

**Case Report**

# The Outcome of Colonic Adenoma with Severe Dysplasia after Colonoscopic Polypectomy

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**Key Words**

Colorectal adenoma;  
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Colonic adenomas with severe dysplasia are “pre-malignant tumors” or “in fact benign adenomas”. They are treated by colonoscopic polypectomy, electrocautery piecemeal resection or strip biopsy resection method. Unfortunately, a significant number of patients with these lesions continue to undergo unnecessary colectomies. The aim of this study was to compare the outcomes of patients who had a polypectomy alone with those who had a polypectomy followed by a colectomy. 179 patients having colorectal polypoid lesions with early carcinoma were studied retrospectively. The clinical presentations, colonoscopic findings, histological findings, complications, operations, histological results of the surgical resection specimens, and outcome were reviewed. 160 patients having colonic adenomas with severe dysplasia were successfully treated only by colonoscopic procedures with no recurrence or metastasis. 19 patients received further surgical treatments including conventional colectomies, laparoscopic segmental resections, or transanal resections. Histological examination of the resected specimens showed that 16 patients had no evidence of residual tumor, 1 had residual adenoma, 2 had residual T1N0 carcinomas. There were no perforation or deaths after colonoscopic treatments. Mild bleeding occurred in three patients (1.7%). There were no complications or mortality in the surgical group. For colonic adenomas with severe dysplasia colonoscopic resection can be a curative procedure. Further surgical resections are indicated only if there are unclear resection margins. [*J Soc Colon Rectal Surgeon (Taiwan) 2002;13:137-142*]

Colonic adenomas with severe dysplasia are variously called as malignant colonic polyps, early colonic cancers or colonic adenomas with focal carcinoma, high grade dysplasia, carcinoma *in situ* or intramucosal carcinoma.<sup>1-6</sup> Approximately, 5% to 7% of adenomas have severe dysplasia at the time of diagnosis.<sup>7</sup> The nature of these lesions are a “pre-malignancy state” or in fact, “benign adenomas”. They can usually be managed successfully by colonoscopic

polypectomy, electrocautery piecemeal resection or strip biopsy resection method. Unfortunately, a significant number of patients with colorectal carcinoma confined to the mucosa continue to undergo unnecessary colectomies. The aim of this study was to compare the outcome of patients who had a polypectomy alone with those who had a polypectomy followed by a colectomy. We also intended to find out when a colectomy was needed following polypectomy for co-

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onic adenomas with severe dysplasia.

## Materials and Methods

From January 1993 to December 2000, 179 patients having adenomatous polyps with severe dysplasia were treated by colonoscopic polypectomy initially. Patients' age and gender, lesion location and size, complications, operations, pathologic diagnosis, and follow up data were reviewed. All polyps were removed by colonoscopic coagulation snare technique, strip resection method, or piecemeal resection. Subsequent surgical treatments following polypectomy in some patients included transanal, laparoscopic or open resections. Special efforts were made in defining tumor involvement at the margin of the initial polypectomies. How the initial pathologic or clinical characteristics of the polyps would affect the decision making of the surgeons after polypectomies were also analysed.

## Results

There were 179 patients, including 133 men and 46 women. Age ranged from 25 to 89 years ( $67.8 \pm 11.2$  years). The locations of the polyps in the colorectum were: cecum 2 (1%), ascending colon 11 (6%), transverse colon 10 (6%), descending colon 18 (10%), sigmoid colon 76 (42%) and rectum 62 (35%). The sizes of polyps ranged from 0.3 to 6 cm ( $4.7 \pm 2.2$  cm).

The lesions were classified morphologically as: 55 pedunculated polyps (31%) and 124 sessile polyps

(69%). The histology of the adenomas were tubular adenoma in 83 polyps (46%), tubulovillous adenoma in 68 polyps (38%) and villous adenoma in 28 polyps (16%). Synchronous polyps were found in 92 patients (51%) during the first diagnostic colonoscopic polypectomy and were excised concomitantly.

All patients were divided into three groups depending on the completeness of polypectomy margins reported by pathologic assessments: complete resections ( $n = 174$ ); in complete resections ( $n = 5$ ) and doubtful resections ( $n = 27$ ).

Most of the patients ( $n = 140$ ) with complete resection of polyps underwent no further treatment after endoscopic polypectomy (EP). One patient received a subsequent anterior resection, one received a low anterior resection, and five patients received hemicolectomy. A residual villous adenoma with carcinoma *in situ* at the polypectomy site was found in one patient. The other six patients had no residual tumors (Table 1). Two patients with incomplete resection of polyp received no further treatment after EP. One patient underwent a transanal wedge resection and two patients received low anterior resections. One of the resected specimens was a moderately differentiated adenocarcinoma with submucosal invasion but without lymphovascular invasion. The other two specimens showed no evidence of residual tumor (Table 2). Most of the patients ( $n = 18$ ) with doubtful resections polyps received no further treatment after EP. One received transanal resection which resulted in residual adenoma at the polypectomy site. Five patients received hemicolectomies, two patients received anterior resections and one underwent low anterior resection (Table 3). All of these specimens had no residual

**Table 1 Complete Polypectomy Margin**

	Resection method	Resection specimen		Out come
		Residual tumor positive	Residual tumor negative	
Polypectomy alone 140	None			All patients alive without disease
Polypectomy followed by resection 7	Transanal excision	0		All patients alive without disease
	Hemicolectomy	5	5	
	AR or LAR	2	1	
		V.A. with CIS*	1	

\*Villous adenoma with carcinoma in situ. Grossly unclear base after polypectomy

**Table 2. Incomplete Polypectomy Margin**

	Resection method	Resection specimen		Out come
		Residual tumor positive	Residual tumor negative	
Polypectomy alone	None			All patients alive without disease
Polypectomy followed by resection	Transanal excision	1	1	All patients alive without disease
	Hemicolectomy	0		
	AR or LAR	2	1	T1N0M0* cancer

\*Moderately differentiated adenocarcinoma with submucosa invasion.

