

S1 Table. Summary of rectal mucosa-associated lymphoid tissue lymphoma cases reported in the English literature.

	Author	Year	Country	Age	Sex	Initial symptom	lesion location	H. pylori status	Comorbidity	Treatment	Remission	Follow-up	Recurrence
1	Bschorer R et al. [1]	1993	Germany	56	M	Painful defecation	Ano-rectal border	N	N	Chemo + RT	Y	4y	Y
2	Matsumoto T et al. [2]	1997	Japan	72	F	Rectal bleeding	Rectum	Y	N	HPE	Y	NA	N
3	Gianni L et al. [3]	1998	Italy	56	M	NA	Gastrum, duodenum and rectum	Y	NA	Chemo + HPE	Y	28m	Y
4	Matsumoto T et al. [4]	1998	Japan	54	M	Bowel habit change	Descending	N	NA	radical resection	Y	29m	N
5				71	F	Hematochezia	Rectum	Y	NA	Local excision	Y	32m	N
6				62	F	Hematochezia	Rectum With multiple colon	N	NA	Local resection	Y	120m	N
7				72	F	Screening	Rectum	Y	NA	EMR	Y	7mo	N
8				60	M	Screening	Rectum, Cecum	Y	NA	EMR	N	9mo	N
9				72	M	Hematochezia	Rectum, Sigmoid	N	NA	EMR	Y	43mo	N
10	Yatabe Y et al. [5]	1998	Japan	38	F	ileus	Rectum, Cecum	N	N	Surgery	Y	24m	N
11		1998	Japan	75	M	Screening	Rectum	N	N	Surgery	Y	24m	N
12	Orita M et al. [6]	1999	Japan	64	F	Fecal occult blood	Rectum	N	N	APR	Y	2y11m	N
13	Hosaka S et al. [7]	1999	Japan	56	M	Fecal occult blood	Rectum	N	N	Resection	Y	X	N

14	Inoue F et al. [8]	1999	Japan	62	F	Hematochezia	Rectum	N	N	HPE	Y	53wks	N
15	Takenaka R et al. [9]	2000	Japan	76	M	Fecal occult blood	Lower (1), Upper (2) rectum	N	Y (TB, DM, chronic glomerulonephritis, angina)	Observation	Y	19m	N
16	Hasegawa N et al. [10]	2000	Japan	72	F	Abdominal pain	Sigmoid multiple	N	Y (liver cirrhosis)	Surgical Resection	Y	X	N
17	Gavioli M et al. [11]	2001	Italy	45	M	Hematochezia	Rectum	N	N	Chemo	Y	4mo	Y
18	Tanimoto A et al. [12]	2002	Japan	75	F	Hematochezia	Rectum (5cm inside anal verge)	N	N	APR c LN dissection	Y	9m	N
19	Nakase H et al. [13]	2002	Japan	33	F	Hematochezia	Rectum	N	N	Antibiotics	Y	10m	N
20		2002	Japan	62	F	Hematochezia	Rectum	N	N	HPE	Y	6m	N
21		2002	Japan	66	F	Hematochezia	Rectum	N	Y (B-cell lymphoma in rectum)	HPE	Y	1.5y	N
22	Hisabe T et al. [14]	2002	Japan	70	F	Abdominal discomfort	Rectum	N	N	HPE	Y	20m	N
23	Rey J et al. [15]	2002		42	F	Tenesmus/rectal bleeding	Rectum	N	Y (Chronic lymphocytic leukemia)	Chemo	Y	NA	N

