

Is it necessary to close all defects with hemoclips after hot biopsy during colonoscopy?

Takahiro Fujii
TF clinic, Tokyo, Chuo-ku, Japan

Background

Endoscopic resection during colonoscopy (hot biopsy, polypectomy, endoscopic mucosal resection) is associated with bleeding, and delayed bleeding, although infrequent, is perhaps one of the most troublesome complications.

Aim

To investigate if prophylactic application of hemoclips after hot biopsy treatment during colonoscopy can reduce post resection delayed bleeding.

Patients and methods

Between July 2003 and March 2011, a total of 3986 patients with 6424 polyps removed with hot biopsy in a private clinic was recruited in this study. During July 2003 and April 2009 (period A), no hemoclips were applied after hot biopsy for prophylactic purposes. Between May 2009 and March 2011 (period B), all mucosal defects after hot biopsy were closed with hemoclips. The incidences of delayed bleeding associated with the hot biopsy treatment were compared for period A and period B. Subgroup analysis regarding the location of the removed polyp and time to bleeding was conducted.

Results

A total of 4936 polyps in 3008 patients in period A and 1488 polyps in 978 patients in period B were removed with hot biopsy. The overall incidences of delayed bleeding were 0.38% (19/4936) and 0.27% (4/1488) in period A and period B, respectively. In period A, the incidence of delayed bleeding was significantly higher (2.7%, $p < 0.001$) for polyps located in the cecum than for polyps from other sites. In period B, the incidence of delayed bleeding was significantly higher (2.5%, $p < 0.001$) for polyps located in the lower part of rectum than for polyps in other sites. The median times to bleeding were 7 days and 4 days in period A and period B, respectively.

Comparison of characteristics in Period A and Period B

	2003.7-2009.4 (Period A) (no hemoclip) (3008 patients)	2009.5-2011.3 (Period B) (hemoclip) (978 patients)
Male (%)	1835 patients (61.0%)	534 patients (54.6%)
Mean age (y)	59.8	60.5
Lesions treated with hot biopsy	4936	1488
Mean lesion size (mm)	4.3	4.2
Delayed bleeding after hot biopsy	19 lesions (0.38%)	4 lesions (0.27%)
Male (%)	11 patients (57.9%)	4 patients (100%)
Mean age (y)	59.4	56.8
Mean lesion size (mm)	4.6	4.0
Mean time to bleeding (median/range)	7.5 day (7/0-20)	4.0 day (4/1-8)

Distribution of Lesions with Delayed Bleeding after Hot Biopsy Treatment

Location	Rb	Ra	RS	S	D	T	A	C	Total
Period A	2<1.3%> (160)	0 (117)	1<0.7%> (145)	1<0.1%> (1165)	0 (329)	3<0.2%> (1768)	3<0.3%> (924)	9<2.7%> (328)	19<0.4%> (4936)
Period B	3<2.5%> (121)	0 (104)	0 (81)	0 (313)	0 (104)	1<0.2%> (425)	0 (227)	0 (113)	4<0.3%> (1488)
Total	5<1.8%> (281)	0 (221)	1<0.4%> (226)	1<0.1%> (1478)	0 (433)	4<0.2%> (2193)	3<0.3%> (1151)	9<2.0%> (441)	23<0.4%> (6424)

Table values are numbers of bleeding lesions, <% of total>, (number of total).
Rb = rectum(below the peritoneal reflection); Ra = rectum(above the peritoneal reflection);
RS = rectosigmoid; S = sigmoid; D = descending; T = transverse; A = ascending; C = cecum.

Period A
Cecum vs other site $P < 0.001$
Rb vs Other site NS

Period B
Cecum vs other site NS
Rb vs other site $P < 0.001$

Conclusion

Closing all the defects after hot biopsy treatment did not reduce the overall incidence of delayed bleeding, however, it might reduce delayed bleeding of polyps located in the right-sided colon and could make subsequent colonoscopies for hemostatic procedures easier.

