# Clinical Characteristics of Inflammatory Bowel Disease in Thailand: A 16 Years Review

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***Objective:*** *Inflammatory bowel disease is an uncommon gastrointestinal problem in Asia. Recently, there have been many reports from Japan and India demonstrating a higher incidence of this disease entity in this region. To date, there has been only one report from Thailand regarding clinical manifestation of ulcerative colitis. However, information regarding Crohn's disease has never been demonstrated.*
***Material and Method:*** *The authors retrospectively reviewed clinical data on both ulcerative colitis (UC) and Crohn's disease (CD) during a 16 year period from the medical records of King Chulalongkorn Memorial Hospital, one of the main referral centers in Thailand.*
***Results:*** *There were 55 patients diagnosed as inflammatory bowel disease. Of these, 45 were diagnosed as UC and the rest were CD. Mean age of UC and CD patients was 32 and 40.5 years respectively. The authors did not find any significant relationship between smoking and colonic cancer in these patients. The main presentations of UC patients were mucous bloody diarrhea and watery diarrhea whereas watery diarrhea, fever and weight loss were the main presentations of patients with CD. There were fistulas in 2 CD patients. In addition, oral ulcer and panuveitis were diagnosed in 2 different CD patients. One UC patient had PSC (primary sclerosing cholangitis) and another had pyoderma gangrenosum. The majority of UC presented as pancolitis (46.7%) while ileocolic involvement was more common in CD (60%)*
***conclusion:*** *In Thailand, UC is more common than CD whereas disease involvement is more localized to ileocolic region in CD than UC. Similar to Western countries, both UC and CD are presented at relatively young age.*

***Keywords:*** *Thailand, Ulcerative colitis, Crohn's disease*

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Although the incidence of inflammatory bowel disease (IBD) has become stabilized in Western countries, but the incidence of IBD in Asia has become more at crescendo side. Recently, ulcerative colitis (UC) and Crohn's disease (CD) have been discovered and reported from many Asian countries[1-5]. Improved sanitation and hygiene has been observed trough many countries in the region. This in turn may lead to a significant change in immune status of this population and predispose them to develop IBD. By comparison, the incidence of IBD in oriental patients is still much lower than Caucasian[6,7]. However, there were no obvious differences in age or sex distribution or rates of familial aggregation. In addition, the clinical characteristics and natural history of IBD were not different from other racial groups. Over the last decade, there were many reports of IBD incidence from many countries across Asia but there was only one study from Thailand demonstrating clinical presentations of ulcerative colitis[8]. To date, there has been no such report regarding CD from Thailand. To the authors' knowledge, this is the first series from Thailand that demonstrates the clinical characteristic of CD compared to UC.

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## Material and Method

From January 1989 to February 2005, data from inpatient medical records and out patient clinic-charts

including internal medicine, gastroenterology, colorectal and general surgery clinics were obtained for a critical review. Necessary information unfounded from medical records was additionally obtained by telephone interview from patients and /or family members whenever possible. Patient demographic data, smoking habit, extension and location of lesions, severity of disease, timing of disease presentation until diagnosis was made, extra-colonic manifestation, mode of treatment, complication and colon cancer development were included in the presented data sheet for analysis. Patients were separated into two groups according to disease definition. Group I contained patients with a diagnosis of UC. CD patients were categorized as group II.

Descriptive statistics are expressed as number (%). Data were analyzed with the Statistic of Package for Social Sciences (SPSS 11.5) program (Chicago, IL, USA).

**Results**

From this 16 years review, there were 55 patients diagnosed with inflammatory bowel disease. Of these, there were 45 and 10 patients diagnosed as ulcerative colitis and Crohn's disease respectively. The ratio of male to female patients in UC and CD were 0.8:1and 2.3:1 respectively. Mean age of patients at diagnosis was 33.0 years for UC and 41.7 years for CD. Timings of disease presentation before establishing diagnosis in UC and CD were 5 and 5.5 months respectively (Table 1). UC patients had lower number of non-smokers than CD (88.6% VS 50%) at the time of diagnosis (Table 2).

