons. The highest incidence and prevalence are among the Indian ethnic group as compared to the Malays and the Chinese, which make up the three main ethnic groups in the country. There are many challenges in the overall management of IBD in Malaysia. As the disease is relatively uncommon, there is lack of knowledge among both the public and the health care providers leading to difficulties in diagnosis. Infection, in particular intestinal tuberculosis (ITB), is endemic in Malaysia and share similar clinical, endoscopic and histological features. Although most currently available medications are available in Malaysia, reimbursement is a major issue, particularly for biologic therapy. There is also lack of experience in the use of biologics leading to overuse of steroids. Surgical expertise is also limited as there are few colorectal surgeons who have had specific training in IBD. Other management issues include screening for management for IBD related complications such as osteoporosis and colorectal carcinoma (CRC). Endoscopic surveillance for CRC is often not carried out appropriately and interval cancers in advanced stages are still being diagnosed. In order to help address these issues, an IBD special interest group (IBD-SIG) was recently developed in Malaysia. Among the aims of the IBD-SIG is to provide an educational platform and avenue for advanced IBD care for both health professionals and patients.

Key Words
- inflammatory bowel disease (IBD)
- ulcerative colitis (UC)
- Crohn's disease (CD)
- IBD-SIG
- Malaysia

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マレーシアにおける炎症性腸疾患（IBD）、潰瘍性大腸炎（UC）、クローン病（CD）の年齢調整罹患率は人口10万人あたりそれぞれ0.67, 0.49, 0.18であり、有病率は0.24, 6.67, 2.17と、増加してきている。マレーシアは3民族のなかでは、インド系における発症が最も多い。いまだ比較的まれな疾患であるために認知度が低く、それゆえの問題が散在しているが、とくに内視鏡的・組織学的に類似している腸結核の頻度が高いことから、鑑別診断には難渋することが多い。治療面では、現在世界中で使用可能な薬剤のほとんどを選択できるものの、医療費負担（とくに生物学的製剤）や、医師の経験不足が問題であり、ステロイドの過剰投与などにつながっているほか、IBD専門外科医の不足も顕著である。さらに、骨粗鬆症やIBD関連腫瘍などの合併症についても十分な管理ができているとはいえず、内視鏡的サーベイランスがおこなわれていないために進行がんで診断されることも多い。これらの問題を解決するために、IBD-Special Interest Group（IBD-SIG）が設立され、医療従事者と患者双方のための教育的プログラムを提供するよう活動している。このようにマレーシアにおいてもIBD患者数は増加してきているものの、やはりさらに比較的まれな疾患であるのが現状であるがゆえに、診断・治療両面において改善の余地が少くないことは、他のアジア諸国と概ね同様である。また、マレーシア特有の事情としては、国土が二つの大きな島に分断されていること、そして多民族国家であることがあげられる。これらが相当まって、国内で情報や経験の共有をすることを一層困難にしていることが推察される。医療従事者、製薬業界、そして患者が一体となって設立されたIBD-SIGの積極的な活動によって種々の問題点が解決していくことが期待される。

† KORAYASHI Taku

1. Introduction

Malaysia is located in South East Asia and consists of a peninsular (West Malaysia) and two states in the island of Borneo (East Malaysia). Figure 1) The population of Malaysia is 28.5 million but the majority reside in West Malaysia and the population in East Malaysia is only about 5.8 million. There are three main Asian ethnic groups in Malaysia: Malays and other indigenous populations (67.4%), Chinese (24.6%), and Indians (7.3%).

As in other South East Asian countries, IBD is relatively uncommon in Malaysia. The age standardized incidence rates of inflammatory bowel disease (IBD), ulcerative colitis (UC) and Crohn’s disease (CD) are 0.67, 0.49 and 0.18 per 100,000 persons respectively (Figure 2)1, which is keeping with the mean incidence of IBD of 1.37 per 100,000 persons in Asian countries2, with the exception of Korea and Japan. This is in sharp contrast to Western countries and Australia where the incidence rate is 23.67 per 100,000(3) and New Zealand where the incidence rate is 25.2 per 100,000(3). An interesting finding is the confirmation that the incidence is markedly higher among the Indians when compared to the Malays and the Chinese. The incidence of IBD is 1.91 per 100,000 among the Indian ethnic group compared with 0.35 and 0.63 per 100,000 persons among the Malays and the Chinese, respectively. This observation has previously been shown in previous studies both in Malaysia and in Singapore4,5. However, environmental
factors such as diet and gut microbiome may also play be a significant role although this has yet to be confirmed. The prevalence rates of IBD, UC and CD respectively were 9.24, 6.67 and 2.17 per 100,000 persons. The highest prevalence was also among the Indians: 24.91 compared to 7.00 and 6.90 per 100,000 persons among the Malay and Chinese races. Therefore, one could estimate that there are two to three thousand persons living with IBD in Malaysia.