Delayed Bleeding after Hot Biopsy Treatment

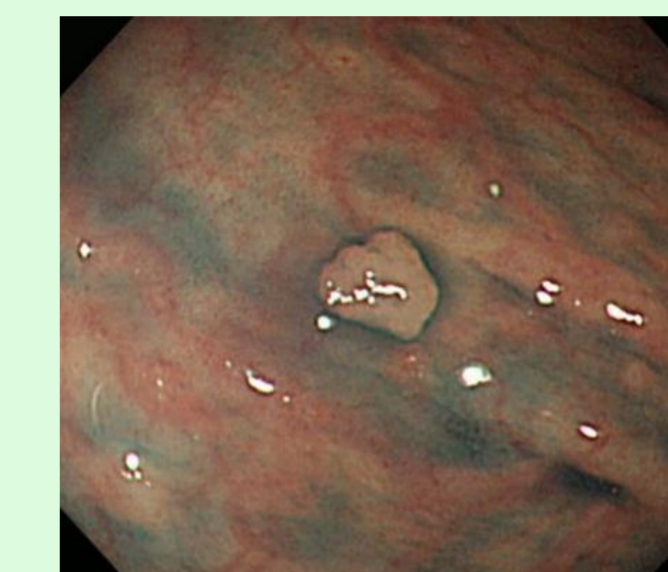
Period A (no hemoclip)						
Location	Gender	Age (y)	Macroscopic Type	Size (mm)	Histology	The time to bleeding (day)
Cecum	M	71	Ila	5	adenoma	3
Cecum	F	30	Ila	5	adenoma	3
Cecum	M	61	Ila	3	adenoma	6
Cecum	F	50	Ila	6	adenoma	7
Cecum	F	62	Ila	2	HP	7
Cecum	M	68	Ila	5	adenoma	8
Cecum	M	60	Ila	5	HP	8
Cecum	M	58	Ila	3	HP	11
Cecum	F	73	Ila	3	adenoma	20
Ascending	M	40	Ila	3	adenoma	4
Ascending	F	55	Ila	6	HP	9
Ascending	M	68	Is(sessile)	7	HP	10
Ascending	F	71	Ila	4	adenoma	12
Ascending	M	67	Ila	6	adenoma	15
Transverse	F	56	Ila	4	HP	4
Sigmoid	M	41	Ila	7	adenoma	0
RS	M	61	Ila	6	HP	3
Rb	M	67	Ila	3	adenoma	1
Rb	F	70	Ila	4	HP	11

Period B (hemoclip)						
Location	Gender	Age (y)	Macroscopic Type	Size (mm)	Histology	The time to bleeding (day)
Rb	M	74	Ila	3	HP	8
Rb	M	52	Is(sessile)	5	HP	1
Rb	M	59	Ila	2	HP	5
Transverse	M	42	Is	6	adenoma	2

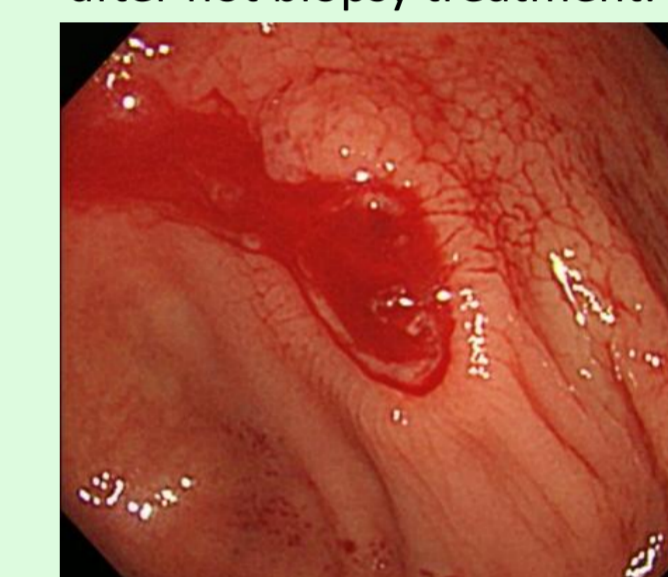
Case: 61-year-old male

delayed bleeding after hot biopsy in Period A

Small adenoma in cecum.