24	Chim CS et al. [16]	2003	China	43	F	Rectal bleeding	Rectum/descending colon(multiple)	N	Y (pseudo lymphoma)	Chemo	Y	18m	N
25	Tanaka S et al. [17]	2003	Japan	62	M	Screening colonoscopy	Sigmoid colon	N	N	Preoperative chemo +EMR	Y	88m	Y
26	Navarra G et al. [18]	2003		54	F	Bowel obstruction	Rectum	N	N	Preoperative Chemo + resection	Y	36m	N
27	Dohden K et al. [19]	2004		60	F	Hematochezia	Rectum	Y	N	Antibiotics	Y	X	N
28	Hori K et al. [20]	2004	Japan	83	F	Anal swelling	Rectum	Y	NA	Antibiotics	Y	7m	N
29	Kojima M et al. [21]	2005	Japan	46	F	No symptom	Rectum	N	N	Polypectomy	Y	54m	N
30		2005	Japan	64	F	Fecal occult blood	Rectum	N	N	Polypectomy	Y	26m	N
31		2005	Japan	66	F	Hematochezia	Rectum	N	N	Polypectomy +RT	N	NA	Y
32	Lee YG et al. [22]	2005	Korea	47	M	tenesmus	Rectum	N	N	CHOP+RT	Y	NA	N
33	Ahlawat S et al. [23]	2005	USA	57	F	NA	Rectum	N	N	EMR	Y	1y	N

34	Matsuo S et al. [24]	2006	Japan	75	F	Fecal occult blood	Transverse colon	Y	HTN, DM, cholecystolithi asis	Partial colectomy c LN dissection	Y	12m	N
35	Ahlawat S et al. [25]	2006	USA	69	M	NA	Rectum, cecum	N	N	EMR	Y	8m	N
36	Shin BK et al. [26]	2007	Korea	43	F	Lower abdominal pain	Rectum, Duodenum, Stomach	N	N	Chemo	Y	NA	
37	Mehta R et al. [27]	2008	USA	53	F	Hematochezia	Ascending colon and Cecum	N	Y(GERD)	Extended right hemicolectomy	Y	7m	
38	Kobayashi T et al. [28]	2008	Japan	26	M	Constipation	Rectum	N	N	HPE + RT	Y	24m	
39	Piotrowski R et al. [29]	2008	USA	83	F	anemia	Sigmoid colon	N	Y (DM, Alzheimer)	RT+polypecto my	Y		
40	Amouri A et al. [30]	2009	French	46	F	Rectal bleeding	Rectum	Y	N	HPE+RT	N	12m	
41	Mathew A et al. [31]	2009	USA	65	F	No symptom	Rectum	Y	N	HPE	Y	4y	
42	Chihara D et al. [32]	2010	Japan	57	F	Fecal occult blood	Rectum	N	N	Chemo	Y	34m	
43		2010	Japan	75	F	Hematochezia	Rectum	N	N	Chemo	Y	79m	
44		2010	Japan	83	F	Hematochezia	Rectum	N	N	Chemo	Y	43m	
45	Ersoz F et al. [33]	2010		44	F	Mass prolapse	Rectum	N	N	Transanal excision	Y	27m	

46	Park JH et al. [34]	2010	Korea	59	M	Abdominal discomfort	Cecum	N	Angina	Radical resection+CHO P	Y		
47	Chahil N et al. [35]	2011	USA	78	F	Hematochezia	Rectum	Y	osteoarthritis, hyperlipidemi a, dyspepsia	HPE + RT	Y	3y	
48	Chen PH et al. [36]	2011	Korea	61	M	Occult blood positive	Ascending colon	N	Infarction, DM	EMR	Y	X	
49	Devi P et al. [37]	2011	India	68	F	Hematochezia	Hepatic flexure of colon	N	Y (colon ca)	Right hemicolectomy	Y	2m	
50	Okamura T et al. [38]	2012	Japan	62	F	Fecal occult blood	lower rectum	N	NA	RT	Y	13m	
51		2012	Japan	65	M	Fecal occult blood	lower rectum	N	Y (Gastric cancer)	RT	Y	65m	
52		2012	Japan	56	F	Hematochezia	upper rectum, lower rectum (sessile elevators)	N	NA	RT	Y	75m	
53	Park H et al. [39]	2012	Korea	44	M	Hematochezia	Rectum (AV2cm)	N	Y (diabetes mellitus, Parkinson's disease, and gout.)	Endoscopic Unroofing Technique+ CHOP	Y	11m	
54	Akasaka R et al. [40]	2012	Japan	57	F	Bleeding	Rectum	N	N	Radiation	Y	9m	
55		2012	Japan	64	F		Cecum	N	N	EMR	Y	70m	

