CASE REPORT

Sebaceous carcinoma of the scalp: Recurrence after treatment and utility of diagnostic cytology

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ABSTRACT

Sebaceous carcinoma (SC) of the eyelid is an aggressive, rare tumor of epidermal appendages, accounting for <1% of all cutaneous malignancies. We report a histopathologically diagnosed case of SC, who presented with multiple swellings on the scalp and cervical lymphadenopathy after surgery and radiotherapy. Fine needle aspiration revealed clusters and dispersed population of cells with high nucleo-cytoplasmic ratio, round to oval nuclei, prominent nucleoli, with moderate to abundant vacuolated cytoplasm. A diagnosis of sebaceous gland adenocarcinoma was given. Smears from the lymph node showed features of metastatic carcinoma. This case highlights that fine needle aspiration cytology is a simple, cost-effective tool for diagnosis of SC and can help in early diagnosis.

Key words: Cytology, recurrence, scalp, sebaceous carcinoma

INTRODUCTION

Sebaceous carcinoma (SC) of the eyelid is an aggressive, rare tumor of epidermal appendages. It accounts for <1% of all cutaneous malignancies. More commonly seen in the orbital area, extraocular SC is extremely uncommon, occurring usually in the face and scalp area where the sebaceous glands are abundant. Extraocular sebaceous tumor is less aggressive than its orbital counterpart; however, it is known to recur locally and spread distally to the nodes and visceral organs. We report a case of recurrent SC of the scalp with lymph node metastasis, with emphasis on its cytological diagnosis.

CASE REPORT

A 52-year-old woman presented with multiple swellings on the scalp of 10 days duration along with swelling on the left side of the neck of 2 months duration [Figure 1]. The largest nodule measured 3 cm × 4 cm, with surface ulceration. There was history of SC of the scalp diagnosed on histopathology (initial diagnosis was made in a private laboratory), for which the patient underwent excision of the mass 3 months back along with 8 cycles of radiotherapy. However, new masses had developed associated with enlarged cervical lymph nodes, and computerized tomography revealed a lobulated moderately enhancing scalp lesion with areas of ulceration, suggestive of malignancy. The patient came for fine needle aspiration to our cytology department for the recurrent tumor and cervical lymphadenopathy. Aspirates were taken from the scalp lesion and cervical nodes and stained with May-Grunwald Giemsa and Papanicolaou stains.

Stained smears from the scalp lesion showed both clusters and dispersed population of cells with high nucleo-cytoplasmic ratio, round to oval nuclei, with swelling on the left side of the neck of 2 months duration [Figure 1]. The largest nodule measured 3 cm × 4 cm, with surface ulceration. There was history of SC of the scalp diagnosed on histopathology (initial diagnosis was made in a private laboratory), for which the patient underwent excision of the mass 3 months back along with 8 cycles of radiotherapy. However, new masses had developed associated with enlarged cervical lymph nodes, and computerized tomography revealed a lobulated moderately enhancing scalp lesion with areas of ulceration, suggestive of malignancy. The patient came for fine needle aspiration to our cytology department for the recurrent tumor and cervical lymphadenopathy. Aspirates were taken from the scalp lesion and cervical nodes and stained with May-Grunwald Giemsa and Papanicolaou stains.

Stained smears from the scalp lesion showed both clusters and dispersed population of cells with high nucleo-cytoplasmic ratio, round to oval nuclei,
prominent nucleoli, with moderate to abundant vacuolated cytoplasm. Some of the cells showed binucleation and multinucleation and abnormal mitotic figures [Figures 2-4]. Areas of necrosis were seen along with acini formation at places. Some of the cells showed cell phagocytosis, and an occasional cluster showed linear arrangement of cells. A diagnosis of sebaceous gland adenocarcinoma was given. Smears from the lymph node showed features of metastatic carcinoma [Figure 5]. These findings were corroborated by histopathological examination of the recurrent tumor [Figure 6].

**DISCUSSION**

SC usually occurs in adults with an average age of 62 years and a female predominance, by a factor of approximately 2:1. SC is traditionally classified into two groups: those arising from the ocular adnexa, particularly the meibomian glands and glands of Zeiss, and those arising in extraocular sites. The extraorbital SC commonly occur on the face and scalp due to the presence of abundant sebaceous glands; the other sites involved by SC are external genitalia and extremities.

Extraorbital SC has a different behavior compared to orbital SC; it is considered less aggressive than the orbital form. This is, however, a matter of debate as some studies have found its biological behavior to be similar to the orbital type.

The primary treatment of SC is wide excision with a safety margin of 5–10 mm. The role of adjuvant treatment with radiation and chemotherapy after surgery is not clear in the extraocular SC due to its rare presentation. Radiotherapy or chemotherapy has been the treatment of choice with postoperative care,
particularly when metastasis is confirmed. Overall, wide excision and selective use of radiotherapy are the ideal treatments of choice. In our case, the patient had been treated with wide local excision and adjuvant radiotherapy. Despite this, recurrence was noted as early as 3 months with the presence of lymph node metastasis. Bailet et al. reported local recurrence rates of 29%, regional nodal metastasis of 15%, and disease-related mortality of 20%.

Sebocytic differentiation, typified by multivesicular and vacuolated clear cytoplasm, is the sine qua non for sebaceous neoplasms including SC. The cells show nuclear pleomorphism, lobular architecture and foamy vacuolization of the cytoplasm.

Although histopathology is the mainstay of diagnosis, cytology can also play a pivotal role in early diagnosis of this tumor. The importance of cytopathology in diagnosis of SC lies in the fact that these tumors have unique cytological features which a trained eye can easily diagnose. In a study of 9 cases of SC, smears showing loose clusters of pleomorphic cells with focal acinar or glandular pattern and numerous lipid vacuoles in the cytoplasm or in the background were noted. The presence of cytoplasmic vacuolation in smears is a helpful clue for diagnosing SC. In our case also, cells showed cytoplasmic vacuolation apart from nuclear pleomorphism, multi- and bi-nucleation, and mitotic figures in a lipid background. Acini formation was noted at places. In addition, few cells showed cell phagocytosis and an occasional cluster showing linear arrangement of cells was noted.

CONCLUSION
Fine needle aspiration cytology is a simple and cost-effective tool for diagnosis of SC and can help in early diagnosis of cases. It is highly effective in diagnosing recurrences where the histopathological diagnosis has already been established. Although in cases of extraocular sebaceous carcinoma, prognosis and response to treatment are said to be better than their orbital counterparts, in our case the patient responded poorly to treatment even after receiving postoperative radiotherapy. Further studies are needed to fully understand the prognosis of these tumors and to develop proper treatment protocols.

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Conflicts of interest
There are no conflicts of interest.

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