Early basaloid squamous cell carcinoma of the esophagus

Shunichiro Komatsu, MD, Norihiro Yuasa, MD, Koji Oda, MD, Hideo Miyake, MD, Yasuhiro Kurumiya, MD, Hidemi Goto, MD, Yuji Nimura, MD

Basaloid squamous cell carcinoma (BSCC) has recently been recognized as a distinct histopathologic variant of squamous cell carcinoma (SCC) that has an aggressive biological behavior and low survival rate.1-6 Although the majority of these tumors appear to occur in the upper aerodigestive tract, the number of reports of esophageal BSCC is increasing.4-9 However, an early stage of BSCC is rarely found: of 26 cases of the superficial type found largely in the Japanese language reports, only 4 tumors were confined within muscularis mucosa.7-9 Furthermore, there is no precise description of the endoscopic appearance of the earliest stage BSCCs. This is a case of minute (less than 1.0 cm in diameter)10,11 BSCC of the esophagus, without submucosal invasion, incidentally found in a surgical resection specimen. To our knowledge, this is the smallest such lesion reported to date.

CASE REPORT

A 71-year-old man was found to have early stage SCC of the distal esophagus by barium study, obtained during a health evaluation and follow-up endoscopy. The macroscopic appearance of the lesion was that of a superficial, slightly depressed type with a slightly elevated lesion (O-IIc+IIa).12 It was thought to have extended to the muscularis mucosa (m3) or to have invaded the submucosal layer (sm) based on the findings at EUS. Therefore, a mid and distal esophagectomy was performed followed by intrathoracic reconstruction by using the gastric tube. In the resected specimen, apart from the O-IIc+IIa cancer (31 × 14 mm) unstained by iodine, a slightly elevated, less iodine-stained lesion (6 × 5 mm) was incidentally found close to the esophagogastric junction (Fig. 1), which had not been detected by the preoperative examinations. Histologically, the O-IIc+IIa lesion was a squamous cell carcinoma with horizontal growth, involving the lamina propria (m2). In contrast, the small elevated lesion was identified as a subepithelial nest with solid, expansive and vertical growth of basal cell-like carcinoma cells. It was covered with noncancerous epithelium but reached the muscularis mucosa (m3) (Fig. 2). These findings are consistent with the histologic features of BSCC previously described.1-5 Neither lymph node involvement nor lymphatic invasion was noted. In reviewing photographs from the preoperative endoscopy, a small elevated lesion...
with a shallow depression at its apex, similar in appearance to the subepithelial tumor in the resection specimen, was found near the esophagogastric junction (Fig. 3). This subepithelial elevation corresponded closely to the nest of BSCC found in the resection specimen in location and appearance. Unfortunately, there were no endoscopic photographs of iodine-staining in the area of the BSCC, inasmuch as the application of this technique was focused on the other lesion.

**DISCUSSION**

It is now well recognized that early detection of malignant lesions can improve the prognosis of patients with esophageal cancer. However, in the previously reported cases of superficial BSCC, most of the tumors (23/26) exhibited submucosal invasion, some with lymph node metastasis, although the size of the tumor (mean 25 mm) is comparable with that of an early stage conventional SCC (mean 26 mm) (m2 and m3). This relative difference in the depth of tumor invasion between the 2 types of esophageal cancer suggests that the detection of BSCC before involvement of the submucosa may be hampered by its biological nature, such as its origin (presumably arising from the deepest layer of the epithelium).

The BSCC in our case, in contrast to the larger but shallower SCC, was minute but nevertheless exhibited invasion to the muscularis mucosa. Although the lesion was retrospectively found on endoscopic photographs, a preoperative diagnosis of the small tumor, covered with noncancerous epithelium, was not made, in part because of a lack of information on the endoscopic appearance of minute BSCC. However, the correct diagnosis could have been made if there was knowledge of the lesion and a biopsy specimen exactly at the central part of the elevated lesion where the overlying layer of normal mucosa is thinnest would have been obtained.

Endoscopic mucosal resection may have been an option in treating this patient because there is no significant difference between endoscopic and surgical treatment with regard to the survival rate of the patients with SCC of corresponding depth (m3). The macroscopic and pathologic findings in this case of BSCC of the esophagus may provide important insights concerning its early endoscopic detection. Iodine staining appeared to be a powerful technique for detecting the minute BSCC. This suggests that endoscopy combined with staining with Lugol’s solution, which is highly effective in the diagnosis of early esophageal carcinoma, should be applied if a small subepithelial elevation is observed as in the case presented here.

**REFERENCES**