56		2012	Japan	50	F	Occult blood positive	Sigmoid	N	N	Radical resection	Y	X	N
57		2012	Japan	57	F	Abdominal pain	Rectum	N	N	EMR	Y	X	N
58	Tokunou K et al. [41]	2013	Japan	67	F	Bowel abnormality	Rectum	Y	N	Transanal surgery + HPE	Y	NA	N
59	Shaheen S et al. [42]	2013	USA	79	M	Screening colonoscopy	Transverse colon	N	Colon cancer	CHOP	Y	6m	N
60	Matsumoto T et al. [43]	2013	Japan	80	W	Occult blood	Ascending colon	Y	N	HPE	Y	6m	N
61	Hasegawa D et al. [44]	2013	Japan	79	M	bleeding	Transverse colon	N	N	ESD	Y	X	N
62	Kim MH et al. [45]	2014	Korea	54	F	Screening	sigmoid	N	N	EMR	Y	10m	N
63	Seo SW et al. [46]	2014	Korea	64	M	Screening	Transverse colon	N	Gastritis, dyslipidemia	Radical resection	Y	X	N
64	Nosaka K et al. [47]	2014	Japan	74	M	NA	Rectum	Y	Y(gastritis)	HPE	Y	18m	Y
65	Tokura T et al. [48]	2015	Japan	60	F	Melena	Rectum	N	N	Radical resection	Y	NA	N
66	Abbas H et al. [49]	2017	USA	56	F	Weight loss	Hepatic flexure 5cm	Y		HPE+rituximab	Y		N
67	Nam MJ et al. [50]	2017	Korea	54	F	Screening	Rectum, cecum, anus	N	Breast cancer	EMR+HPE	Y	21m	N

References

1. Bschorer R, Lingenfelter T, Kaiserling E, Schwenger N. Malignant lymphoma of the mucosa-associated lymphoid tissue (MALT)--consecutive unusual manifestation in the rectum and gingiva. *J Oral Pathol Med.* 1993; 22(4):190-2.
2. Matsumoto T, Iida M, Shimizu M. Regression of mucosa-associated lymphoid-tissue lymphoma of rectum after eradication of *Helicobacter pylori*. *Lancet.* 1997; 350(9071):115-6.
3. Gianni L, Tassinari D, Sartori S, Rinaldi P, Ravaioli A. Gastric, duodenal and rectal multifocal MALT lymphoma: the possible co-existence of two different cell populations. *Eur J Cancer.* 1998; 34(10):1640-1.
4. Matsumoto T, Shimizu M, Iida M, Amano K, Nakamura S, Fujishima M. Primary low-grade, B-cell, mucosa-associated lymphoid tissue lymphoma of the colorectum: clinical and colonoscopic features in six cases. *Gastrointest Endosc.* 1998; 48(5):501-8.
5. Yatabe Y, Nakamura S, Nakamura T, Seto M, Ogura M, Kimura M, Kuhara H, Kobayashi T, Taniwaki M, Morishima Y, Koshikawa T, Suchi T. Multiple polypoid lesions of primary mucosa-associated lymphoid-tissue lymphoma of colon. *Histopathology.* 1998; 32(2):116-25.
6. Orita M, Yamashita K, Okino M, Enoki T, Noshima S, Morita N, Esato K. A case of MALT (mucosa-associated lymphoid tissue) lymphoma occurring in the rectum. *Hepatogastroenterology.* 1999; 46(28):2352-4.

