

Basal cell adenoma in the deep portion of the parotid gland: a case report

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Abstract (J Korean Assoc Oral Maxillofac Surg 2015;41:352-356)

Basal cell adenoma (BCA) is a rare, benign neoplasm that most frequently arises in the parotid gland. We treated a 54-year-old female patient with BCA that had developed in the deep portion of the left parotid gland. The patient presented with gradual facial swelling with no other symptoms. We performed a total parotidectomy to excise the mass, but we preserved the facial nerve. Histopathology revealed a well-encapsulated mass. The tumor was composed of islands of comparatively uniform, small, dark, basaloid epithelial cells in the stroma. Histologic and immunohistochemical studies concluded that the BCA tumors were mostly trabecular. Postoperatively, there was no facial nerve weakness, and the tumor did not recur during the 24-month follow-up period.

Key words: Basal cell adenoma, Parotid gland, Facial nerve preservation

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I. Introduction

Basal cell adenoma (BCA) is an uncommon benign salivary gland tumor that accounts for 1% to 3% of all salivary gland neoplasms¹. It is characterized by the basaloid appearance of the tumor cells and the absence of the myxochondroid tissue that is usually found in pleomorphic adenomas. The tumors have been classified into solid, trabecular, tubular, and membranous types², and the treatments of choice are surgical excision, superficial parotidectomy, and total parotidectomy. Total parotidectomy is preferred over superficial parotidectomy for tumors in the deep portion of the parotid gland or for membranous types of BCA that tend to be multicentric, have multiple recurrences, and occasionally undergo malignant transformation³.

Here, we report a case of total parotidectomy to excise

trabecular BCA in the deep portion of the parotid gland, with facial nerve preservation.

II. Case Report

A 54-year-old Korean woman presented to the outpatient oral and maxillofacial surgery clinic at Dankook University Dental Hospital (Cheonan, Korea) in 2013 because of a six-month history of painless swelling of her left parotid gland. On physical examination, the patient showed a 1.5-cm nodule in the left pre-auricular region and a mobile mass over the deep portion of left parotid gland that had not adhered to the skin. No pathologic lymph nodes or masses were observed or palpated in the cervicofacial regions. Based on the history and physical exam, a suspected diagnosis of benign parotid gland tumor was made. Enhanced neck computed tomography images were obtained and revealed a 1.7×1.5 cm, well-defined, heterogeneously enhancing mass in the deep portion of the left parotid gland.(Fig. 1)

With both a clinical and radiological diagnosis of benign tumor in the deep portion of the left parotid gland, a total parotidectomy with facial nerve preservation under general anesthesia was scheduled. A modified Blair incision⁴ was made in the pre-auricular region (Fig. 2), and the facial nerve trunk was identified using an antegrade approach⁵. After the superficial portion of the parotid gland was carefully dis-

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Fig. 1. Computed tomography scan; 1.7×1.5 cm sized well-encapsulated enhancing mass on left parotid gland. A. Axial. B. Coronal. Woo-Yeol Chung et al: Basal cell adenoma in the deep portion of the parotid gland: a case report. *J Korean Assoc Oral Maxillofac Surg* 2015



Fig. 2. Incision design has been made. Dotted line, swelled region; narrow line, incision line; wide line, contour of angle of mandible. Woo-Yeol Chung et al: Basal cell adenoma in the deep portion of the parotid gland: a case report. *J Korean Assoc Oral Maxillofac Surg* 2015

sected to avoid facial nerve injury, the branches of the facial nerve were isolated. When the superficial portion of the parotid gland was removed, a shiny, brownish-colored mass was exposed underneath the facial nerve branches. After retraction of the nerve branches that passed into the deep lobe, the tumor mass in the deep portion of the parotid gland was excised by total parotidectomy.(Fig. 3)

Histologically, the mass in this case was shown to be a mostly trabecular type BCA tumor. Immunohistochemical examination showed that the mass was positive for p63 and

high-molecular weight cytokeratine.(Fig. 4)

The patient was discharged without any complications such as facial nerve weakness or Frey syndrome, and there was no recurrence during the 24-month follow-up period.

Patients provided written informed consent for the publication of this case report along with the accompanying images.

III. Discussion

BCA is a rare, benign epithelial neoplasm of the salivary glands that most frequently arises in the parotid gland. It is composed of relatively isomorphic basaloid epithelial cells, an abundant basal cell layer, and a distinctive basement membrane-like material. Notably, BCAs lack the myxochondroid tissue that is present in pleomorphic adenomas⁶. Clinically, the tumor tends to be an asymptomatic, slowly enlarging, freely mobile mass with a maximum diameter of less than 3 cm. Most authors report a greater prevalence in women, but other authors report no differences between the sexes^{7,8}.

