

Case Study

Squamous Cell Carcinoma of the Lacrimal Sac

1. Abstract:

Lacrimal sac squamous cell carcinoma is rare and mostly presents with unspecific symptoms of associated chronic dacryostenosis or dacryocystitis and may be falsely diagnosed as dacryocystitis. A 73-year-old female attended with right epiphora and a right inner canthal mass. With the clinical findings of painless 2-cm firm rubbery and smooth mass in the right medial canthus, initially a diagnosis of chronic dacryocystitis was made and antibiotic therapy was started. Since there was no improvement with therapy, further procedures including Magnetic Resonance Imaging were performed. Although the imaging suggested an inflammatory or infectious etiology, during the operation a mass was detected in lacrimal fossa and incisional biopsy of the sac under frozen section should be performed. And histopathological examination revealed infiltrative well-differentiated highly keratinizing squamous cell carcinoma arising from lacrimal sac. After the verification of the diagnosis of SCC, lacrimal sac excised intactly at surgery. Herein, we report a case with squamous cell carcinoma of the lacrimal sac mimicking chronic dacryocystitis.

Keywords: Lacrimal Sac, Tumor, Squamous Cell Carcinoma

INTRODUCTION

Malignant lacrimal tumors are rare and occasionally arise in the lacrimal sac. [1] Most lacrimal sac tumors present with unspecific symptoms of associated chronic dacryostenosis or dacryocystitis; therefore the initial diagnosis is often dacryocystitis. Herein, we report a case with squamous cell carcinoma (SCC) of the lacrimal sac mimicking chronic dacryocystitis.

CASE REPORT

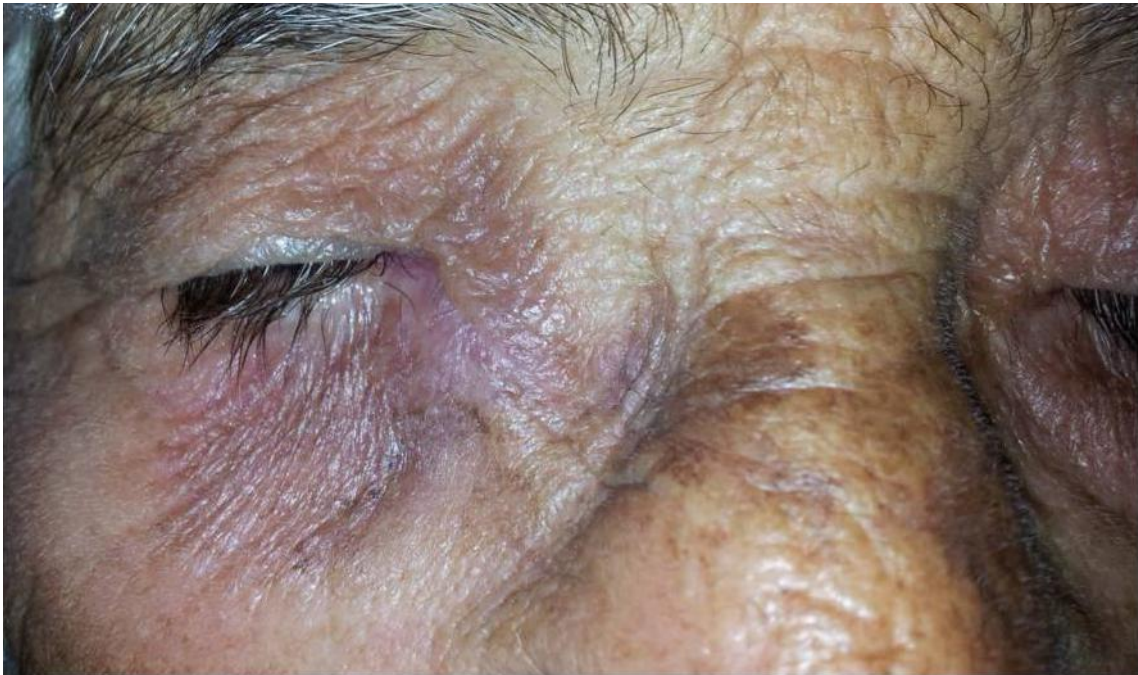
A 73-year-old female attended with right epiphora presenting for 15 months and a right inner canthal mass presenting for 6 months. Medical history was unremarkable and the patient had no history of previous ocular surgery. As shown in Figure 1 physical examination revealed a painless 2-cm firm rubbery and smooth mass in the right medial canthus. During irrigation, it was observed that the nasolacrimal canal was occluded. Visual acuity was 10/10 in both eyes. Ocular movements were intact and there was no exophthalmos or diplopia. Biomicroscopic examination findings were normal.

With these clinical findings initially a diagnosis of chronic dacryocystitis was made and antibiotic therapy was started. Since there was no improvement with therapy Magnetic Resonance (MR)

37 imaging was performed and a well-defined mass lesion in the left lacrimal sac extending to the
38 nasolacrimal duct was detected. On T1-weighted images, the lesion was hypointense and enhanced
39 minimally and heterogeneously after contrast administration. The lesion was hyperintense on T2-
40 weighted images suggesting an inflammatory or infectious etiology. Although surgical planning to
41 make dacryocystorhinostomy during the operation a mass was detected in lacrimal fossa and
42 incisional biopsy of the sac under frozen section should be performed. After the verification of the
43 diagnosis of SCC, lacrimal sac excised intactly at surgery.