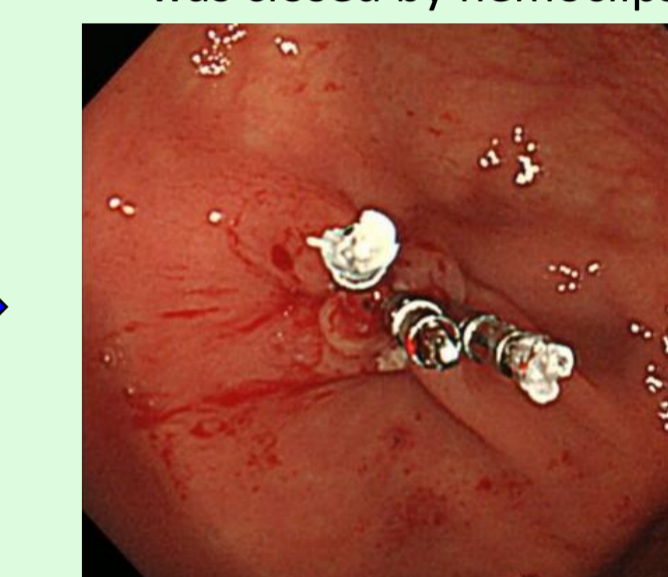
Delayed bleeding occurred 6 days after hot biopsy treatment.



Mucosal defect after hot biopsy treatment, no hemoclips used.



The mucosal defect with bleeding was closed by hemoclips



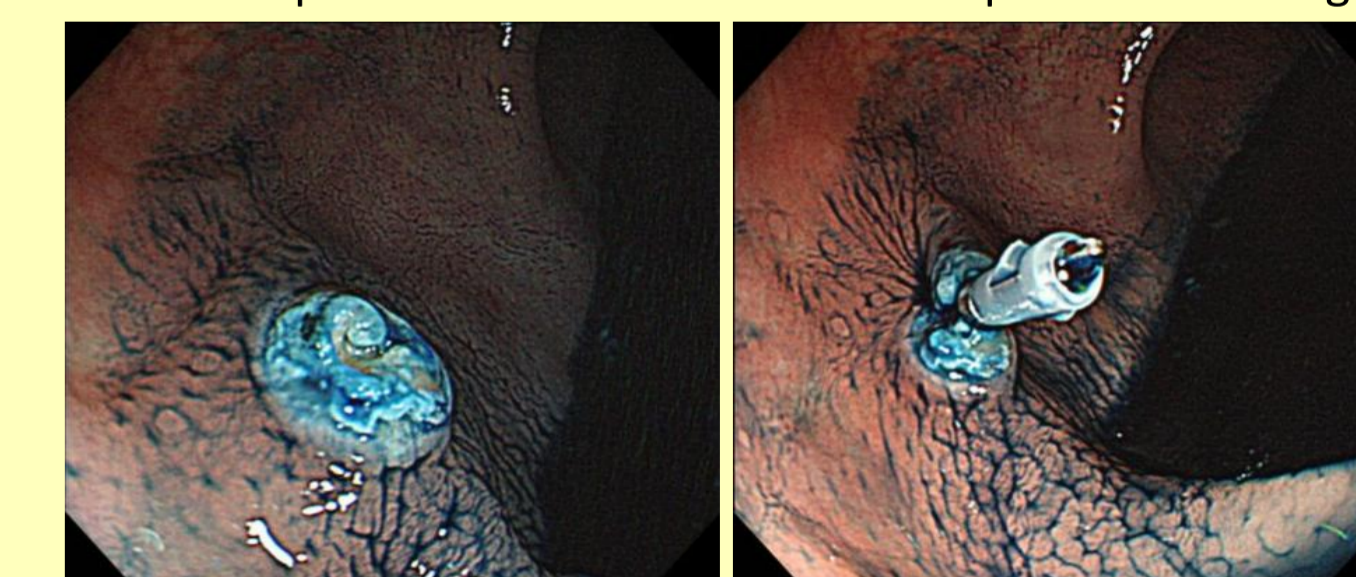
Case: 52-year-old male

delayed bleeding after hot biopsy in Period B

Small adenoma in lower rectum



A hemoclip closed on mucosal defect to prevent bleeding.



Delayed bleeding occurred on the day after the hot biopsy treatment.



The mucosal defect with bleeding was closed by hemoclips