The majority of patients with UC presented with gross blood in the stool (88.8%) and/or diarrhea (77.8%). Systemic symptoms such as fever, weight loss were manifested less frequently. CD patients presented mainly with diarrhea (90%) and/or systemic symptoms (90%) (Table 3).UC patients had higher number of presentations with gross blood in stool than CD patients (88.9% VS 20%). Whereas CD had higher number of presentations with systemic symptoms than UC patients (90.0% vs 42.2%).

Extracolonic manifestations were found in 4 patients with CD (oral ulcer=1, recurrent genital ulcer=1, seronegative spondyloartropathy=1 and panuveitis=1). Two CD patients developed fistulas during their course of disease (rectoperineal fistula with rectal abscess=1 and enterovesicle fistula with fistula in ano=1). One UC patient had pyoderma gangrenosum diagnosed during the course of disease. Another patient presented with elevated liver transaminase and subsequent work up revealed primary sclerosing cholangitis as a cause. This was confirmed by ERCP in addition with colonoscopic biopsy compatible with UC.

Pancolitis was found more commonly in UC whereas ileocolic inflammation was more common in CD (Table 4, 5). Immunosuppressive agents were used as a standard treatment in majority of patients from both groups. Surgery was required in 4 patients (40%)

**Table 1.** Patient's demographic data

| Diagnosis | Smoking habit | |
|---|---|---|
| | UC | CD |
| Number of patients | 45 | 10 |
| Male:Female | 20 : 25 | 7 : 3 |
| Mean age at diagnosis (years old) | 33.0 $\pm$ SD | 41.7 $\pm$ SD |
| Median duration of disease before establishing diagnosis (months) | 5 (1-540) | 5.5 (2-42) |

**Table 2.** Known smoking habit data

| | UC (n=35) | CD (n=8) |
|---|---|---|
| Non-smoker | 31 (88.6%) | 4 (50%) |
| Ex-smoker or Smoker | 4 (11.4%) | 4 (50%) |

**Table 3.** Clinical presentations of UC and CD patients

| Presentations | UC (n=45) | CD (n=10) |
|---|---|---|
| Gross blood in the stool | 40 (88.9%) | 2 (20%) |
| Diarrhea | 35 (77.8%) | 9 (90%) |
| Systemic symptoms (fever and weight loss) | 19 (42.2%) | 9 (90%) |
| Abdominal pain | 9 (20%) | 3 (30%) |

**Table 4.** Location of lesion and disease severity in UC patients (n=45)

| | | |
|---|---|---|
| Location of lesion | Proctitis | 9 (20%) |
| | Left sided disease | 8 (17.8%) |
| | Near total involvement | 7 (15.6%) |
| | Pancolitis | 21 (46.7%) |
| Activity | Mild | 20 (44.4%) |
| | Moderate | 11 (24.4%) |
| | Severe | 14 (31.1%) |

**Table 5.** Extension and location of lesion in CD patients (n=10)

| | | |
|---|---|---|
| Extension | Ileum, colon | 4 (40%) |
| | Colon | 5 (50%) |
| | Colon, perianal | 1 (10%) |

**Table 6.** Mode of treatment to control disease activity for ulcerative colitis and CD patients (Some patients required more than two modes of treatment)

| Mode of treatment | UC (n=45) | CD (n=10) |
|---|---|---|
| Steroid | 7 (15.6%) | 5 (50%) |
| Immunosuppression | 38 (84.4%) | 10 (100%) |
| Surgery | 7 (15.6%) | 4 (40%) |

with CD whereas 7 (15.6%) of UC patients underwent subtotal colectomy (Table 6). Steroid was used to control disease activity more in CD than UC (50% VS 15.6%) (Table 6).

