Case Report

Giant sebaceous nevus occupying half of the head associated with sebaceous carcinoma, apocrine adenocarcinoma, and basal cell carcinoma: A case report

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ABSTRACT

We herein report a 57-year-old man afflicted with multiple malignant tumors arising from a giant sebaceous nevus on his left parieto-temporal scalp and neck. The upper eyelid was resected in all layers, and the auricle was resected as well, leaving part of the external auricular cartilage; the parotid gland area was also resected over the parotid fascia. The lost part of the left eyebrow was reconstructed using an anterior forehead skin flap, and the residual defect was covered with skin graft and expanded scalp flap. This is probably the first case report of giant sebaceous nevus associated with three malignancies: sebaceous carcinoma, apocrine adenocarcinoma, and basal cell carcinoma.

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Introduction

Basal cell carcinoma, which was previously implied to be a secondary malignant tumor associated with sebaceous nevus, has recently been recognized as being less frequent than previously considered. Although the frequency of secondary tumors increases with age, complications from highly invasive malignancies, such as squamous cell carcinoma, are extremely rare.

We herein report a case of a giant sebaceous nevus occupying half of the head with three malignant tumors: sebaceous carcinoma, apocrine adenocarcinoma, and basal cell carcinoma.

Case presentation

The patient was a 57-year-old man with a large mass on his head. A 310 mm × 250-mm verrucous, seborrheic keratosis-like giant skin tumor had grown on the left side of the face from the temporal hairline to the neck, and an elastotic, hard, chicken-egg-sized elevated lesion was present in the left lateral orbital region with epidermal erosion and hemorrhaging (Figure 1), which his mother had previously explained to him was due to childhood burn injuries. He was unconcerned about the reasons for the emerging lesions and simply covered them with a hat while engaged in his truck-driving work.

The patient was referred to our hospital because of erosion and persistent hemorrhaging of the skin tumor at the left lateral orbit, which was part of the same afflicted area, for several months. He had no learning difficulties or skeletal deformities and had no history of seizures. Head computed tomography and magnetic resonance imaging revealed no tumor infiltration in the skull, no significant lymph node enlargement, and no findings suggestive of linear nevus sebaceous syndrome on a systemic search.

We therefore diagnosed him with a giant sebaceous nevus with a secondary malignant tumor and planned a wide extended resection surgery.

Surgical intervention

A 30-mm margin was taken for the anterior forehead and upper and lower eyelids, and a 10- to 20-mm margin was taken for the neck and cheek area. The neck skin was excised at the level of the sternocleidomastoid, and the platysma muscles were left in place; the temporal area was excised at the level of the sub-temporal fascia; and the zygomatic and zygomatic arch area of the lateral orbit was excised at the level of the sub-periosteum. The upper eyelid was resected in all layers, leaving part of the bulbar conjunctiva; the auricle was resected, leaving part of the external auricular cartilage; and the parotid gland area was resected over the parotid fascia. The lost part of the left

Figure 1. Photographs at the initial examination and resection pathology specimen.
Three weeks after the first surgery, the artificial dermis was removed, and full- and partial-thickness skin grafts were performed at the residual defect, and therefore all of the skin grafts were still viable 6 weeks later (Figure 2). A tissue expander was inserted into the parietal and right side of the head at week 8, and skin expansion of the scalp area was continued until week 16. During tissue expander removal surgery, a portion of the grafted skin was removed to reduce the bald area and extend the scalp flap (pre-fabricated expanded flap of the temporal region) for wound closure.

After 12 months, the left side of the head was able to be covered by the scalp area, and the eyelids were functionally reconstructed (Figure 3). The patient was followed up for four years with no signs of recurrence. Reconstructive surgery for the lost auricle was not requested.

Pathological findings

Macro imaging of the resected pathological specimen is shown. The area of sebaceous carcinoma also showed sebaceous gland conduit-like structures with partial keratinization and substantial sporation of tumor cells with round dysmorphic nuclei and foamy basophilic vacuoles. The area of apocrine adenocarcinoma was characterized by an acidic, luminal, honeycombed growth of tumor cells with highly columnar vacuoles and warhead secretion, mainly in the temporal region. The area of basal cell carcinoma showed small foci of proliferating basal cells in a reticular/chordal pattern, mainly in the auricular region (Figure 4). The sebaceous carcinoma, apocrine adenocarcinoma, and basal cell
carcinoma are presumed to have arisen from this giant sebaceous nevus. We secured a negative surgical margin.

**Discussion**

Recently, many of the secondary tumors associated with sebaceous nevus, which were previously diagnosed as basal cell carcinoma, have been recognized as being benign trichoblastoma.\(^1\) Diagnoses also increase after adolescence, being typically found in elderly patients.\(^2\) Other benign tumors include sebaceoma, syringocystadenoma papilliferum, and syringoma. Malignant tumors include basal cell carcinoma, apocrine adenocarcinoma, squamous cell carcinoma, and sebaceous carcinoma, but they are extremely rare.\(^1\)

Among 997 patients with sebaceous nevus, 3 out of 9 patients with secondary malignant neoplasms reportedly died due to distant metastasis or other causes.\(^3\) Therefore, extensive resection is recommended in cases of highly invasive sebaceous adenocarcinoma, and surgical excision with wide margins should be the standard treatment.\(^4\) A surgical resection margin of 10–30 mm was obtained in our case. If the defect is more extensive, not only skin grafting but also a tissue expander technique is often used for reconstruction in the head and neck region, which is essential after resection of large tumors (>20 cm).\(^3\) In cases of resection including malignant tumors that cause the loss of the whole upper eyelid, such as in our case, we have to consider various reconstructive options, such as the use of an anterior forehead skin flap.

There have been a few reports of collision tumors that are a combination of squamous cell carcinoma and basal cell carcinoma\(^6,7\) but no reports of reconstruction after resection of a giant sebaceous nevus associated with three types of carcinoma (sebaceous carcinoma, basal cell carcinoma, and apocrine carcinoma) have been published. We therefore believe this is the first case report of giant sebaceous nevus associated with these three malignancies.

**Conclusion**

In a rare case of a giant sebaceous nevus on the head with eyelid defects associated with three malignancies (sebaceous carcinoma, apocrine adenocarcinoma, and basal cell carcinoma), reconstructive surgery using the tissue expander technique and an anterior forehead skin flap was performed with good functional and cosmetic results.
Funding

None declared.

Ethical approval

Not required.

Informed consent and patient details

Written informed consent was obtained from the patient for the publication of this case report and the accompanying images.

Declaration of Competing Interests

There are no conflicts of interest to disclose.

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