Despite the fact that the incidence and prevalence rates are low in Malaysia, there is a clear increase in the incidence of the IBD in Malaysia, with the incidence of CD increasing at a relatively higher rate compared to UC. In terms of clinical presentation and disease severity, IBD is Malaysia is fairly similar to that in other populations although acute severe colitis resulting to toxic megacolon appears to be rare in our population. In contrast, our previous study has shown that the clinical course of CD
runs a similarly aggressive course as in the West, with correspondingly high rates of surgery (approximately 50%)\(^4\). The majority of IBD patients are young and develop the disease when they are at the most productive age. Therefore, the health burden of IBD in Malaysia is not insignificant.

2. Diagnosis

The diagnosis of IBD in Malaysia is made on clinical, endoscopic, histological and radiological features using standard criteria\(^10\). Endoscopic services are widely available in most towns and cities of Malaysia and for the rural population in West Malaysia, access to these facilities is usually feasible. In East Malaysia however, there are still areas of indigenous populations living in jungle settlements who have limited access to healthcare although the incidence and prevalence of IBD per se are expected to be low in these populations. However, many limitations still exist in terms of accurately diagnosing IBD. First of all, as IBD is an uncommon condition, the awareness for this disease is still low, both among the public as well the healthcare providers. The level of education in Malaysia is lower compared to more developed economies and there is lack of public awareness for many conditions, even common ones such as colorectal cancer (CRC). Many patients suffer for years with abdominal pain and diarrhea before consulting a doctor. In addition to this, primary physicians have rarely been exposed to IBD and are therefore, more likely to diagnose IBD as infectious enterocolitis, hemorrhoids and other diseases which are more familiar to them. Thus, there is often a lag time of several months to years before the diagnosis of IBD is made.

Even under the care of specialists, diagnosis of IBD remains a challenge. First of all, endoscopy is an essential investigation in the diagnosis of IBD. Nevertheless, many gastroenterologists and general surgeons are unable to accurately describe and diagnose IBD based on endoscopic features. Furthermore, many pathologists in Malaysia are general pathologists who are unfamiliar with IBD histology, be it differentiating IBD from other forms of enterocolitis, or differentiating UC from CD.

The other major issue facing Malaysia and other Asian countries is the difficulty in differentiating CD from intestinal tuberculosis (ITB). These two conditions share clinical, endoscopic (Figure 3), radiological and histological features and tests for TB are unfortunately not adequately sensitive or specific, even with developments such as TB PCR and Interferon-gamma (IFN-\(\gamma\) ) based tests (QuantIFERON GOLD, T-SPOT. TB). Despite many published studies that have attempted to aid in the differentiation of the two conditions\(^11\)\textendash\(^13\), it is often not possible to clearly confirm the diagnosis and a therapeutic trial of either anti tubercular medication (ATT) or CD therapy (corticosteroids) becomes necessary. In this situation, anti-TNF is of course absolutely contraindicated in view of the significant risk of exacerbating a possible case of ITB. In a study by Munot et al\(^14\), all ITB patients show either complete or partial response by 2–3 months of therapy if treated with ATT and although some CD patients may have symptomatic response on ATT, there is no or minimal mucosal healing. From our experience, the converse is also true. Some ITB patients do have symptomatic response to steroids but their weight, biochemical

![Figure 3](image-url) Which is Crohn’s disease and which is TB? The perpetual dilemma in TB endemic countries where there is also an emergence of IBD
parameters and endoscopic findings remain unchanged. Therefore, clinical and endoscopic reassessment in 8–12 weeks is extremely important to establish whether or not the initial diagnosis was the correct one. A study is currently underway in our centre to determine whether a standardized algorithm which includes initial tests followed by a therapeutic trial is an effective strategy in overcoming this challenge.

### 3. Treatment

In terms of treatment, all the standard medications are available for IBD (Table 1). 5-aminosalicylate (5-ASA) compounds are standard induction and maintenance therapy for IBD. Both oral and topical preparations are available. However, due to lack of awareness in treating IBD, 5-ASAs tend to be overused in CD where the data for its efficacy is limited. However, cost of mesalazine remains a major issue, especially topical therapy. Therefore, sulphalazine is still commonly used in Malaysia and the possible complications of this therapy (oligospermia, Steven Johnson’s syndrome) are usually not discussed with patients. Prednisolone remains the standard first line therapy in IBD. Again, there is often inappropriate use of steroids in Malaysia ie as maintenance therapy, in high doses for long periods of time, in children/adolescents when other options are available and in steroid refractory disease. The long term side effects of corticosteroids are well known and osteoporosis in particular is highly prevalent in our IBD population with high rates of fragility fractures (cumulative incidence of 10% at 5 years and 35% at 10 years). Although the study looking at reduced bone