**Discussion**

The incidence rates of UC and CD in Western countries are 11 and 7 per 100,000 population respectively, whereas the incidence rates reported from Asia are much rarer[5]. A study from Seoul Korea reported the incidence of UC was 0.68 per 100,000 inhabitants[9]. In addition, Al-Shamali et al reported from Kuwait that the incidence of UC was 2.8 per 100,000[2]. In contrast, a study from India reported the incidence of UC to be as high as 44.3 per 100,000 inhabitants[1]. These results demonstrated that risks of UC among Asian populations from different ethnic origins are different. This has been confirmed by a study done by Ling et al from Singapore. Basically, Singapore is an ethnically heterogeneous city –state with a population made up of Chinese (77%), Indians (7.5%), and Malays (14%). They reported that relatively more Indians affected by UC than others ethnic origins[10]. Our study was not intended to reveal the incidence of inflammatory bowel diseases. Roughly, the incidence of inflammatory bowel disease in Thailand can be called as very rare. Combing our study and with another study from Siriraj Hospital[8] representing two of the largest referral hospitals in this country, has shown that the number of inflammatory bowel patients is relatively low. Interestingly, the present study has shown that UC was more common than CD with a ratio of 4.5:1. By far, there is no other study from Thailand which demonstrates a higher incidence of CD than UC. A recent review with data from many countries from the Asian Pacific region such as India, Malaysia, China also supported our finding on higher incidence of UC than CD. This review showed a progressive rise in the incidence and prevalence of inflammatory bowel, more so for UC than CD[11].

It has been proved that, smoking was found more commonly in UC than CD. A recent review from Asian-Pacific region has confirmed a similar effect of smoking in Asian patients[11]. The present study also had a higher number of nonsmoker in UC than CD (88.6% vs 50%).

Intestinal tuberculosis is still common in the Asian Pacific region, and poses major diagnostic and therapeutic hurdles. More over, intestinal tuberculosis has clinical presentations, radiological and endoscopic findings similar to CD. It has been hypothesized that the true incidence of CD may be higher than reported. Overall assumption can be made that, "it is difficult to differentiate intestinal tuberculosis from CD". Therefore, the incidence of CD in this region may be higher if it is possible to distinguish CD patient who was previously misdiagnosed as intestinal tuberculosis.

Others extracolinic manifestation in the present series were oral ulcer, genital ulcer, panuveitis and seronegative spondyloarthropathy. All of these were found in CD patients. Clinical presentations of the presented patients were similar to the general population of inflammatory bowel disease. The authors' CD patients presented mainly with diarrhea whereas UC patients presented as diarrhea with gross blood in the stool. Fistula formations were found in two CD patients in the present series.

Extracolinic manifestations are reported worldwide. Skin, eyes, biliary tree and joint were the most common organs reported. The incidence of extracolonic manifestations was varied and ranged between 1 to 20% of all cases[12-15]. Pyoderma gangrenosum (PG) was the most common dermatological presentations in both UC and CD. The authors discovered PG in one of our UC patient. Primary sclerosing cholangitis (PSC) was found more in UC than CD patients[16]. In addition, the risk of colonic cancer was reported to be higher in UC with PSC than without [16] The authors' PSC patient presented firstly with asymptomatic elevation of liver enzymes without colonic manifestation and subsequent colonoscopy confirmed UC. After 3 year of follow up period, we did not detect any evidence of colon cancer in this patient.

The distribution of UC in this series was mainly pancolitis (46.7%). In contrast to this series, recent studies from Poland and China demonstrated that 80 % of their patients had left sided UC whereas pan colitis was found only 15 %[17,18]. Since the extension of colitis is well known as one of the major risk factors for development of colon cancer, then it is possible that patients in our series may have a higher chance of cancer development in the near future. Thus vigilance surveillance program may be needed.

Generally, CD may present as skipped colonic inflammation with or without small bowel involvement. Our series has demonstrated that almost half of CD had small bowel involvement. In addition, almost 20% of patients developed perianal fistula. In other series, fistula can be found between bowel and many others organs such as enterovesical, enteroenteral, enterocutaneous and enterovaginal fistulas[19-21]. The presentation of CD with fistula may be quiescent such as in enteroenteric fistula or significantly deteriorate in quality of life such as in enterocutaneous fistula.

