Case report
Basaloid squamous carcinoma of the larynx
Report of a case

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Abstract

Basaloid squamous carcinoma (BSC) is a rare neoplasm. We present a case of basaloid squamous carcinoma of the larynx in a 57-year-old male patient. The diagnosis before treatment was supraglottic carcinoma (T3N1MO) and biopsy of the larynx revealed a poorly differentiated squamous cell carcinoma. Total laryngectomy and right radical neck dissection were performed, and pathological studies of a specimen removed from the larynx revealed BSC of the larynx. The patient’s postoperative progress was uneventful, however, 12 months later he developed lung metastasis of the left side. The patient underwent partial resection of the lung. He developed recurrence of lung metastasis 6 months later. Chemotherapy with cisplatin (CDDP) and vindesine sulfate (VSD) was administered in two courses, but the efficacy was evaluated as no change (NC). At present, 26 months after the first visit, he has been asymptomatic with lung metastasis, and there was no evidence of recurrence in the neck. © 1997 Elsevier Science Ireland Ltd.

Keywords: Basaloid squamous carcinoma; Larynx; Lung metastasis

1. Introduction

Basaloid squamous carcinoma (BSC) is a variant of squamous cell carcinoma that was first identified and described in the head and neck [1]. BSC appears to have a high malignancy with a regional and distant metastasis. Recently clinical and pathological reviews [2] have been published, but in Japan only one case of BSC in the nasopharynx has been reported since 1995. We present a case of BSC of the larynx with metasta-
sis to the lung, and provide a review of the literature on laryngeal BSC.

2. Case report

A 57-year-old Japanese male who underwent an operation for colon adenocarcinoma 2 years prior to the development of severe hoarseness was referred to Tokai University Tokyo Hospital on June 14, 1994. A massive lesion was found involving the laryngeal surface of the epiglottis, the right ventricular band, right vocal cord and the anterior commissure, and the right vocal cord appeared fixed. A lymph node about 15 mm in diameter was palpable in the right mid-internal jugular region. A biopsy specimen from the mass of the supraglottic region was diagnosed as a poorly differentiated squamous cell carcinoma (T3N1M0).

On July 4, 1994, total laryngectomy and right radical neck dissection were performed. Pathological examinations of the larynx showed that most of the tumor cells were small in size and were arranged in various sized solid or cord like nests sometimes forming small glandular structures and myxomatous stroma. Central or individual tumor necrosis were frequently seen. Basaloid pattern was also observed at the periphery of the tumor nests. Conventional squamous cell carcinoma in situ was focally seen in the surface epithelium covering and adjacent to the carcinoma nests (Figs. 1–3). Immunohistochemically, the carcinoma cells were positive to cytokeratin series including KL-1, WSS, AE3, CAM5.2, and EMA and vimentin, but negative to smooth muscle actin, GFAP. The pathological diagnosis was BSC.
Fig. 4. Metastatic basaloid squamous carcinoma in the lung. The carcinoma consists of basaloid cells with abundant myxoid stroma. No focus of squamous cell carcinoma is observed. (H-E stain, original magnification × 111).

The patient’s postoperative progress was uneventful and the patient had been followed up in an out-patient clinic without any local recurrence. On chest X-rays in June 1995, however, a round shadow about 15 mm in diameter in the S6 area of the left lung was found. The bronchofiberscopic examination revealed an intra bronchial mass lesion of the left bronchus and a biopsy specimen showed proliferation of basaloid tumor cell with abundant myxomatous stroma, and the diagnosis of BSC, probably metastatic from the larynx, was made (Fig. 4).

On August 16, 1995, partial resection of the lung was performed endoscopically. In February 1996, 6 months after the last operation, recurrence was found in the left lung. Chemotherapy with cisplatin (CDDP) and vindesine sulfate (VDS) was administered in two courses, but the efficacy was evaluated as NC. At present, 26 months after the first visit, the patient has been asymptomatic with metastatic lesion of the lung, but free of local recurrence.

3. Discussion

BSC is a rare malignancy thought to be a variant of squamous cell carcinoma that commonly arises in the anus, esophagus, and uterine cervix. In 1986, Wain et al. [1] first identified and described ten cases of BSC that arose in the upper respiratory tract. The site of predilection in the head and neck area is the base of the tongue, supraglottic region of the larynx and piriform sinus.

