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PIECEMEAL POLYPECTOMY OF COLONIC EPITHELIAL TUMOR

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Colonic epthelial tumor resected by piecemeal polypectomy (PP) in 45 lesions between 1984 and March, 1995 was investigated retrospectively in terms of the ideal resection mothod. PP cases were divided into two groups (A_1, A_2). In group A_1, resection was completed in a single procedure. In group A_2, resection was completed over several examinations. In group A_1, 18 lesions polypectomized were completely cured (100%). In group A_2, 5 out of 27 lesions (19%) underwent recurrence. In the first treatment, group A_1 cases required significantly more strangulations for resection than group A_2. The group with nonrecurrence (NR) required fewer endoscopic therapy sessions than the group with recurrence cases (R) ($p<0.05$). However, conversely the first treatment, the NR cases required more strangulations for resection than R cases. However, there was no relationship between either the size of the lesion or number of resections per endoscopic procedure and the rate of recurrence. The overall rate of recurrence after PP was 11%, that for tubular adenoma being 8%, villotubular adenoma 4%, and villous adenoma 38%. This study suggested that PP should be completed in a single procedure, regardless of the number of strangulations that the procedure might require in order to reduce the possibility of recurrence.

Introduction

Many large and sessile colorectal tumors cannot be removed by conventional endoscopic polypectomy. Tumors more than 2 cm in size cannot be generally resected with a single strangulation due to possible hazards such as perforation[1]. Piecemeal polypectomy (PP) can enable such tumors to be removed safely[2)3)]. The rate of recurrence after PP is higher than that after conventional endoscopic polypectomy. The results of PP performed in a single session and on different occasions were analyzed to determine whether there was any difference in the outcome.

Materials and Methods

Between 1984 and March, 1995, 45 lesions resected endoscopically with two or more strangulations, were studied (basically adenoma including some m ca., 36 sessile tumors, and 9 granule-aggregating tumors). The mean follow-up period of the patients was 15 months ranging from 4 to 56 months. Resected specimens were precisely rearranged as soon as possible in order to measure the diameter of the tumor. The size of tumors, number of endoscopic strangulations, average number of endoscopic procedure, and frequency of resection at the first time were compared between recurrence (R) and nonrecurrence (NR) groups. The results were analyzed with the Mann-Whitney test ($p<0.05$). Eighteen lesions (group A_1) were polypectomized piecemeal in a single procedure until they were completely removed. Twenty-seven lesions (group A_2) were polypectomized

over several procedures. The number of strangulations required for resection on the first treatment was compared between group A_1 and A_2.

Results

The age of patients ranged from 42 to 85-year-old (average 67). The size of the maximum dimension of the lesions ranged from 18 to 53 mm (average 25 mm). There was no significant difference between the size of A_1 and A_2 (23 ± 5 vs. 26 ± 7, mean ± SD). The total number of strangulations needed for complete resection was from 2 to 30 (average 4.8) times. The number of endoscopic therapeutic procedures regardless the number of ensnaring ranged from 1 to 6 (average 2) times. The size of each resected fragment was from 5 to 35 (average 11) mm. Pathologically 13 were tubular adenoma (TA), 24 were villotubular adenoma (VTA), and 8 were villous adenoma (VA). In A_1 7 (39%) were TA, 8 (44%) were VTA, and 3 (17%) were VA. In A_2 6 (22%) were TA, 16 (59%) were VTA, and 5 (19%) were VA. The rate of recurrence was zero in A_1, showing a significant difference with A_2 (Table), and the number of resections on the first procedure in the former group was approximately double

Table Comparison of the rate of recurrence between A_1 and A_2

	Group with nonrecurrence	Group with recurrence
A_1	18	0
A_2	22	5

A_1 : resection was completed in one session,
A_2 : resection was completed over several sessions.

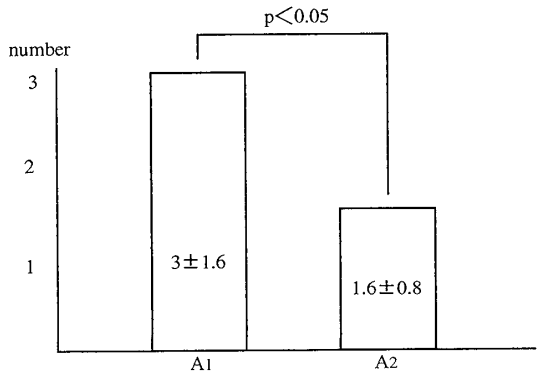

Fig. 1 Comparison of the number of strangulation on the first endoscopic procedure between A_1 and A_2.

