Peptic Ulcer Disease in Priest Hospital

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Background: *Peptic ulcer disease (PUD) has been commonly diagnosed in priests. The reason may be their lifestyles and rules, where they have only two meals a day and they cannot select their food but must eat what is provided by the givers.*

Objective: *To study the risk factors of PUD in the priests*

Material and Method: *This study was a retrospective study of 266 priests who underwent gastroduodenoscopy at Department of Surgery, Priest Hospital between March 2004 and October 2006. The risk factors of Helicobacter pylori (H. pylori) infection, non-steroid anti-inflammatory drugs (NSAID), smoking and years of ordination were collected, analyzed, and compared with other studies in general population.*

Results: *The age range was 14-93 years with a mean age of 53.88 ± 16.42 years. The study showed 60 cases (22.56%) of peptic ulcer (PU) with 39 cases (65%) of H.pylori infection, mainly found between 51-60 years old priests. Moreover, there were 44 cases (73.33%) of gastric ulcer (GU) with 26 cases (59.10%) of H.pylori infection and 16 cases (26.67%) of duodenal ulcer (DU) with 13 cases (81.25%) of H.pylori infection. The age was the only significant risk factor affecting PUD in the priests. Lifestyle was not a significant risk factor as hypothesized in general population.*

Conclusion: *The only factor that related to the peptic ulcer in the priests is the age. The eating regulation does not affect the incidence of peptic ulcer. The lesser time being a priest or novice, the more prevalence of PU.*

Keywords: *Peptic ulcer, Priests, Helicobacter pylori, Ordination*

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Peptic ulcer disease (PUD) is very common, affecting 2% of the U.S. population[1]. In Thailand, the disease was reported to occur in 111-112 patients per 100,000[2]. The cause is multifactorial with the resulting disrupted balance between aggressive factors and mucosa defensive factors. Symptoms include abdominal pain, dyspepsia, vomiting, and symptoms associated with ulcer complications such as anemia and gastrointestinal bleeding. Despite the fact that new cases and role of surgeries have declined over time, the emergency surgeries and mortality rate have not changed[1,3]. PUD is still the most common cause of upper GI bleeding[1,4]. The most important etiologic factors are H. pylori infection and NSAID use. The causative effect between these two factors is still unclear[3,5]. Additional reported causes of PUD are cigarette smoking, stress, alcohol and certain kinds of food[3,6,7]. The diagnosis is based on endoscopy. This is recommended in patients with chronic dyspepsia that do not respond to medication, had the first symptom at 40 years or older, or anyone with alarm symptoms (awakening pain, significant weight loss, bleeding, persistent vomiting, dysphasia, strong family history of GI malignancy, anemia, jaundice, hepatosplenomegaly, lymphadenopaty, fever, abdominal mass, significant abdominal distension, and bowel habit change).

The priest's lifestyle is different from other population, as they eat only two meals per day and cannot select their own food. Therefore, it is interesting to see if their lifestyle has any affect in PUD.

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Material and Method

The retrospective descriptive study was done on 266 patients with chronic dyspepsia or alarm symptoms who had a gastroduodenoscopic examination for

PUD between March 1, 2004 and October 31, 2006. Patients with other diseases such as cancer, gall stone, esophageal varices were excluded. A Pronto dye test was performed in all patients with PUD to identify *H. pylori*. All Patients with gastric ulcer (GU) underwent biopsy of ulcer edge to rule-out malignancy. Patient with both GU and DU were included in GU cases. Statistical analysis was done using Stats Direct Statistical Software version 2.5.7.

