

A Clinico-pathological Study of Gastric Polyps Treated with Endoscopic Polypectomy

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SUMMARY: 181 gastric polyps obtained by endoscopic polypectomy were studied clinico-pathologically. The polyps occurred most frequently in the lower portion, and the incidence of the polyps tended to increase with age. 91% (164/181) of the polyps were occupied by hyperplastic polyps, and 3 polyps and one polyp respectively with dysplastic and carcinomatous foci were detected in 164 hyperplastic polyps. Although hyperplastic polyps rarely transform into dysplasia or carcinoma, careful follow-up is recommended.

INTRODUCTION

Endoscopic polypectomy has been performed safely in recent years, and it became possible to make detailed histopathological diagnosis. The hyperplastic polyp (HP), which is the most common type of the gastric polyp, was generally understood not to transform to malignancy.^{1, 2)} But some authors recently reported a few cases of malignant transformation of hyperplastic polyps^{3, 7)}.

In this paper, we studied clinico-pathological-ly 181 gastric polyps obtained by endoscopic polypectomy, and discussed malignant transformation of the gastric polyps.

MATERIALS AND METHODS

181 gastric polyps were obtained by endoscopic polypectomy. After the specimens were

fixed in 10% formalin, they were embedded in paraffin and then were cut. At last serial cut-sections were stained by hematoxylin and eosin.

RESULTS

1) **Age distribution and sex ratio of polyps (Fig. 1)**

The age distribution of the patients with the polyps ranged from 20 to 80 years. They occurred most frequently in the 7th decade.

2) **Histopathological findings (Table 1)**

181 polyps histologically consisted of 164 HPs (90.6%), 12 adenomas (6.6%), 2 adenocarcinomas (1.1%) and 3 inflammatory fibroid polyps (1.6%).

HPs consisted of hyperplastic foveolar epithelium with or without pyloric gland associated with inflammatory infiltrates. Small foci of dysplastic epithelium at the superficial layers in three of 164 polyps and foci of well-differentiated adenocarcinoma in one of them

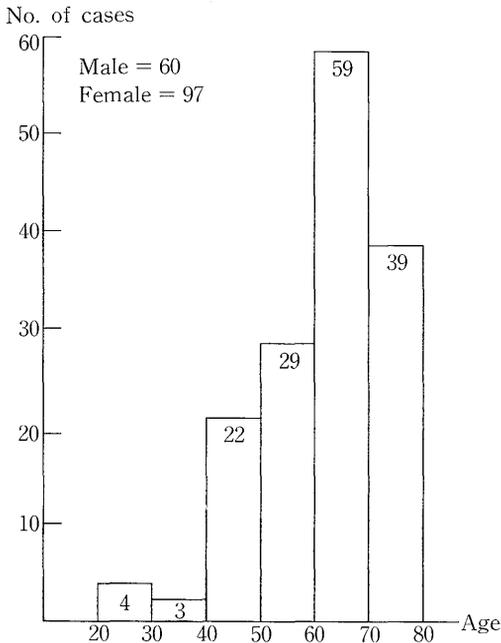


Fig. 1. Age Distribution of Gastric Polypoid Lesion

Table 1. Histological Diagnosis of the Gastric Polypoid Lesions Removed by Endoscopic Polypectomy

| Histological Diagnosis | Lesions (%) |
|---|-------------|
| Hyperplastic polyp | 160 (88.4) |
| Hyperplastic polyp with dysplastic foci | 3 (1.7) |
| Hyperplastic polyp with focal carcinoma | 1 (0.5) |
| Adenoma | 10 (5.5) |
| Adenoma with focal carcinoma | 2 (1.1) |
| Adenocarcinoma | 2 (1.1) |
| Inflammatory fibroid polyp | 3 (1.7) |
| Total | 181 |

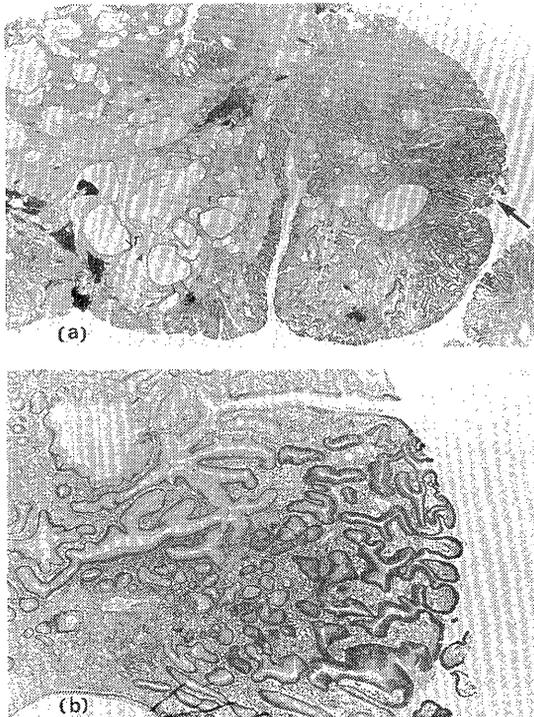


Fig. 2 a: Dysplastic focus in the hyperplastic polyp (arrow).

b: High power microscopic view of the dysplastic epithelium with stratification of nuclei and an increase of N/C ratio.