### Table 1 Available medications for IBD in Malaysia

<table>
<thead>
<tr>
<th>Class</th>
<th>Drugs</th>
<th>% of IBD patients on therapy (maintenance only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Aminosalicylate compounds</td>
<td>● Sulphasalazine (oral)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Mesalazine (Pentasa, Salofalk) (oral and topical)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Other preparations not available in Malaysia</td>
<td></td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>● Prednisolone (oral)</td>
<td>92.2% (all therapies)</td>
</tr>
<tr>
<td></td>
<td>● Hydrocortisone (intravenous)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Methylprednisolone (intravenous)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Budesonide not available in Malaysia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Topical corticosteroids not available in Malaysia</td>
<td></td>
</tr>
<tr>
<td>Immunomodulators</td>
<td>● Thiopurines (oral)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Azathioprine</td>
<td>38.7%</td>
</tr>
<tr>
<td></td>
<td>○ 6 mercaptopurine (6MP)</td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td>● Methotrexate (subcutaneous and oral)</td>
<td>1.4%</td>
</tr>
<tr>
<td></td>
<td>● Calcineurin inhibitors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Cyclosporine (intravenous and oral)</td>
<td>0.4%</td>
</tr>
<tr>
<td></td>
<td>○ Tacrolimus (oral)</td>
<td>Not known</td>
</tr>
<tr>
<td></td>
<td>* Mycophenolate mofetil not used for IBD in Malaysia although available</td>
<td></td>
</tr>
<tr>
<td>Biologics</td>
<td>Anti TNF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Infliximab</td>
<td>2.5% (both therapies)</td>
</tr>
<tr>
<td></td>
<td>● Adalimumab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Golimumab and ustekinumab not licensed for IBD in Malaysia although available for off label use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soon to be launched in Malaysia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infliximab biosimilar (Celltrion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vedolizumab (Takeda)</td>
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</tbody>
</table>

*Data courtesy of Dr Zalwani and Dato Dr Radzi (National IBD registry)*
mineral density (BMD) in IBD failed to show a clear association with steroid use, it is logical to conclude that long term steroid use should be avoided in order to reduce this complication. In addition to this, many doctors do not prescribe concurrent calcium and Vitamin D as recommended by most guidelines. Immunomodulators in particular thiopurines (namely azathioprine) are commonly used, usually as second line treatment in both UC and CD. However, therapeutic drug monitoring (TDM) and Thiopurine methyltransferase (TPMT) levels are not readily available although some private labs offer these tests at a very high price. Therefore, use of thiopurines in Malaysia is still mainly weight based and whether or not the dose is optimized in each individual is usually not determined. The use of methotrexate, cyclosporin and tacrolimus is usually limited to specialized centres.

The use of biologic therapy in Malaysia is mainly limited by cost. Biologics are either self funded or via private health insurance. There is a limited budget for large public hospitals (on average 5 patients/year per hospital) where the cost of biologics is reimbursed by the government. A Special Assistance Fund under the Malaysian Ministry of Health that provided funding for patients who could not afford expensive treatment has unfortunately been frozen due to budget constraints. Although many gastroenterologists still lack confidence in commencing biologic therapy, there is a trend towards increasing use among the younger consultants. In our centre, which is a tertiary referral centre for IBD (both adult and paediatric), 43.6% of CD patients and 5% of UC patients are biologic exposed. The main concern with the use of biologic therapy in Malaysia is that, as mentioned previously, TB is endemic and approximately 4% of patients with Malaysia have chronic hepatitis B (CHB). Anti-TNF has been shown to result in reactivation/flare of both latent TB and CHB. Therefore screening for these latent infections is vital prior to commencing treatment.

4. The status of IBD surgery in Malaysia

Unlike developed countries with a high prevalence of IBD, where surgical management is by colorectal surgeons specializing in IBD surgery, there are significant limitations to achieving this in Malaysia. There are less than 500 general surgeons and only 44 colorectal surgeons in the country, of whom approximately half are in public hospitals, severely limiting access to care for this socioeconomically challenged patient population. Very few surgeons have received specific training in the recognition and surgical management of IBD, and given the low prevalence, it is difficult to gain expertise.