WHO classification has included this tumor in its revised edition of ‘Histological Typing of Tumors of the Upper Respiratory Tract and Ear’ [3]. The basaloid components of this tumor are originally defined by the following four features: (1) solid growth of cells in a lobular configuration, closely adhered to the surface mucosa; (2) small, crowded cells with scant cytoplasm; (3) dark and hyperchromatic nuclei without nucleoli; and (4) small cystic spaces containing material resembling mucin that stains with PAS and/or Alcian blue [1]. The basaloid component and squamous component are present in each carcinoma and the basaloid component is arranged in lobules, nests, and gland-like spaces. The basaloid cells are separated by dense pink acellular hyaline material or surrounded by hyaline stromal cores [4,5]. The squamous carcinoma takes the form of invasive or in situ or only dysplastic changes. Barnes et al. [5] reviewed 33 cases of this tumor in the head and neck region and stated that metastases may contain basaloid cells, squamous cells or both, but mostly basaloid in composition. Since squamous carcinoma shows such variegated pathological findings, diagnosis of basaloid squamous carcinoma is rather difficult to make.

It may frequently be diagnosed as adenoid cystic carcinoma, small cell carcinoma or poorly differentiated carcinoma. They also reviewed the literature on immunohistochemical studies of BSC, and stated that cytokeratin immunoreactivity in BSC is a constant finding in the reported cases, although the percentage of positive cells in the basaloid component varies greatly among different reports, and he recommended to use a cocktail of keratin antibodies such as clone CAM5.2, AE1–AE3 and others.

Vimentin immunoreactivity was reported with different results in different laboratories.

While there is a report that basaloid squamous carcinoma can be diagnosed by fine needle aspiration [6], it is important to take a biopsy specimen
Table 1
Laryngeal basaloid squamous carcinomas

<table>
<thead>
<tr>
<th>Number</th>
<th>Age/sex</th>
<th>Site</th>
<th>Stage</th>
<th>Treatment</th>
<th>Local recurrence</th>
<th>Distant metastasis</th>
<th>Follow-up</th>
<th>At month</th>
<th>Reported by</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60:M</td>
<td>Epiglottis-base of tongue</td>
<td>T4N1Mx</td>
<td>Laryng. + RND Rx</td>
<td>+</td>
<td>+ Lung</td>
<td>DOD</td>
<td>10</td>
<td>Wain et al.</td>
<td>1986 [1]</td>
</tr>
<tr>
<td>2</td>
<td>68:M</td>
<td>Epiglottis</td>
<td>T3N1Mx</td>
<td>Rx</td>
<td>–</td>
<td>–</td>
<td>ANET</td>
<td>1</td>
<td>Wain et al.</td>
<td>1986 [1]</td>
</tr>
<tr>
<td>3</td>
<td>59:M</td>
<td>Epiglottis</td>
<td>T1N1Mx</td>
<td>Spalarng. + RND Rx</td>
<td>–</td>
<td>+ Multiple</td>
<td>DOD</td>
<td>48</td>
<td>Wain et al.</td>
<td>1986 [1]</td>
</tr>
<tr>
<td>4</td>
<td>61:M</td>
<td>Epiglottis-base of tongue</td>
<td>T4N1Mx</td>
<td>Spalarng. + RND Rx</td>
<td>–</td>
<td>–</td>
<td>ANET</td>
<td>17</td>
<td>Wain et al.</td>
<td>1986 [1]</td>
</tr>
<tr>
<td>5</td>
<td>72:M</td>
<td>Supraglottic</td>
<td>T3N0Mx</td>
<td>Laryng. + RND Rx</td>
<td>+ Nasv, skin</td>
<td></td>
<td>DOD</td>
<td>32</td>
<td>Shvili et al.</td>
<td>1990 [10]</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Supraglottic</td>
<td>T2N0Mx</td>
<td>Rx</td>
<td>–</td>
<td>+ Lung</td>
<td>DOD</td>
<td>28</td>
<td>Lamer et al.</td>
<td>1993 [12]</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Supraglottic</td>
<td>T3N2Mx</td>
<td>Surgery</td>
<td>+ Stoma</td>
<td>+ Lung</td>
<td></td>
<td></td>
<td>Lamer et al.</td>
<td>1993 [12]</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Supraglottic</td>
<td>T3N1Mx</td>
<td>Surgery</td>
<td>–</td>
<td>–</td>
<td>DOD</td>
<td>11</td>
<td>Lamer et al.</td>
<td>1993 [12]</td>
</tr>
<tr>
<td>10</td>
<td>49:M</td>
<td>Transglottic</td>
<td>T3N1Mx</td>
<td>Laryng. + RND Rx</td>
<td>+</td>
<td></td>
<td>DOD</td>
<td>10</td>
<td>Ereno et al.</td>
<td>1993 [13]</td>
</tr>
<tr>
<td>12</td>
<td>61:M</td>
<td>Supraglottic</td>
<td>T3N1Mx</td>
<td>Laryng. + RND Rx</td>
<td>+</td>
<td></td>
<td>DOD</td>
<td>15</td>
<td>Ereno et al.</td>
<td>1993 [13]</td>
</tr>
<tr>
<td>13</td>
<td>50:M</td>
<td>Supraglottic</td>
<td>T2N0Mx</td>
<td>Laryng. + RND Rx</td>
<td>A</td>
<td></td>
<td></td>
<td>49</td>
<td>Ereno et al.</td>
<td>1993 [13]</td>
</tr>
<tr>
<td>14</td>
<td>61:M</td>
<td>Supraglottic</td>
<td>T3N0Mx</td>
<td>Laryng. + RND Rx</td>
<td></td>
<td></td>
<td>A</td>
<td>39</td>
<td>Ereno et al.</td>
<td>1993 [13]</td>
</tr>
<tr>
<td>16</td>
<td>59:M</td>
<td>Transglottic</td>
<td>T4N2Mx</td>
<td>Laryng. + hemithyroid. + RND Rx</td>
<td>–</td>
<td>–</td>
<td>ANET</td>
<td>6</td>
<td>Muller et al.</td>
<td>1995 [9]</td>
</tr>
<tr>
<td>17</td>
<td>64:M</td>
<td>Transglottic</td>
<td>T3N0M0</td>
<td>Laryng. + bil.RND Rx</td>
<td>–</td>
<td>–</td>
<td>ANET</td>
<td>9</td>
<td>Akyol et al.</td>
<td>1995 [14]</td>
</tr>
<tr>
<td>18</td>
<td>65:M</td>
<td>Supraglottic-epiglottis</td>
<td>T3N2M0</td>
<td>Laryng. + bil.RND Rx</td>
<td>–</td>
<td>–</td>
<td>ANET</td>
<td>9</td>
<td>Akyol et al.</td>
<td>1995 [14]</td>
</tr>
</tbody>
</table>