7. Hosaka S, Akamatsu T, Nakamura S, Kaneko T, Kitano K, Kiyosawa K, Ota H, Hosaka N, Miyabayashi H, Katsuyama T. Mucosa-associated lymphoid tissue (MALT) lymphoma of the rectum with chromosomal translocation of the t(11;18)(q21;q21) and an additional aberration of trisomy 3. *Am J Gastroenterol*. 1999; 94(7):1951-4.
8. Inoue F, Chiba T. Regression of MALT lymphoma of the rectum after anti-H. pylori therapy in a patient negative for H. pylori. *Gastroenterology*. 1999; 117(2):514-5.
9. Takenaka R, Tomoda J, Sakata T, Ichiba T, Motoi M, Mizuno M, Tsuji T. Mucosa-associated lymphoid tissue lymphoma of the rectum that regressed spontaneously. *J Gastroenterol Hepatol*. 2000; 15(3):331-5.
10. Hasegawa N, Kato K, Yamada K, Morita K, Kuroiwa M, Ito H. Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT) of the sigmoid colon. *Gastrointest Endosc*. 2000; 52(6):802-4.
11. Gavioli M, Bagni A, Santacroce G, Piccagli I, Natalini G. Endorectal sonographic appearances of rectal MALT lymphoma, its response to therapy, and local recurrence. *J Clin Ultrasound*. 2001; 29(7):401-5.
12. Tanimoto A, Hamada T, Yamamoto T, Kimura S, Matsuki Y, Sasaguri Y. MALT lymphoma with extreme plasma cell differentiation of the rectum. *Am J Gastroenterol*. 2002; 97(7):1860-2.
13. Nakase H, Okazaki K, Ohana M, Ikeda K, Uchida K, Uose S, Itoh T, Iwano M, Watanabe N, Yazumi S, Kawanami C, Inoue F, Chiba T. The possible involvement of micro-organisms other than *Helicobacter pylori* in the development of rectal MALT lymphoma in H. pylori-negative patients. *Endoscopy*. 2002; 34(4):343-6.

14. Hisabe T, Imamura K, Furukawa K, Tsuda S, Matsui T, Yao T, Kanda M, Ohshima K, Kikuchi M. Regression of CD5-positive and Helicobacter pylori-negative mucosa-associated lymphoid tissue lymphoma of the rectum after administration of antibiotics: report of a case. *Dis Colon Rectum*. 2002; 45(9):1267-70.
15. Rey J, Coso D, Ramuz O, Xerri L, Sainty D, Giovannini M, Bouabdallah R. Low-grade rectal malt lymphoma occurring in a patient with chronic lymphocytic leukaemia. *Br J Haematol*. 2002; 119(4):1137-8.
16. Chim CS, Shek TW, Chung LP, Liang R. Unusual abdominal tumors: case 3. Multiple lymphomatous polyposis in lymphoma of colon. *J Clin Oncol*. 2003; 21(5):953-5.
17. Tanaka S, Ohta T, Kaji E, Kosaka T, Murakami I. EMR of mucosa-associated lymphoid tissue lymphoma of the rectum. *Gastrointest Endosc*. 2003; 57(7):956-9.
18. Navarra G, Adani GL, Bardella E, Ascanelli S, Turini A, Pozza E. Primary rectal lymphoma as a cause of bowel obstruction. Report of a case. *Tumori*. 2003; 89(1):88-90.
19. Dohden K, Kaizaki Y, Hosokawa O, Hayashi H, Hattori M. Regression of rectal mucosa-associated lymphoid tissue lymphoma but persistence of Helicobacter pylori infection of gastric mucosa after administration of levofloxacin: report of a case. *Dis Colon Rectum*. 2004; 47(9):1544-6.
20. Hori K, Suguro M, Koizuka H, Sakagami T, Tomita T, Kosaka T, Fukuda Y. Disappearance of rectal mucosa-associated lymphoid tissue lymphoma following antibiotic therapy. *Dig Dis Sci*. 2004; 49(3):413-6.