Table 1. Age and endoscopic findings in chronic dyspepsia

Age range (years)	PUD	GU	DU	GU+ DU	Percent	Total
11-20	6	-	-	-	-	6
21-30	16	1	-	1	0.38	17
31-40	35	1	1	2	0.75	37
41-50	36	4	3	7	2.63	43
51-60	40	16	4	20	7.52	60
61-70	41	16	1	17	6.39	58
71-80	27	6	3	9	3.38	36
81-90	4	-	3	3	1.13	7
91-100	1	-	1	1	0.38	2
Total	206	44	16	60	22.56	266

Results

Two hundred sixty six dyspeptic patients were studied. The age ranged between 14 and 93 years. Mean age was 53.88 $\pm$ 16.42 years (95% CI 21.69-86.07). PUD cases were categorized into PU 60 cases (22.56%), GU 44 cases (73.33%), and DU 16 cases (26.67%). The most common diagnosed age range was 51-60 years (20 cases, 33.33%) as shown in (Table 1). *H. pylori* infection was identified in 39 (65%) of PU cases, 26 (59.10%) of GU cases, and 13 (81.25%) of DU cases (Table 2). Mean ordination duration was 11.25 years with the range between 1-64 years. The range of ordination duration with most common PUD diagnosis was 1-10 years accounting for 35 cases (14.96%) (Table 3).

There was a significant association between all precipitating factors and PUD ($p = 0.004$) (age, *H. pylori* infection, NSAID use, cigarette smoking, duration of ordination). Significant correlation between precipitating factors with GU and DU was also demonstrated with p of 0.0074 and 0.0069, respectively. Logistic regression equation showing the correlation

Table 2. Location of PU ulcer and risk factors

Type of ulcer	*H. pylori*		NSAID		Smoking		
	Present	Absent	Take	Not take	Yes	No	Use to smoke but quit
Gastric ulcer	26	18	9	11	19	14	7
Duodenal ulcer	13	3	3	4	6	8	2
Total	39	21	12	15	25	22	9

Table 3. Amount of priests with PUD group by age and ordination years

Age range (years)	Ordination (years)						
	10 and less	11-20	21-30	31-40	41-50	More than50	Total
11-20	6(0)	-	-	-	-	-	6(0)
21-30	14(1)	-	-	-	-	-	14(1)
31-40	22(1)	11(1)	1(0)	-	-	-	34(2)
41-50	25(4)	10(3)	7(0)	-	-	-	42(7)
51-60	34(13)	10(2)	3(0)	4(0)	-	-	51(15)
61-70	23(10)	23(4)	4(2)	1(0)	2(1)	-	53(17)
71-80	12(3)	6(3)	3(1)	2(0)	1(0)	2(0)	26(7)
81-90	3(3)	-	1(0)	-	-	-	4(3)
91-100	-	1(0)	-	1(1)	-	-	2(1)
Total	139(35)	61(13)	19(3)	8(1)	3(1)	2(0)	232(53)

of PUD and risk factors is as following:

Y = -20.459242 + .035663 A + 17.080037 C (0) + 17.277256 C (1) + .380035 D (0) + .159805 D (1) + .724154 E (0) + 1.169118 E (1) + .483963 E (2)

A = age, C = H. pylori, D = NSAID, E = cigarette smoking

C (0) = *H. pylori* - C (1) = *H. pylori* +

D (0) = NSAID - D (1) = NSAID +

E (0) = non-smoker E (1) = smoker

E (2) = quit smoking

From this equation, age was found to be the most important factor causing PUD ($p = 0.0023$, odds ratio = 1.03, 95% CI 1.012793 - 1.060366). R-Square value was statistically significant (R-Square = 0.37). In addition, years of ordination inversely correlated with endoscopic findings from post Hoc analysis ($p < 0.0001$).

Discussion

The author reported the prevalence of PUD in Buddhist priests in Priest Hospital to be 125 patients per 100,000 cases (60 patients per 48,171 cases). However, there was no control group to clarify the prevalence compare to general population. The study found 22.56% of PUD in dyspepsia and symptomatic patients, which was less than previous study in 1982 with the prevalence of 52% diagnosed by upper GI study[9]. Other studies demonstrated different prevalence ranged from 3.87[10] to 47.62%[11-14]. The explanation of this finding was the differences in inclusion criteria and patient characteristics. In the present study, GU was more prevalent than DU, Furthermore, the rate of *H. pylori* infection was less than most of previous reports of 70-90% and 90% in GU and DU, respectively[1,3,15]. From all precipitating factors, only age and duration of ordination had significant correlation to PUD. This may be due to missing data or other variables had influence on the disease such as virulence of *H. pylori*, type, dosage, and duration of NSAID use, and duration of cigarette smoking, which may be different in each patient. Interestingly, the shorter duration of ordination related with more prevalence of PUD. This could be explained by the Buddhist priests way of living as it is not a risk factor causing PUD. In contrast, the longer ordination year may have positive effect on prevention of PUD. Older age was significant correlated with PUD occurrence. From the present study, 30.67% of PUD patients were order than 50 years. The reasons were high prevalence of PUD in the elderly in general and the higher average age of priest patients. Lastly, the result suggested that regular duty of priests and eating behavior may not be related to PUD.