At the cellular level, the predominant tumor cell arrangement determines the type of BCA. The tumors are divided into four types by histologic pattern: solid, trabecular, tubular, and membranous. The most common type is the solid BCA⁹, in which round or oval tumor cells show a solid proliferation and form cell nests of various sizes. The peripheral nest cells are lined with a palisading row of tumor cells¹⁰. In the tubular type of BCA, bilayered tubular structures consisting predominantly of inner eosinophilic luminal cells and outer cuboidal cells are featured. In the trabecular type, the tumor

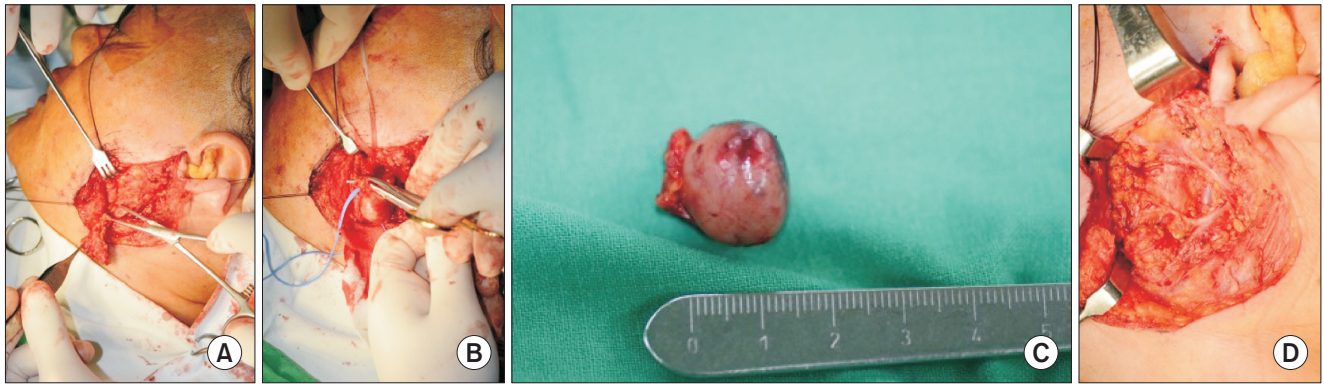


Fig. 3. A. The superficial part of the parotid gland has been excised. B. Excision of tumor with preserving the facial nerve and the branches. C. Excised tumor. D. The facial nerve and the branches have been preserved.

