

2020

## Metachronous Eyelid Basal Cell Carcinoma on Opposite Eye and Lid: A Case Report

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### Recommended Citation

Kalberer DC, DelMauro MA. Metachronous Eyelid Basal Cell Carcinoma on Opposite Eye and Lid: A Case Report. *Optometric Clinical Practice*. 2020; 2(2):44. doi: 10.37685/uiwlibraries.2575-7717.2.2.1002. <https://doi.org/10.37685/uiwlibraries.2575-7717.2.2.1002>

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# Metachronous Eyelid Basal Cell Carcinoma on Opposite Eye and Lid: A Case Report

## Abstract

**Background:** Basal cell carcinoma (BCC) is the most common eyelid malignancy, accounting for approximately 90% of malignant eyelid lesions.<sup>1</sup> Despite its high occurrence rates, it is frequently misdiagnosed as one of the benign “lumps and bumps” that can be present on the eyelid. In the present case, a patient with a past BCC on the right upper eyelid presented with a left lower eyelid lesion which persisted for months before the patient sought evaluation by an eyecare provider. This benign-looking lash-line lesion was the only external sign of the malignancy found on the deep surface of the eyelid and later diagnosed as BCC.

**Case Report:** A 74-year-old patient presented with a persistent eyelid lesion that was resistant to treatment for greater than 6 months. The small lesion was slightly suspicious in appearance. Further evaluation revealed a larger, more irregular lesion on the conjunctival surface of the eyelid. The patient was referred to an oculoplastic specialist for biopsy. Pathology confirmed the diagnosis of basal cell carcinoma.

**Conclusion:** Once the lesion was properly diagnosed, the patient underwent Mohs micrographic surgery and eyelid reconstruction. This case will highlight the importance of prompt and thorough evaluation of suspicious eyelid lesions which are persistent and resistant to treatment in patients with a history of eyelid malignancy.

## Keywords

eyelid, basal cell carcinoma, Mohs micrographic surgery

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## INTRODUCTION

Basal cell carcinoma (BCC) is the most common eyelid malignancy, accounting for approximately 90% of malignant eyelid lesions.<sup>1</sup> Despite its high occurrence rates, it is frequently misdiagnosed as one of the benign “lumps and bumps” that can be present on the eyelid. In the present case, a patient with a past BCC on the right upper eyelid presented with a left lower eyelid lesion which persisted for months before the patient sought evaluation by an eyecare provider. This benign-looking lash-line lesion was the only external sign of the malignancy found on the deep surface of the eyelid and later diagnosed as BCC.

## CASE REPORT

A 74-year-old male presented for his annual diabetic eye exam. His medical history included insulin-dependent diabetes for five years without evidence of diabetic retinopathy; physiologic optic nerve cupping; and a right upper eyelid BCC treated successfully with Mohs micrographic surgery (MMS) approximately five years prior. He had not followed up with the oculoplastic surgeon after the procedure.

During his examination, the patient complained of a bump on his left lower eyelid for approximately 6-8 months. His primary care physician had originally prescribed antibiotic eye ointment, but the antibiotic ointment “did nothing” for the “bump.” During the same period, the patient also had been applying warm compresses to the lesion, but he stopped after a few weeks due to lack of improvement. At the time of his appointment, his only symptom related to the lesion was a foreign body sensation on blink.

On physical examination, best corrected acuity was 20/25 for the right eye and left eyes. All external testing including pupils, motilities, and confrontation visual fields were normal. Intraocular pressure was normal and symmetric. Scarring of the central right upper eyelid margin was consistent with the patient’s history of MMS and reconstruction was present. The left lower eyelid demonstrated a raised, firm, pearly lesion without telangiectasia and with mild interruption of the lash-line integrity. The patient did not report any tenderness when the lesion was palpated. At first glance, the lesion appeared to be a chalazion remnant. (See Figure 1).