Conclusion

The prevalence of PUD in Priest hospital was 22.56% from gastroduodenoscopy. *H. pylori* infection was found in 65% of cases, which was not significant different from previous studies in general hospital in Thailand, but less than reports from other countries. The prevalence of PUD had tendency to decrease in Thailand. Factor associated with PUD was age older than 50 years, however, the regular duty of priests and eating behavior may not be associated with the rate of PUD.

References

1. Dempsey DT. Stomach. In: Brunicardi FC, Andersen DK, Billiar TR, Dunn DL, Hunter JG, Pollock RE. editors Schwartz's principles of surgery. 8th ed. New York: McGraw-Hill; 2005: 953-60.
2. Wilairatana S, Kladchareon N, Israsena S, Wilairatana P. Epidemiology of peptic ulcer disease in Thailand. Gastroenterol Jpn 1991; 26 (Suppl 3): 265-6.
3. Harbison SP, Dempsey DT. Peptic ulcer disease. Curr Probl Surg 2005; 42: 337-454.
4. Saowaros V, Udayachalerm W, Wee-Sakul B, Tienpaitoon V. Causes of upper gastrointestinal bleeding in Thai patients: review of 5,000 upper gastrointestinal endoscopy. J Med Assoc Thai 1994; 77: 561-5.
5. Ji KY, Hu FL. Interaction or relationship between Helicobacter pylori and non-steroidal anti-inflammatory drugs in upper gastrointestinal diseases. World J Gastroenterol 2006; 12: 3789-92.
6. Atisook K, Kachinthorn U, Luengrojanakul P, Tanwandee T, Pakdirat P, Puapairoj A. Histology of gastritis and Helicobacter pylori infection in Thailand: a nationwide study of 3776 cases. Helicobacter 2003; 8: 132-41.
7. Maity P, Biswas K, Roy S, Banerjee RK, Bandyopadhyay U. Smoking and the pathogenesis of gastroduodenal ulcer recent mechanistic update. Mol Cell Biochem 2003; 253: 329-38.
8. The Gastroenterological Association of Thailand. Guideline for the management of dyspepsia & helicobacter pylori. Bangkok: Jirung Ratchada Publishing; 2542: 1-12.
9. Chonmaitri S. Peptic ulcer in the priests: upper G-I study. Bull Dept Med Serv 1985; 10: 105-8.
10. Sri-Aramrungrueng T. Peptic ulcer in Khon Kaen Hospital. Khon Kaen Med J 2003; 27: 74-89.
11. Kachintorn U, Luengrojanakul P, Atisook K, Theerabutra C, Tanwandee T, Boonyapisit S, et al.

Helicobacter pylori and peptic ulcer diseases: prevalence and association with antral gastritis in 210 patients. J Med Assoc Thai 1992; 75: 386-92.
12. Chunlertrith K. Etiology of dyspepsia in Srinagarind Hospital: a prospective data analysis. Srinagarind Med J 1990; 5: 227-32.
13. Saisang S. The study of pathology of upper gastrointestinal tract, prevalence and eradication of helicobacter pylori infection in patients with dyspepsia. Bull Dept Med Serv 2000; 25: 290-7.
14. Wachirawat W, Hanucharurnkul S, Suriyawongpaisal P, Boonyapisit S, Levenstein S, Jearanaisilavong J, et al. Stress, but not Helicobacter pylori, is associated with peptic ulcer disease in a Thai population. J Med Assoc Thai 2003; 86: 672-85.
15. Mercer DW, Robinson EK. Stomach. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, editors. Sabiston text book of surgery. 17th ed. Philadelphia: Elsevier Saunders; 2004: 1278-88.
16. Arnantapunpong S. Helicoabacter pylori infection in patients with dyspepsia. Rajavithi Med J 2542; 10: 17-26.

โรคแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้นของพระสงฆ์และสามเณร

ประวิทย์ ตันติวัฒนาศิริกุล

ภูมิหลัง: *พระสงฆ์และสามเณรมีการบริโภคอาหารต่างจากบุคคลทั่วไป เนื่องจากฉันอาหารเพียงวันละ 2 มื้อ และเลือกอาหารไม่ได้ จึงมีปัญหาสงสัยว่าอาจจะเป็นปัจจัยเสี่ยงในการเกิดโรคแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้น รวมทั้งการมีวัตรปฏิบัติตามพระธรรมวินัยจะทำให้มีอัตราการติดเชื้อ Helicobactor pylori ต่างจากผู้ป่วยอื่นหรือไม่*

วัตถุประสงค์: *เพื่อศึกษาอุบัติการณ์ของโรคแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้นในพระสงฆ์และสามเณร และศึกษาถึงปัจจัยเสี่ยงที่มีความสัมพันธ์ต่อการเกิดโรคนี้ รวมทั้งศึกษาอัตราการติดเชื้อ H. pylori ในผู้ป่วยกลุ่มนี้*

วัสดุและวิธีการ: *ทำการศึกษาเชิงพรรณนาโดยเก็บข้อมูลย้อนหลังของพระสงฆ์และสามเณรที่มารับการตรวจรักษาในโรงพยาบาลสงฆ์ ด้วยอาการอาหารไม่ย่อยเรื้อรัง หรืออาการเกี่ยวกับระบบทางเดินอาหารอื่นๆ เช่น ปวดท้อง อุจจาระมีสีดำและได้รับการตรวจ gastroduodenoscopy ที่แผนกศัลยกรรม ในช่วงเวลาตั้งแต่ 1 มีนาคม พ.ศ. 2547 ถึง 31 ตุลาคม พ.ศ. 2549 จำนวน 266 รูป อายุ14-93ปี เฉลี่ย 53.88 $\pm$ 16.42 ปี เก็บข้อมูลปัจจัยเสี่ยงต่างๆ ได้แก่ อายุ, การติดเชื้อ H.pylori, การใช้ยากลุ่ม NSAID, การสูบบุหรี่และจำนวนพรรษาที่บวช นำมาวิเคราะห์ทางสถิติและเปรียบเทียบ กับรายงานอื่นในประชากรทั่วไป*

ผลการศึกษา: *พระสงฆ์และสามเณรที่มีอาการของโรคแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้น จำนวน 266 รูป ตรวจพบแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้น 60 ราย (22.56%) ติดเชื้อ H.pylori 39 ราย (65%) แยกเป็นแผลในกระเพาะอาหาร 44 ราย (73.33%) ติดเชื้อ H.pylori 26 ราย (59.10%), แผลในลำไส้เล็กส่วนต้น 16 ราย(26.67%) ติดเชื้อ H.pylori 13 ราย (81.25%) พบโรคแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้นมากที่สุดในพระสงฆ์ระหว่างช่วงอายุ 51-60 ปี*

สรุป: *ปัจจัยที่มีผลสัมพันธ์ต่อการพบแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้นของพระสงฆ์และสามเณรจากการส่องกล้องในการศึกษานี้ คือ อายุเท่านั้น ส่วนการปฏิบัติกิจและการบริโภคแบบพระสงฆ์ กลับพบว่ามีความสัมพันธ์เชิงลบ โดยจำนวนพรรษาที่บวชน้อยกลับพบแผลในกระเพาะอาหารและลำไส้เล็กส่วนต้นมากกว่า*