Surgical expertise is most likely to develop in tertiary referral centres having gastroenterologists with an interest in IBD. In such centres, indications and management follow similar protocols to those in high-prevalence countries. Laparoscopic techniques are available for suitably selected cases, but incur significantly higher costs. Similar to the West, the majority requiring surgery are CD patients rather than ulcerative colitis, the former often requiring multiple surgeries. Nonetheless, there are significant obstacles and differences. Many are high-risk for surgery, presenting in emergent or complicated states, such as intestinal perforation/obstruction, infective complications, toxic megacolon or even malignancy. They may have been inappropriately managed prior to the surgical presentation, exhibiting the side effects of long-term steroid use and nutritional deficiencies, further compromising chances of surgical success. Furthermore, many patients are reluctant to undergo surgery for a multitude of reasons, including fear of surgical complications, stoma-aversion, and costs, both direct and indirect. As such, even in a referral centre, the number of surgeries for IBD per year rarely exceeds 15-20.

The keys to improving surgical management of IBD will be early multi-disciplinary management, with centralization of specialized surgical services, and retention of such services within the public healthcare system.

5. Follow up and cancer surveillance

IBD patients tend to be followed up every three to six months in all the major public hospitals although there are a significant number of patients who are lost to follow up. IBD clinics with specialist nurses are not available in Malaysia due to the small number of cases in each hospital. There are no specific guidelines for Malaysia in terms of CRC surveillance in IBD patients so established guidelines from British Society of Gastroenterology (BSG), European Crohn’s and Colitis Organisation (ECCO) and American Gastroenterology Association (AGA) are generally used. However, there is still limited data on the prevalence of dysplasia and IBD associated CRC in Malaysia. A recent study by our group in collaboration with another
large tertiary centre, University Kebangsaan Malaysia Medical Centre (UKMMC) was recently presented at the APAGE IBD clinical forum. From the study based on 518 colonoscopies and 163 IBD patients (111 UC, 52 Crohn’s colitis), the overall prevalence rate of confirmed dysplasia was 3.7% with a cumulative risk of 4.7% at 10 years and 6% at 20 years from diagnosis. There were two interval cancers despite regular surveillance according to guidelines and both were Duke’s C carcinomas. This is indeed very sobering as it appears that despite surveillance, interval cancers in advanced stages are still being picked up as opposed to low or high grade dysplasia before the development of cancers. Most endoscopists are not familiar with the regular use of chromoendoscopy and other forms of image enhanced endoscopy (e.g., NBI) and are therefore likely to miss subtle dysplastic lesions. This knowledge and experience is essential in order to perform targeted biopsies during surveillance, which have largely replaced the practice of performing random colonic biopsies. There is also often confusion between dysplastic lesions and pseudopolyps. Endoscopic submucosal dissection (ESD) of endoscopically resectable dysplastic lesions is also rarely carried out due to lack of expertise.

6. Disease concept and social status of IBD patients in Malaysia

Patients with IBD in Malaysia, just as in other parts of the world, often feel lonely and isolated. To quote one of our patients suffering from CD, “Your world shrinks because you never know when you need to rush to a bathroom, so you can’t go anywhere at any time that you wish. Also, it is such an ‘uncool’ thing to have to tell your peers that you have such a ‘problem’—literally! Not to mention that you feel drained and exhausted much of the time.” As mentioned previously, there are many misconceptions regarding the disease and patients find it hard to explain their condition to their family, let alone employers who are often less than understanding when it comes to the patients taking medical leave. Pregnancy is also an issue as many women and their spouses are against any medications during this period, increasing their risk of flare.

7. Current and future developments

In view of the challenges that have been mentioned above, several health care professionals, representatives from the pharmaceutical industry and well motivated patients have come together to form an IBD special interest group (SIG) in Malaysia. The aims of the IBD-SIG are as follows:

- Develop a treatment algorithm for the management of IBD in Malaysia
- Organize and support educational workshops and other events
- Provide a platform for case discussions and sharing of information
- Provide an avenue for specialist/tertiary referral
- Develop patient support group
- Develop patient information leaflets
- Promote public awareness
- Develop research in the field of IBD in Malaysia

Several of these aims have already been achieved, for example, the Crohn’s and Colitis Society of Malaysia (CCAM) has just been registered for patients with IBD early this year. In terms of medical education, several events have been held including a collaboration with ECCO (European Crohn’s and Colitis Organisation) which had conducted a very successful workshop in Malaysia last year. Further collaborations eg with the Asian Organization of Crohn’s and Colitis (AOCC) will hopefully further strengthen the ties between Malaysia and other Asian countries and together achieve the common goal of improving IBD care. In addition to this, a formal National Specialist Registry under the auspices of the Ministry of Health was developed two years ago in order to collect more clinical data as well as provide an avenue for future research.

8. Conclusion

In summary, the incidence and prevalence rates of IBD are low in Malaysia. Many challenges remain in terms of diagnosis and management of this condition.

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