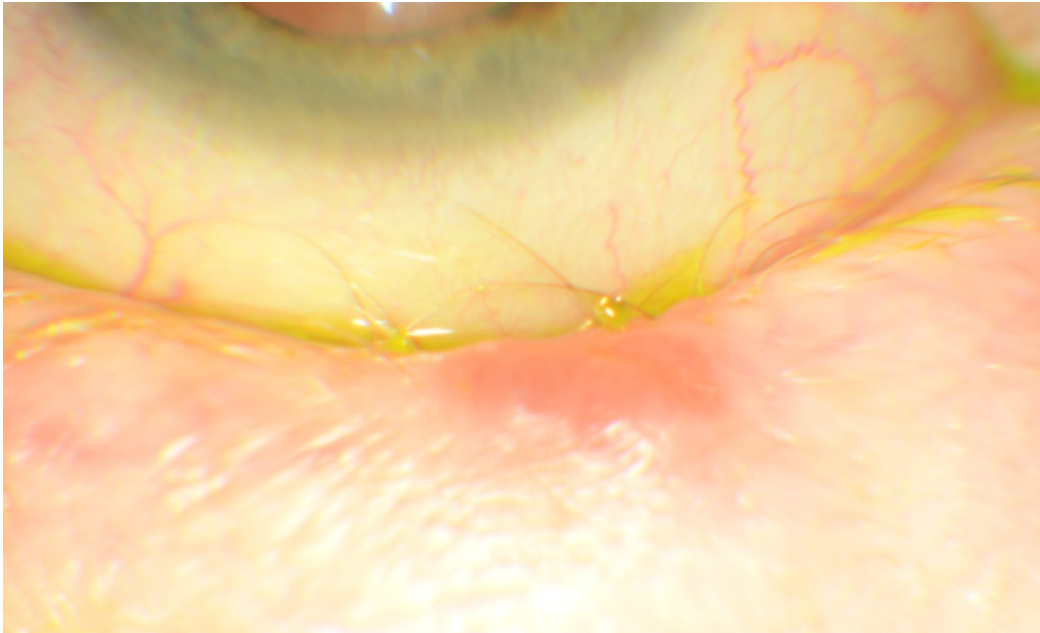


Figure 1 Left lower eyelid lesion

Upon pulling down the lid and viewing the tarsal conjunctiva, a multilobulated cystic lesion was identified. (See Figure 2).

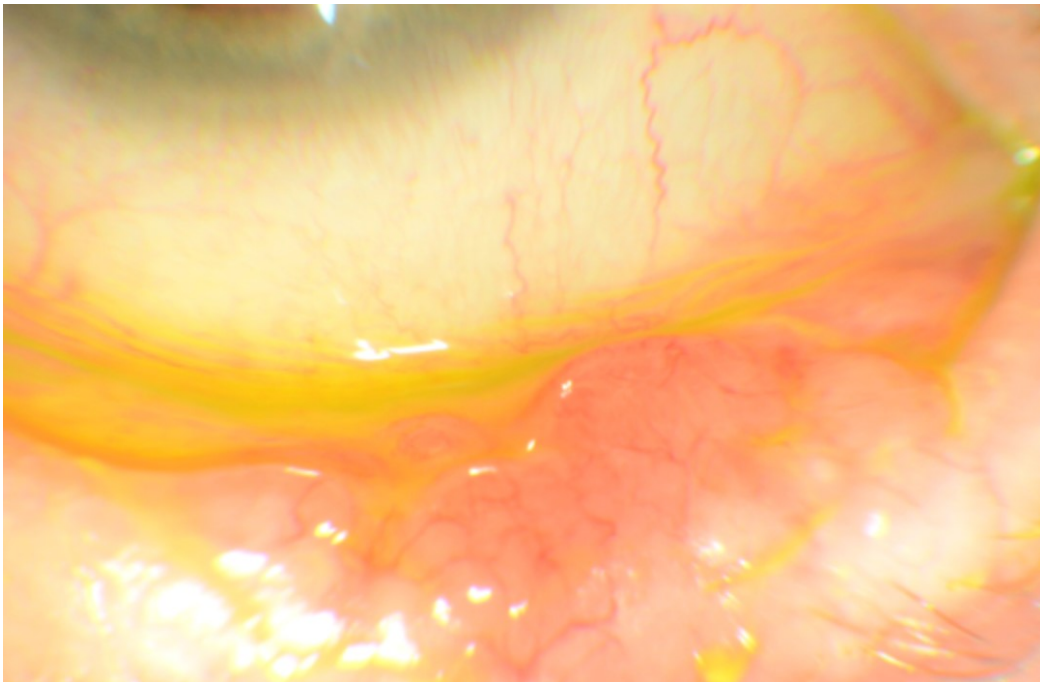


Figure 2. Left lower eyelid tarsal conjunctiva, a multilobulated cystic lesion

There were no notable cornea findings. The patient's dilated retinal exam was within normal limits; the previously noted optic nerve cupping was stable. No diabetic retinopathy was present in either eye.

This patient was referred to an oculoplastic specialist for biopsy of the left lower eyelid lesion. Biopsy confirmed the diagnosis of BCC and the patient was scheduled for Mohs micrographic surgery and eyelid reconstruction.