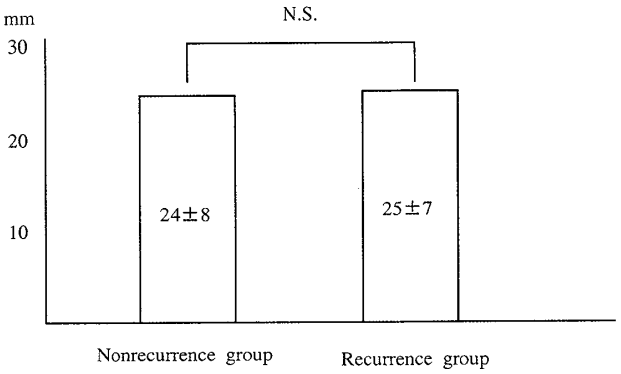

Fig. 2 Tumor size
N.S.: not significance.

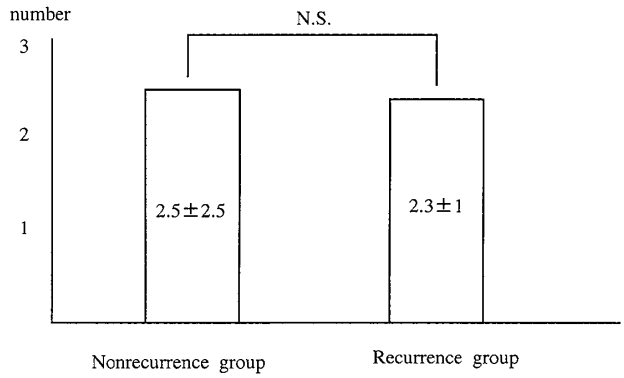

Fig. 3 The average number of strangulations per endoscopic procedure
N.S.: not significance.

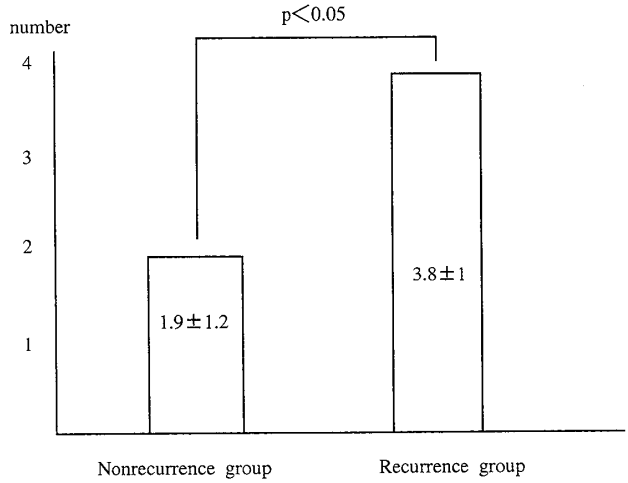

Fig. 4 The average number of endoscopic procedures

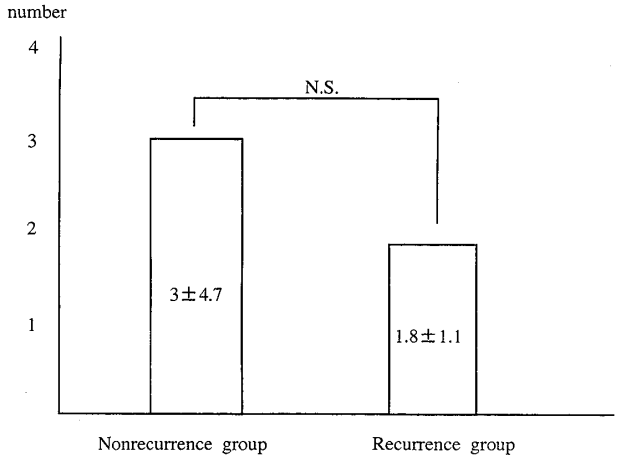

Fig. 5 The average number of strangulations on the first endoscopic procedure
N.S.: not significance.

that of latter ($p<0.05$, Fig. 1). Concerning the NR and R groups, there was no significance in terms of lesion size or number of resections per endoscopic procedure (Fig. 2, 3). However, the R group was seen to have double the number of endoscopic procedures ($p<0.05$, Fig. 4). The NR group has a greater number of strangulations on the initial procedure than the R group (3 ± 4.7 vs, 1.8 ± 1.1, mean $\pm$ SD) although statistical significance was not obtained (Fig. 5).