44 Histopathological examination of the specimens revealed infiltrative well-differentiated highly
45 keratinizing SCC arising from lacrimal sac. As shown in Figure 3a pathological examination of the
46 excised sac revealed squamous cell carcinoma with atypical squamous cells within abundant
47 eosinophilic cytoplasm, pleomorphic nuclei, prominent nucleoli. As shown in Figure 3b and 3c
48 specimens were stained with HMWCK and p63.

49 During postoperative follow up no local recurrences were detected by orbital tomography at 6th and
50 12th months.



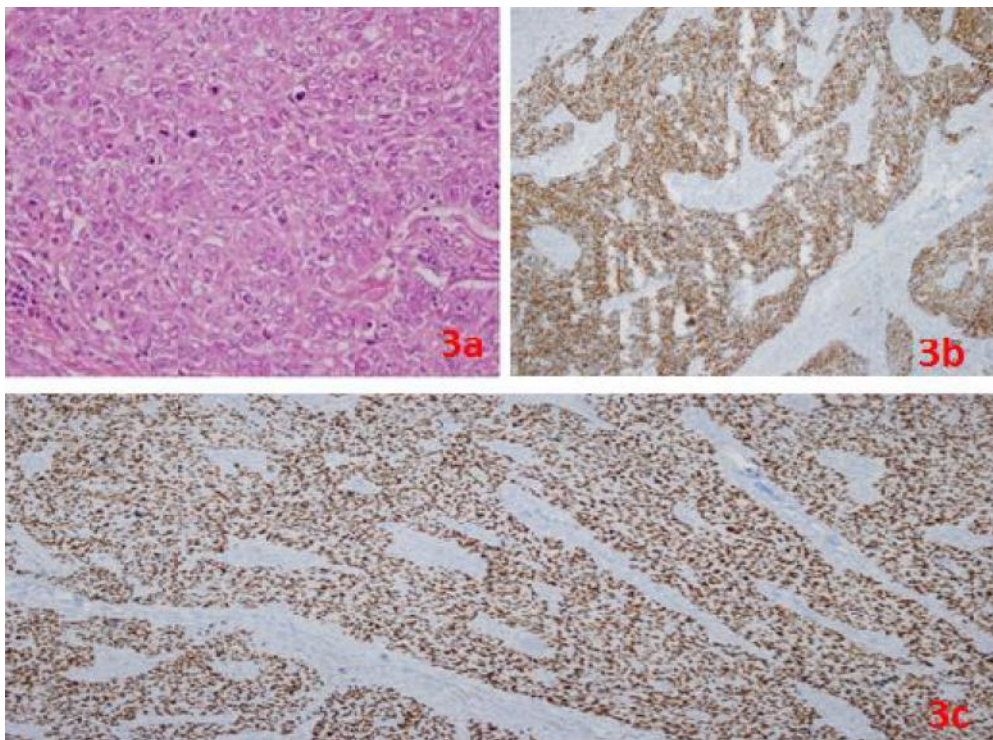
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52 FIGURE 1: A firm rubbery and smooth mass in the right medial canthus.



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54 FIGURE 2: . Gross appearance of the lacrimal sac tumor.



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56 FIGURE 3: Squamous cell carcinoma with atypical squamous cells within abundant eosinophilic
57 cytoplasm, pleomorphic nuclei, prominent nucleoli.

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DISCUSSION

Malignant tumors of the lacrimal sac are rare. Approximately 400 cases have been reported in the literature, as case series or isolated cases. [2-3] Histopathologically these tumors can be categorized as epithelial and nonepithelial types with primary epithelial tumors accounting for 75.6% of the cases. [4-5]

Most lacrimal sac tumors present with nonspecific signs and symptoms including a slowly growing palpable mass in the medial orbital canthus and epiphora. The clinical presentation of lacrimal sac tumors resembles to that of chronic dacryocystitis or mucocele which also usually present as masses in the medial canthus. So patients can be initially misdiagnosed as dacryocystitis. Montalban et al reported that 2 of their 7 cases were diagnosed as dacryocystitis such as our patient. [6]

MR imaging of lacrimal tumors usually shows an intermediate signal lesion on T1-weighted sequences and a hypointense signal on T2-weighted images. [6-7] In some cases such as our case with hyperintense signal on T2-weighted sequences, MR images may not distinguish lacrimal sac tumors from dacryocystitis. [7]

In case of suspicion of malignancy, incisional biopsy of the sac under frozen section should be performed. After diagnostic confirmation of tumor is achieved, surgical resection should be completed with subsequent definitive therapy including radical resection, radiotherapy or chemotherapy. [1,4,8] Our patient had SCC of lacrimal sac with no evidence of systemic spread. The results of screening for metastases were all normal. And during follow up no local recurrence was detected and the patient stil remains asymptomatic.

In summary, as lacrimal sac tumors are seen rarely, they can be easily overlooked and initially misdiagnosed as dacryocytitis because of the common clinical features. In order to prevent misdiagnosis, a lacrimal sac tumor should be suspected in patients presenting with chronic dacryocystitis and MR imaging should be performed. However it also should be kept in mind that in some cases MR imaging may not distinguish lacrimal sac tumors from dacryocystitis, so in case of strong suspicion of malignancy surgical approach and histopathological examination should be performed.

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115 **COMPETING INTERESTS**

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117 Authors have declared that no competing interests exist.

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120 **CONSENT**

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122 Informed consent was obtained from the individual Medical Officer who participated in the study.

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124 **ETHICAL APPROVAL**

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126 The study was approved by the Federal Medical Centre ethics committee and have therefore; been
127 performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

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