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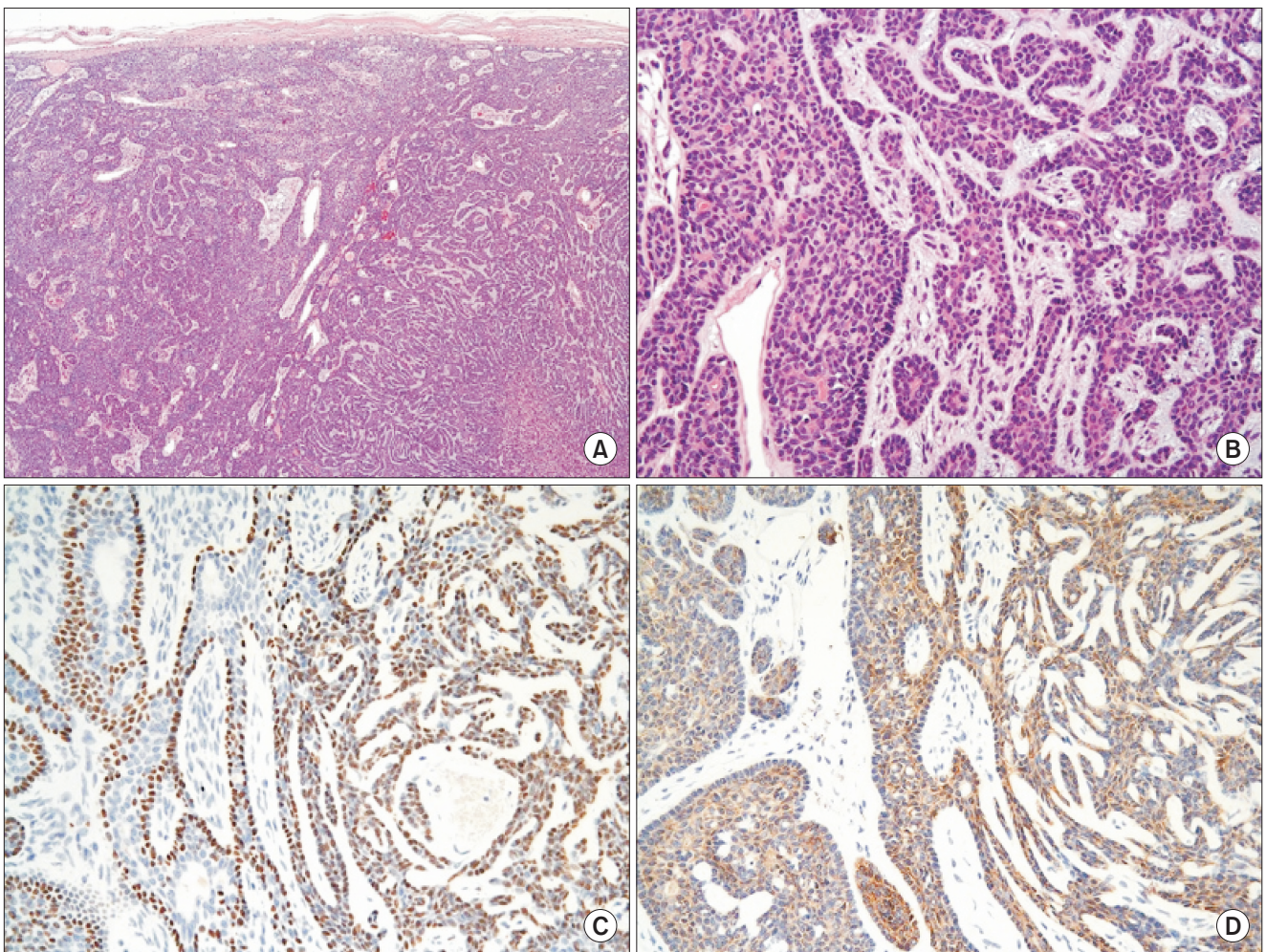


Fig. 4. A. Fibrous capsule of the tumor is surrounding trabecular tumor cell nests (H&E staining, $\times 40$). B. Trabecular tumor cells and tumor cell nest formation (H&E staining, $\times 200$). C. The basal cells are expressed by p63 (immunohistochemical staining, $\times 200$). D. The luminal cells of tubular structure are stained by HMK-CK (immunohistochemical staining, $\times 200$).

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cells are arranged in trabecular cords and occasionally form tubular lumens or intercellular canalicular slits within the trabeculae¹¹. Membranous BCAs are composed of peripheral cell layers arrayed in a palisade fashion, and the cell layers are surrounded by excessive hyaline basal membrane material¹². In this case, the tumors are mostly of the tubular and trabecular types.

For BCAs, the primary treatment is surgical excision by means of a superficial or total parotidectomy. Total parotidectomy is performed in cases in which the tumor affects the parotid gland because BCA can be unencapsulated. However, in the minor salivary glands of the oral mucosa, extracapsular excision is performed to treat BCAs³. Total rather than superficial parotidectomy is preferred in the membranous type of BCAs because the membranous type tends to be multicentric, have multiple recurrences, and occasionally undergoes malignant transformation^{12,13}.

When performing a total parotidectomy, surgeons endeavor to preserve the facial nerve, which is challenging because the deep lobe of the parotid gland is beneath the facial nerve and its branches¹⁴. Thus, many surgeons perform superficial rather than total parotidectomies in patients with potential malignant transformation or primary superficial cancer of the parotid gland. However, Kidd¹⁵ reported a series of 105 patients with pleomorphic adenoma that were treated with total conservative parotidectomy, and no cases of permanent paralysis were seen. In addition, Laccourreye et al.¹⁶ studied 229 cases of primary benign pleomorphic adenoma of the parotid gland and found facial nerve dysfunction to be no more common after total conservative parotidectomy than after superficial parotidectomy. Although Gaillard et al.¹⁷ reported that total parotidectomy was associated with a significantly higher incidence of temporary facial nerve dysfunction than was superficial parotidectomy, there was no permanent facial nerve dysfunction in either total or superficial parotidectomy.

Thus, in the absence of a preoperative biopsy, conservative total parotidectomy with facial nerve preservation is recommended for suspected BCA because membranous BCAs can occasionally become malignant.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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Authors' contributions: CHK performed the surgeries in this case and provided the clinical follow-up care. WYC was the patient's primary care doctor and gave final approval for this version of the manuscript to be published.

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