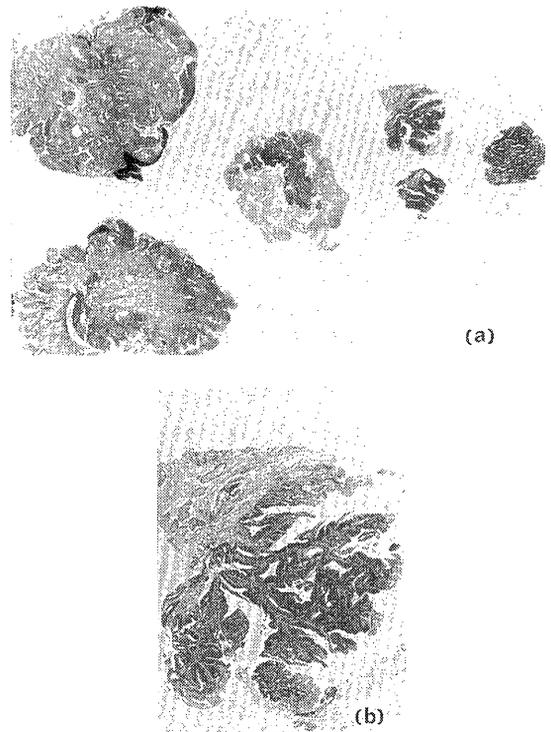


Fig. 3. a: Pieces of the hyperplastic polyp removed by polypectomy.

b: A focus of well differentiated adenocarcinoma is seen in the piece of the hyperplastic polyp.

is low, hyperplastic polyps even less than 1 cm in diameter as shown in our data rarely showed malignant change.

Malignant transformation of benign polyps is based on the histological criteria as follows: (1) malignant focus in the benign polyp, (2) remnant of the histological features characterized as the benign polyp, (3) malignant focus with sufficient cellular and structural atypia^{9, 13}). According to the criteria mentioned above, three focal carcinomas were derived from one hyperplastic polyp and two adenomas. In our data, the rate of malignant transformation of 181 gastric polyps was 1.6% (3/181). Two hyperplastic polyps with dysplastic foci were also seen. The epithelium of hyperplastic polyp is capable of undergoing both neoplastic and kinetic alternation. Some authors showed that the cancerous focus was derived from the dysplastic area in hyperplastic polyps rather than from non-dysplastic epithelium³). Therefore, careful follow-up is recommended even in hyperplastic polyps. The polyps occur most frequently in the lower portion mainly composed of antral mucosa, and the incidence of the polyps tended to increase with age, especially over 40 years old. This result is in agreement with that reported by the other authors¹²). The occurrence of gastric polyps may be related to atrophic change and intestinal metaplasia advancing with age.

REFERENCES

- 1) Nagatomi, Y., Kawamura, S., Takeuchi, K., *et al.*: Polypous bud and its growth. *Stomach and Intestine* 17: 389 (1982) (Japanese).
- 2) Fukuchi, S., Hayakawa, K., Yamada, N., *et al.*: Natural history of gastric polyps based on the results of clinical follow-up study. *Saishin Igaku* 36: 55 (1981) (Japanese).
- 3) Daibo, M., Itabashi, M., Hirota, T.: Malignant Transformation of Gastric Polyps. *Am. J. Gastroenterol.* 82: 1016 (1987)
- 4) Yanbe, T., Sakashita, O., Nagatomi, Y., *et al.*: Symposium II. The follow-up study of gastric polypoid lesion. *Gastroenterol. Endosc.* 24: 1462 (1981) (Japanese).
- 5) Mochizuki, F., Ueno, K., Hisamichi, S., *et al.*: Cancerous change of gastric polyp. *Stomach and Intestine* 10: 347 (1975) (Japanese).
- 6) Muto, T., Shimazu, H., Kobori, K., *et al.*: Malignant transformation of benign gastric polyps. *Stomach and Intestine* 10: 341 (1975) (Japanese)
- 7) Remmele, W., Kolb, E. F.: Malignant transformation of hyperplastic polyps of the stomach. *Endoscopy* 10: 63 (1987)
- 8) Hirota, T., Okada, T., Itabashi, M., *et al.*: Histogenesis of human gastric cancer: With special reference to the significance of adenoma as a precancerous lesion. In: Ming SC, ed. *Precursors of gastric cancer.*, p.301. New York, Philadelphia, Eastbourne, Toronto Hong Kong, Tokyo, and Sydney: Praeger Publishers 1984.
- 9) Nagayo, T.: Histological criteria of malignant transformation of gastric polyp and its results. *Stomach and Intestine* 10: 301 (1975) (Japanese).
- 10) Hay, L. T.: Polyps and adenomas of the stomach. *Surgey* 33: 446 (1953).
- 11) Monaco, A. P., Castleman, B., Roh, S. I., *et al.*: Adenomatous polyps of the stomach. *Cancer* 15: 456 (1962).
- 12) Kamiya, T., Morishita, T., Asakura, H., *et al.*: Histological long standing follow up study of hyperplastic polyps of the stomach. *Am. J. Gastroenterol.* 75: 275 (1981).
- 13) Nakamura, T.: Malignant change of gastric polyp, with special reference to histopathological classification. *Stomach and Intestine* 3: 737 (1968) (Japanese).