Volume 2

Advances in Gastrointestinal Radiology

Herlinger • Megibow

Advances in Gastrointestinal Radiology

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X-Ray Diagnosis of Early Esophageal Carcinoma

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Carcinomas whose depth of invasion is restricted to the submucosa were defined to be early esophageal carcinomas in Japan in 1969.[1] However, many of these submucosal carcinomas metastasized to lymph nodes, and it became clear that a high survival rate could not be expected to follow treatment of such carcinomas.

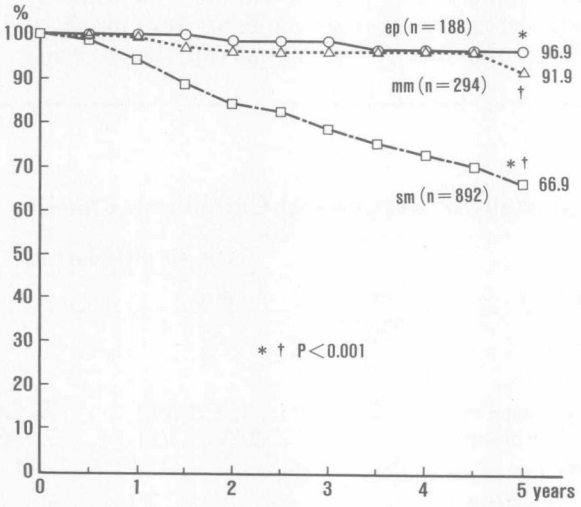

FIG 1.
Five-year survival rate according to depth of tumor invasion. These cases were collected in Japan by M. Endo, M.D. and T. Kawano, M.D. between 1984 and 1989, and were reported to the Japanese Society of Gastrointestinal Endoscopy in 1990.

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The Japanese definition was revised in 1972. Early carcinomas were now defined as those that extended into the submucosa, provided they were without metastases.[2]

Figure 1 shows the 5-year survival rate as reported on a nationwide scale by Endo et al.[3] This 5-year survival rate was found to be 96.6% for intraepithelial carcinomas (ep-carcinomas), 91.9% for carcinomas extending to the muscularis mucosa (mm-carcinomas), and 66.9% for the submucosal carcinomas (sm-carcinomas).

Based on these results, it was decided to further restrict the definition of early carcinoma to those in which a high survival rate was to be expected. This requirement was met only by ep-carcinomas and mm-carcinomas; thus, sm-carcinomas were excluded from this definition.

The following report will compare ep-carcinomas and mm-carcinomas with sm-carcinomas.

Materials

Included in this study are 25 cases of ep-carcinomas, 22 cases of mm-carcinomas, and 81 cases of sm-carcinomas. All have been diagnosed and resected during the 10 years between 1981 and 1990 at the Toranomon Hospital in Tokyo.

If radiation therapy or chemotherapy was administered before surgery to patients with ep-carcinomas and mm-carcinomas, these lesions often disappeared altogether or underwent conspicuous changes of shape. Since this would have made it impossible to compare the radiologic and macroscopic findings, we have excluded such cases from this study and have included only those that had not been treated preoperatively.

TABLE 1.
Pathological Study of Esophageal Carcinoma Cases*

Description	Depth of Invasion		
	ep	mm	sm
Single lesion	20	18	63
Multiple lesions	5	4	18
Lymph node metastases	0	1 (1/22, 4.5%)	36 (36/81, 44.4%)
Lymphatic and/or blood vessel invasion	0	2 (2/22, 9.1%)	59 (59/81, 72.8%)

*In Toranomon Hospital, 128 ep-, mm-, and sm-carcinoma cases without preoperative treatment were resected during the years 1981 to 1990. They include 101 cases (78.9%) with single lesion, and 27 cases (21.1%) with multiple lesions.