Discussion

Concerning large sessile tumors, endoscopic therapy can be selected for sm-1. PP is completed in either in one, or in several procedures. Problems in PP include a higher rate of recurrence in PP than in conventional polypectomy performed with a single strangulation[4]. Moreover hazards such as bleeding or perforation caused by repeated insult to the mucosa must be considered[2]. Maruyama et al[5] reported that the rate of recurrence after conventional polypectomy was 0.4% in adenoma and 1.6% in m ca. The rate of recurrence after PP was 11%, which is high. No recurrence was seen in the 18 A_1 cases. Among the 27 A_2 lesions, 5 developed recurrence (19%). A_1 had significantly more strangulations and resections on the first endoscopic procedure treatment than A_2 ($p<0.05$). No difference was observed between A_1 and A_2 in terms of the tumor size, or pathologic findings. No difference was observed between NR and R cases in terms of the tumor size, or average number of resections. A_1 and NR group cases tended to have more resections on the first treatment and fewer endoscopic procedures ($p<0.05$). These results suggest that in PP complete resection of tumor on the first procedure reduces the likelihood of recurrence.

When PP is spread over several endoscopic procedures, it is only natural that this could be related to insufficient resection and subsequent recurrence become marked, resulting in subsequent difficulty in resection. The rate of recurrence was 11% (1/9) in nodular aggregating tumors, and also 11% (4/36) in sessile tumors. Concerning 9 villous tumors, there was no recurrence in the A_1 group but 3 out of 6 lesions in the A_2 group developed recurrence. Okamoto et al[6] reported that all cases with recurrence after PP contained some villous components[7][8]. Villous tumors are soft and are easily cut[7][8]. The border of the tumor was unclear in nodular aggregating tumors and flat villous tumors[6]~[8], and the range of resection tends to be inadequate[9][10]. In resecting these tumors, it is essential to devise methods for complete resection. The dye spraying method can help to clearly demarcate the border of the tumor. In cases of lesions apparently completely removed on the basis of endoscopic and histologic (biopsy)—in which recurrence occurred, it was recognized at 1 to 9 months after the procedure in all cases. Sakatani et al[11] reported cases of local recurrence in which only an ulcer scar was observed after PP, with no remaining tumor. They recommended that meticulous follow-up of 5 years not only of the tumor site but also for probable metastasis is essential.

These results suggest that when performing PP it is essential that curative treatment be aimed at on the initial endoscopic treatment procedure. Furthermore, in terms of reduction of health care costs and efficient allocation of

health care resources, the single curative procedure approach makes eminant sense.

Conclusion

When performing PP it is essential that curative treatment be aimed at on the initial endoscopic treatment procedure.

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大腸上皮性腫瘍の piecemeal polypectomy

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大腸上皮性腫瘍の piecemeal polypectomy (PP) 後の再発をなくし根治させるためにはどうしたらいいか，1984年から1995年3月まで PP を施行した45病変を検討した．一期的に切除した18病変（以下 A_1群）はすべて根治し（100%），多期的に切除した27病変（以下 A_2群）のうち5病変（19%）が再発した．1回目の内視鏡の切除回数は A_1群が A_2群より有意に多かった．根治群は再発群より切除に要した内視鏡回数が有意に少なかったが（$p<0.05$），1回目の内視鏡のときの切除回数は有意に多かった．腫瘍の大きさ，切除回数によって再発率に差はなかった．PP 後の再発率は11%で，腺管腺腫8%，腺管絨毛腺腫4%，絨毛腺腫38%であった．以上のことから PP を施行する場合，切除回数が多くてもできるたけ1回目の内視鏡のとき取り切った方が望ましいと考えられる．