**Table 3. Doubtful Polypectomy Margin**

	Resection method	Resection specimen		Out come
		Residual tumor positive	Residual tumor negative	
Polypectomy alone	None			All patients alive without disease
Polypectomy followed by resection	Transanal excision	1	1	All patients alive without disease
	Hemicolectomy	5	5	
	AR or LAR	3	3	

tumors.

Follow-up periods ranged from 12 to 102 months ( $47.1 \pm 22.3$  months). No re cur rent tu mors were found at the polypectomy sites for EP only pa tients. No re cur rence at the anas to mo sis sites for sub se quent colectomy pa tients was found by reg u lar colonos copic ex am i na tions. There was also no ev i dence of dis tant me tas ta sis. In sum mary, three of the nineteen patients undergoing subsequent colonic re sec tions had a re sid ual tu mor at the poly pe c to my site. There was no lymphovascular in va sion or re gion al lymph nodes me tas ta ses in these pa tients.

Three pa tients had bleed ing (1.7%) af ter poly pe c to my. They were treated by epi neph rine in jec tion at the poly pe c to my sites. One pa tient was hos pi talized for ob serva tion for 2 days. No blood trans fu sion was needed. There was no com pli ca tion af ter sub se quent colectomies. Five pa tient died of un re lated causes dur ing the fol low up pe riod. Follow up colonos copies were done in 3 months to assure the com pleteness of excision. The pa tients thereaf ter un der went rou tine post poly pe c to my sur veil lance.

## Discussion

Adenomas of the co lon and rec tum are gen er ally re garded as pre malig nant le sions. Re mo val of adenomas with sub se quent re duc tion in mor tal ity from co lorec tal can cer has been con firmed. Colonos copy with poly pe c to my can have a 76 % to 90 % re duc tion in the ex pected in ci dence of co lorec tal car ci no ma.<sup>7-9</sup>

It is gen er ally agreed that co lonic adenomas with se vere dysplasia are be nign le sions. His to log ically, there are no lym phatic or vas cu lar ves sels above the mus cu lar is mu co sae. Haggitt. et. al. re ported that 65 pa tients hav ing poly pe c to mies for such le sions were alive and well with no ev i dence of re cur rent dis ease af ter a mean fol low up of 90 months. They con cluded that le sions con fined to the mu cosa have no po ten tial of lym phatic or vas cu lar in va sion, and the be hav ior of these le sions are clin i cally be nign.<sup>1</sup> Other stud ies also con firm this result.<sup>2,9-11</sup> Me tas ta sis from these le sions has not been reported. Some au thors re gard in tra mu co sal car ci no mas as ma lig nant le sions that could be treated by colonoscopic poly pe c to mies.<sup>12,13</sup>

When can cer in volves the poly pe c to my re sec tion

margin, Langer et al. concluded that there were usually no residual tumors in the surgical specimens at the polypectomy site, even in cases in which polypectomy was considered incomplete clinically, or in which cancer extends to the resection margin histologically.<sup>12</sup> Diathermy used during the snare polypectomy may extirpate some of the remnant residual tumor in the bowel wall.<sup>3</sup>

In this study, 160 colonic adenomas with severe dysplasia (89.4%) treated successfully by polypectomy alone had excellent outcomes during a mean follow up interval of 47.1 months (12-102 months). There was no local recurrence or distant metastasis. Nineteen (10.6%) patients who underwent subsequent surgical resections, histological examination of the resection specimens revealed no residual tumor or lymph nodes metastasis in 16 (84%) patients. The other three patients (16%) had residual tubular adenoma ( $n = 1$ ) or T1N0 carcinoma ( $n = 2$ ). It is reasonable for patients who had incomplete margins at polypectomy sites to undergo further surgical resections, especially when the endoscopists had encountered technical difficulties in the initial polypectomies. For those patients with incomplete or doubtful margins, the decision of a subsequent colectomy is relatively difficult. Our recommendation is thorough communication between the colonoscopist and the pathologist before discussion with patients.

The important role played by the pathologist in handling the surgical specimens can not be overemphasized. Poor orientation of the specimens which was obtained via piecemeal resection, hot biopsy or snare polypectomy makes the resection margin difficult to define. A positive polypectomy margin does not necessarily mean that the residual viable carcinoma is present because the electrocautery destroys a zone of tissue around the margin and may have obliterated any residual carcinoma. Appropriate consultation between endoscopist, surgeon and pathologist is imperative in order to avoid mistakes.<sup>6,14,15</sup>

The advent of endo-sonography and magnifying colonoscopy means that, in a few cases, additional information may be noted about the presence of invasion in sessile polyps. Decisions to undergo polypectomy alone or a colectomy instead could be made

during colonoscopic examinations.<sup>2,3</sup>

## Conclusion

Colonoscopic polypectomy is an adequate treatment for colonic adenoma with severe dysplasia, if there is an adequate resection margin, both clinically and pathologically. A further colectomy may sometimes be needed if there is a grossly unresectable residual tumor or a positive margin of malignancy. These patients must be followed carefully because of their increased incidence of metachronous polyps.<sup>7,16,17</sup>

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