## DISCUSSION

Approximately 20% of periorbital skin lesions are malignant. Clinical differentiation between malignant and benign eyelid lesions may be challenging even for experienced providers. The most common benign lid lesions are chalazia, seborrheic keratoses and inclusion cysts. The most common malignancies are BCC, squamous cell carcinoma, and sebaceous cell carcinoma.<sup>2,3</sup> Five main factors that should be evaluated for which increase malignancy risk are asymmetry, irregular borders, colors that are not uniform, diameter (greater than 6 mm), and enlargement or elevation (represented by a mnemonic ABCDE). Leung et al. proposed an additional three factors: lash-loss, ulceration, and infiltration (or mnemonic LUI) for identification of malignant lesions. In a study of 199 eyelid lesions these factors were the three most predictive of malignancy.<sup>3</sup>

Clinical differentiation among malignant lesions can be difficult as well. Sebaceous cell carcinoma is differentiated by its association with the glands of Zeis; it also has a characteristic yellow coloration due to lipoid deposition and can present with chronic localized blepharoconjunctivitis and chalazia. Squamous cell carcinoma may arise from pre-malignant lesions such as actinic keratosis, Bowen's disease, or keratoacanthoma. It can present with varying features from erythematous scaly patches to ulcerated or nodular lesions.<sup>4</sup> BCC is not easily differentiated from squamous cell carcinoma and diagnosis is often not determined until a biopsy is performed.<sup>2</sup>

Basal cell carcinoma of the eyelid most commonly presents as a pink or fleshy pearly nodule—occasionally with ulceration or telangiectasia.<sup>5</sup> This nodular presentation accounts for up to 80% of cases on the head and face.<sup>6</sup> A less common variant, morpheaform BCC, involves fibroblastic proliferation in addition to the classic tumor cell production. This type is more aggressive, has a higher recurrence rate, and requires greater caution when clearing excisional margins. The distinction is made histochemically by the presence of alpha-actin in the tumor stroma. Clinically, these lesions appear as white-yellow shiny plaques.<sup>7,6</sup> Infiltrative BCC lesions are a variant in which the tumor cells extend deeper into the dermis than

typical nodular presentation; the extent of this type is often underestimated before a Mohs excision is performed. Superficial BCC is another rare variant which mostly occurs on body skin. It appears as an erythematous plaque like that associated with psoriasis or eczema.<sup>6</sup>

Eyelid BCC accounts for approximately 10% of all BCC lesions and primarily results from UV exposure. Additional risk factors include advanced age, immunosuppression, and exogenous carcinogens.<sup>6,8</sup> The incidence of BCC on eyelids is similar in females and males and higher in Caucasian populations.<sup>6,9</sup> According to Hamada et al., 76% of lesions are located on the lower eyelid, 15% on the upper eyelid, and the remainder on the medial canthus and lateral canthus.<sup>10</sup>

The gold standard for diagnosis of BCC is biopsy and histopathology. Though rapid metastasis is not typical of BCC, location on the eyelid or adnexa still requires prompt and careful management by an oculoplastic specialist to avoid localized spread and to achieve an aesthetically pleasing and anatomically successful outcome.<sup>9</sup> Treatment options include surgical intervention, radiation therapy, and drug therapies including Vismodegib or Imiquimod. Surgical resection is the most effective treatment option followed closely by wide local excision (with intraoperative frozen sections).<sup>1,11</sup> The indication for radiation therapy or drug therapy is the inability to tolerate surgical resection, such as in a very sick patient or a patient with many serious comorbidities.<sup>11</sup> Surgical resection is the most effective treatment option, with a cure rate greater than 95% (up to 99%) depending on size, variety and location. Other treatment options (e.g., radiation therapy) are generally less effective but still have a cure rate of over 90%.<sup>1</sup>

The recurrence rate of BCC after MMS is minimal at approximately 3%. 25% of recurrences occur within the first year and 75% within three years; the median time to recurrence being 19 months.<sup>12</sup> Having a history of BCC or squamous cell carcinoma does increase the risk of developing additional lesions and a history of the latter increases the risk greater than the former. Patients who have a history of both BCC and squamous cell have a greater risk of subsequent BCC lesions than those with a history of BCC alone. Older age increases risk of future lesions; the average age of those with additional lesions being 69 years-old versus an average age of 63 years-old without.<sup>13</sup>

When Smedinga et al. investigated the risk of metachronous BCC lesions (isolated additional lesions identified later), they found that the greatest prognostic indicator was the number of previous BCC lesions. Other risk factors were skin sensitivity to sunburn (i.e., Fitzpatrick classification), pigmentation of previous lesions, and

lesion location. Utilizing the relative risks of these factors, a prognostic model was developed. A score was assigned for each risk factor and the sum used to determine a patient's relative risk of developing metachronous lesions at 1 year, 3 years and 5 years in hopes of individualizing appropriate surveillance.<sup>14</sup>

## CONCLUSION

The present case should remind eye care practitioners of ABCDE and LUI factors for the evaluation of suspicious periorbital skin lesions. Also, that biopsy should be considered for any eyelid lesion that does not respond to treatment, particularly in patients with a history of eyelid malignancy.<sup>2</sup> It is imperative to educate at-risk patients that regular monitoring and prompt evaluation are necessary for any new lesions or growths.

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