21. Kojima M, Itoh H, Motegi A, Sakata N, Masawa N. Localized lymphoid hyperplasia of the rectum resembling polypoid mucosa-associated lymphoid tissue lymphoma: a report of three cases. *Pathol Res Pract*. 2005; 201(11):757-61.
22. Lee YG, Lee S, Han SW, Lee JS. A case of multiple mucosa-associated lymphoid tissue (MALT) lymphoma of the colon identified as simple mucosal discoloration. *J Korean Med Sci*. 2005; 20(2):325-8.
23. Ahlawat S, Haddad N, Kanber Y, Cohen P, Ozdemirli M, Benjamin S. Primary mucosa-associated lymphoid tissue lymphoma occurring in the rectum. *Gastrointest Endosc*. 2005; 62(3):443-4; discussion 444.
24. Matsuo S, Mizuta Y, Hayashi T, Susumu S, Tsutsumi R, Azuma T, Yamaguchi S. Mucosa-associated lymphoid tissue lymphoma of the transverse colon: a case report. *World J Gastroenterol*. 2006; 12(34):5573-6.
25. Ahlawat S, Kanber Y, Charabaty-Pishvaian A, Ozdemirli M, Cohen P, Benjamin S, Haddad N. Primary mucosa-associated lymphoid tissue (MALT) lymphoma occurring in the rectum: a case report and review of the literature. *South Med J*. 2006; 99(12):1378-84.
26. Kyung Shin B, Lee H, Choi J, Kim A, Kim H, Park J, Kim I. Primary marginal zone B-cell lymphoma of gastrointestinal tract presenting as multiple lymphomatoid polyposis. *Int J Colorectal Dis*. 2007; 22(8):991-2.
27. Mehta RS, Modi N, Sapanara N, Ramachandra P, Mikhail M. Extranodal marginal zone B-cell mucosa-associated lymphoid tissue (MALT) lymphoma of cecum presenting as bright red bleed per rectum--a case report with review of literature. *J Gastrointest Cancer*. 2008; 39(1-4):66-72.

28. Kobayashi T, Takahashi N, Hagiwara Y, Tamaru J, Kayano H, Jin-nai I, Bessho M, Niitsu N. Successful radiotherapy in a patient with primary rectal mucosa-associated lymphoid tissue lymphoma without the API2-MALT1 fusion gene: a case report and review of the literature. *Leuk Res.* 2008; 32(1):173-5.
29. Piotrowski R, Kramer R, Kamal A. Image of the month. Extranodal marginal zone B-cell (mucosa-associated lymphoid tissue) lymphoma of the colon presenting as an obstructing mass. *Clin Gastroenterol Hepatol.* 2008; 6(4):e18-19.
30. Amouri A, Chtourou L, Mnif L, Mdhaftar M, Abid M, Ayedi L, Daoud J, Elloumi M, Boudawara T, Tahri N. MALT lymphoma of the rectum: a case report treated by radiotherapy. *Cancer Radiother.* 2009; 13(1):61-4.
31. Mathew A, Humburg BC, Bayer MG. A case of rectal MALT lymphoma treated by endoscopic resection. *Am J Gastroenterol.* 2009; 104(1):255-6.
32. Chihara D, Kagami Y, Oki Y, Kato H, Onoda H, Ine S, Taji H, Yamamoto K, Morishima Y. R-CHOP therapy for MALT lymphoma of the rectum. *Eur J Haematol.* 2010; 84(1):84-6.
33. Ersoz F, Toros AB, Bektas H, Ozcan O, Koc O, Arikan S. MALT lymphoma of the rectum, presenting with rectal prolapsus: a case report. *Cases J.* 2010; 3(1):33.
34. Park JH, Lee JH. MALT (Mucosa-Associated Lymphoid Tissue) Lymphoma of the Colon. *The Korean Journal of Gastroenterology.* 2010; 55(4):213-6.
35. Chahil N, Bloom P, Tyson J, Jazwari S, Robilotti J, Gaultieri N. Novel approach to treatment of rectal mucosa-associated lymphoid tissue lymphoma. *BMJ Case Rep.* 2011; 2011:2969.