Abbreviations: Laryng., laryngectomy; Spralarng, supraglottic laryngectomy; RND, radical neck dissection; Rx, radiation; hemithyroid, hemithyroidectomy; ANET, alive no evidence of tumor; DOD, died of disease; A, alive; bil, bilateral.
that is as deep and wide as possible. In our case the first biopsy specimen was so small and superficial that basaloid cells escaped from the specimen. Banks et al. [7] investigated 40 cases of BSC in the head and neck, and reported that ten cases were in stage III, 21 cases in stage IV and 27 cases (68%) already had lymphatic metastasis at the first visit. Raslan et al. [8] reviewed 90 cases of BSC of head and neck, and has shown that the dominant gender of this disease was male (82%) with the mean age of 63 years, that metastasis to cervical lymph nodes occurred in 64% and to the lung, liver, bone, brain and skin in 44%. The mortality rate at 17 months of the follow-up was 38%.

Up to the present, 30 cases of BSC in the larynx have been reported in the literature, but the details of each case were well documented only in 18 cases (Table 1) [1,8–14]. In 15 cases, in which their gender was described, the male female ratio was 14:1 and the mean age was 63 years. In 18 cases in which detailed clinical information is available, the lesion was supraglottic in 15 cases, extended from the epiglottis to the base of the tongue or piriform sinus in three cases and transglottic in three cases. There were two case of stage II, 11 cases of stage III and five cases Stage IV. Twelve cases had already developed lymphatic metastasis without distant metastasis, and 15 patients underwent surgical treatment including laryngectomy, radical neck dissection and 12 patients received postoperative irradiation. Two patients were treated with radiation therapy alone. Local recurrence was found in five cases and distant metastasis in five cases. The site of metastasis was the lung in three cases and multiple regions in two cases. Eight cases died of the disease (mean 22 months), seven cases lived (mean 17 months) and three cases were unknown.

The treatment of BSC are mainly surgical treatments combined with postoperative irradiation, however, distant metastasis has been found at a high percentage, effective chemotherapy should also be studied [11]. Macky et al. reported that chemotherapy with Adriamycin in four courses was ineffective to multiple metastasis [15]. However, Tellez-Bernal et al. reported that the chemotherapeutic treatment with CDDP and VDS, which was also used in our case, was evaluated in 31 patients with recurrent and/or metastatic head and neck squamous cell carcinoma resulting in 16% complete response (CR) with a median duration of 6.4 months, 36% partial response (PR) with an overall rate response of 52% [16].

In the present case, resection of the lung was performed for remote metastasis. While recurrence was found half a year later, the operation was considered effective for prolonging life and maintaining the quality of life (QOL).

References