Majority of our patients required either steroid or immunosuppressive agent such as azathioprine to control their disease activities. Steroid has been used more effectively in 50% of our CD. However, more CD patients than UC patients in this series required operation. This may be due to a higher number of complications such as fistula and bowel stricture. Indications for surgery in CD are varies, different location of diseases may affect indications for surgery. Farmer et al review clinical indications in 500 CD who underwent surgery and reported that patients with ileocolic CD, the primary surgical indications were internal fistula and abscess, 44%, intestinal obstruction, 35%, and perianal disease, 12%. For patients with CD of the small intestine, the primary surgical indications were intestinal obstruction, 55%, and intestinal fistula and abscess, 32%. Patients with colonic CD had a significantly more diverse surgical indication, with poor response to medical therapy, 26%, internal fistula and abscess, 23%, toxic megacolon, 20%, and perianal disease, 19%[22].

In summary, inflammatory bowel disease in Thailand is a rare disease. UC and CD usually present at very young age. There were more nonsmokers in UC than CD. With skeptical concern for patient who presented with usual characteristic of non-infectious diarrhea, diagnosis can be entertained. UC is significantly more common than CD. Pancolitis is the most common disease extension of UC whereas ileocolic region and fistula formations are unique presentations of patient with CD. Steroid can be used effectively in CD. However, surgery is more commonly indicated in CD than UC.

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## *รายงานศึกษาผู้ป่วยลำไส้ใหญ่อักเสบเรื้อรังและโครห์นในประเทศไทยในรอบ 16 ปี*

***รังสรรค์ ฤกษ์นิมิตร, โอฬาร ซาลาภิภัทร, ประเดิมชัย คงคำ, พินิจ กุลละวณิชย์***

*โรคลำไส้ใหญ่อักเสบเรื้อรังที่ไม่ได้เกิดจากการติดเชื้อนั้นแบ่งเป็น 2 ประเภทได้แก่ อัลเซอเรทีพ โคไลติส และโครห์นนั้นพบได้ค่อนข้างไม่บ่อยในภูมิประเทศแถบเอเชียแต่ก็ได้มีการรายงานว่าอุบัติการณ์นั้นได้สูงขึ้นเรื่อย ๆ โดยเฉพาะรายงานจากจีนและอินเดีย ส่วนรายงานจากประเทศไทยนั้นพบว่ามีเพียงรายงานเดียวจากโรงพยาบาลศิริราชที่รวบรวมเฉพาะผู้ป่วยอัลเซอเรทีพ โคไลติส แต่จนกระทั่งถึงปัจจุบันก็ยังไม่มีรายงานของผู้ป่วยโครห์นในประเทศไทย*

*รายงานนี้ได้รวบรวมผู้ป่วยอัลเซอเรทีพ โคไลติสและโครห์นในรอบ 16 ปีที่ได้รับการวินิจฉัยในโรงพยาบาลจุฬาลงกรณ์ ซึ่งก็ได้พบว่ามีผู้ป่วยอัลเซอเรทีพ โคไลติส 45 รายและโครห์น 10 ราย โดยมีอายุเฉลี่ยที่ 32 และ 40.5 ปีตามลำดับ ทั้งนี้ผู้ป่วยอัลเซอเรทีพ โคไลติสมักมาด้วยอาการถ่ายเป็นมูกเลือด ส่วนผู้ป่วยโครห์นมักมีอาการท้องเสีย มีไข้และน้ำหนักลด โดยที่อีก 2 ราย มีรูรั่วระหว่างลำไส้เชื่อมต่อกับอวัยวะอื่น ส่วนอาการอื่น ๆ เช่นแผลในช่องปากและตาอักเสบนั้นพบในอีก 2 ราย*

*รอยโรคของอัลเซอเรทีพ โคไลติสนั้นมักเป็นทั่วทั้งลำไส้ใหญ่ในขณะที่โครห์นมักเป็นบริเวณลำไส้ใหญ่ด้านขวาและลำไส้เล็กส่วนไอเลียมทั้งนี้มักตรวจพบผู้ป่วยทั้ง 2 กลุ่มตั้งแต่ยังอายุน้อย*