36. Chen PH, Lin YM, Yen HH. Primary mucosa-associated lymphoid tissue lymphoma of the colon. *Clin Gastroenterol Hepatol*. 2011; 9(8):e74-75.
37. Devi P, Pattanayak L, Samantaray S. Synchronous adenocarcinoma and mucosa-associated lymphoid tissue lymphoma of the colon. *Saudi J Gastroenterol*. 2011; 17(1):69-71.
38. Okamura T, Suga T, Iwaya Y, Ito T, Yokosawa S, Arakura N, Ota H, Tanaka E. Helicobacter pylori-Negative Primary Rectal MALT Lymphoma: Complete Remission after Radiotherapy. *Case Rep Gastroenterol*. 2012; 6(2):319-27.
39. Park H, Chung J-W, Kim AJ, Park SY, Rim MY, Jang YR, Lee JH, Park S. A Case of Rectal Mucosa-associated Lymphoid Tissue Lymphoma Diagnosed by Endoscopic Unroofing Technique. *The Korean Journal of Gastroenterology*. 2012; 59(6):428.
40. Akasaka R, Chiba T, Dutta AK, Toya Y, Mizutani T, Shozushima T, Abe K, Kamei M, Kasugai S, Shibata S, Abiko Y, Yokoyama N, Oana S, Hirota S, Endo M, Uesugi N, Sugai T, Suzuki K. Colonic mucosa-associated lymphoid tissue lymphoma. *Case Rep Gastroenterol*. 2012; 6(2):569-75.
41. Tokunou K, Yamamoto T, Toshimitsu H, Kitamura Y, Ando S. A case of mucosa-associated lymphoid tissue lymphoma of the rectum. *Gan To Kagaku Ryoho*. 2013; 40(12):2056-8.
42. Shaheen S, Guddati AK. Secondary mucosa-associated lymphoid tissue (MALT) lymphoma of the colon. *Med Oncol*. 2013; 30(2):502.
43. Matsumoto T, Inokuma T, Imai Y. Education and imaging. Gastrointestinal: colonic mucosa-associated lymphoid tissue lymphoma regressed by levofloxacin. *J Gastroenterol Hepatol*. 2013; 28(4):750.

44. Hasegawa D, Yoshida N, Ishii M, Takamasu M, Kishimoto M, Yagi N, Yagi N, Naitou Y, Yanagisawa A. A case of colonic mucosa-associated lymphoid tissue lymphoma observed under endoscopy with narrow-band imaging. *Nihon Shokakibyō Gakkai Zasshi*. 2013; 110(12):2100-6.
45. Kim MH, Jung JT, Kim EJ, Kim TW, Kim SY, Kwon JG, Kim EY, Sung WJ. A case of mucosa-associated lymphoid tissue lymphoma of the sigmoid colon presenting as a semipedunculated polyp. *Clin Endosc*. 2014; 47(2):192-6.
46. Seo SW, Lee SH, Lee DJ, Kim KM, Kang JK, Kim DW, Lee JH. Colonic mucosa-associated lymphoid tissue lymphoma identified by chromoendoscopy. *World J Gastroenterol*. 2014; 20(48):18487-94.
47. Nosaka K, Shono T, Yonemura Y, Iyama K, Sasaki Y, Endo S, Okuno Y, Mitsuya H. Regression of primary rectal MALT lymphoma after *Helicobacter pylori* eradication. *Rinsho Ketsueki*. 2014; 55(8):948-52.
48. Tokura T, Nishikawa S, Umehara M, Umehara Y, Murata A, Takahashi K, Morita T. A Case of MALT Lymphoma of the Rectum Treated with Intersphincteric Resection (ISR). *Gan To Kagaku Ryoho*. 2015; 42(12):2265-7.
49. Abbas H, Niazi M, Makker J. Mucosa-Associated Lymphoid Tissue (MALT) Lymphoma of the Colon: A Case Report and a Literature Review. *Am J Case Rep*. 2017; 18:491-7.
50. Nam MJ, Kim BC, Park SC, Hong CW, Han KS, Sohn DK, Park WS, Chang HJ, Oh JH. Mucosa-Associated Lymphoid-Tissue Lymphoma of the Cecum and Rectum: A Case Report. *Ann Coloproctol*. 2017; 33(1):35-8.