

Metastatic Breast Cancer to 4 Eyelids: A Clinicopathologic Report

Raymond S. Douglas, MD, PhD; Scott M. Goldstein, MD; Eugene Einhorn, MD; Michael S. Ibarra, MD; Roberta E. Gausas, MD

A 47-year-old woman presented complaining of progressive, painless swelling of all 4 eyelids for 6 weeks. Her medical history was significant for breast cancer 14 months prior. Examination results showed a diffuse, firm thickening of all 4 eyelids with mild erythema of the overlying skin. Orbital computer tomography revealed extensive preseptal infiltration of soft tissue of all 4 eyelids, which enhanced with contrast. Results of a bilateral biopsy of the upper eyelids demonstrated extensive infiltration of the orbicularis muscle. Histologic features were consistent with metastatic breast cancer. Results of both the primary breast cancer biopsy taken 14 months previously and the eyelid biopsies were the same histologic type. Presentation of metastatic breast cancer to the eyelids is rare, but a recurrence must be considered in any patient with a history of breast cancer, despite the length of tumor-free survival. Bilateral involvement should not exclude metastases from diagnostic consideration, but rather, the diagnosis requires a high degree of clinical suspicion and recognition of the various cutaneous forms.

Metastatic breast cancer to the eyelids is rare, occurring in only 0.1% of all metastatic lesions.¹ To our knowledge, bilateral eyelid involvement has been described in only 8 previous reports.²⁻⁹ We report a recurrence of breast cancer to all 4 eyelids.

Most commonly, metastatic lesions of the eyelid are unilateral and do not present diagnostic difficulty; however, bilateral metastatic lesions must be distinguished from inflammatory, infectious, or systemic disorders.

Drs. Douglas, Goldstein, Ibarra, and Gausas are from the Department of Ophthalmology, University of Pennsylvania, Philadelphia. Dr. Goldstein is also from Children's Hospital of Philadelphia, Department of Ophthalmology. Dr. Einhorn is from the Department of Pathology, Veteran's Hospital of Philadelphia. Reprints: Roberta E. Gausas, MD, Scheie Eye Institute, University of Pennsylvania, Department of Ophthalmology, 51 N 39th St, Fifth Floor, Philadelphia, PA 19104.

Case Report

A 47-year-old woman presented complaining of progressive, painless swelling of all 4 eyelids during the previous 6 weeks. The patient denied any history of trauma or fevers. Before referral, she had been treated with antibiotic and steroid eye drops without resolution. Her medical history was significant for bilateral breast cancer, diagnosed 14 months prior to presentation. Twelve months previously, a nodular growth was removed from her back and found to be metastatic lobular breast cancer. She was treated for metastatic disease with radiation, tamoxifen, and megestrol over the period prior to presentation. Regression of the cancer was achieved, and no new recurrences were noted for the 12 months prior to admission.

The patient's visual acuity was 20/20 in both eyes. No evidence of restricted extraocular movements or a relative afferent pupillary defect was present. Adnexal examination results demonstrated bilateral ptosis (Figure 1). All 4 eyelids were swollen and diffusely thickened without nodules. The overlying skin was mildly erythematous. The upper eyelids were more extensively infiltrated than the lower eyelids. Diffuse, firm thickening of the upper eyelids extended from the lash margin to approximately 5 mm below the brow. In the lower eyelids, thickening was palpable from the lash margin extending inferior 5 to 8 mm.



Figure not available online

Figure 1. Periorbital thickening and mild erythema around all 4 eyelids.

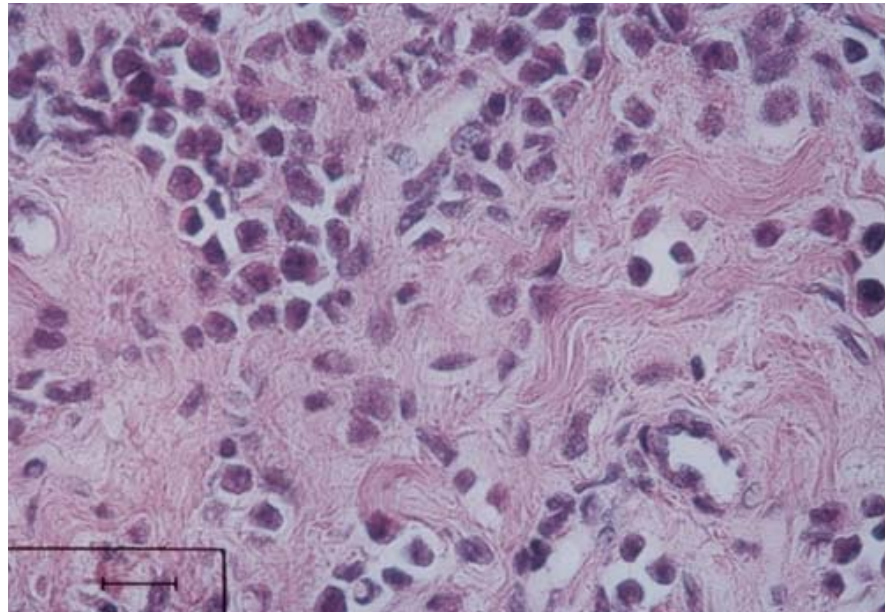


Figure 2. Biopsy section from the upper eyelid demonstrates infiltration of cells with prominent nucleoli arranged in lobules (H&E, original magnification $\times 40$).

An orbital computer tomography scan revealed extensive preseptal soft tissue swelling with infiltration of all 4 eyelids, which enhanced with contrast. There was no evidence of posterior orbital involvement. Bilateral biopsies of the upper eyelids were performed through lid crease incisions. The deep dermis and the orbicularis muscle were extensively thickened and abnormally rigid. The abnormal tissue was tan-white with a woody consistency. The lesion infiltrated extensively into the orbicularis muscle, disrupting the normal eyelid anatomy. Because both upper eyelid biopsy results demonstrated a similar lesion appearance, a biopsy of the lower eyelids was not performed.

Histopathologic examination of the biopsy specimens demonstrated infiltrating nests of cells with prominent nucleoli arranged in lobules (Figure 2). Paraffin-embedded immunohistochemistry was performed to confirm the diagnosis and compare histologic criteria to the primary breast biopsy. The infiltrating tumor cells expressed cytokeratin, epithelial membrane antigen, and estrogen receptors; however, these cells did not express leukocyte common antigen. These histologic and immunohistochemical features were consistent with a diagnosis of metastatic breast cancer of the lobular type. Histologic comparison to the previous primary breast cancer biopsy demonstrated that the eyelid lesion was the same histologic type (Figure 3).

Subsequent to the biopsy findings, the patient underwent additional systemic workup revealing diffuse bone metastases to the spine and cranium. The patient deferred additional systemic treatment at this time.

Comment

Bilateral metastatic breast cancer involving all 4 eyelids is rare; to our knowledge, only 8 cases have been described in the literature.²⁻⁹ Overall, metastases to the eyelid comprise only 0.1% of all metastatic breast lesions.¹ Further, the majority of eyelid metastases are unilateral or asymmetric. In most previously reported cases of bilateral eyelid metastases, the patients had widely metastatic disease, often with previous cutaneous involvement.^{2,10-12} Although bilateral metastatic disease presentation is rare, this case demonstrates that even a remote history of breast cancer must raise the clinical suspicion of metastases. Due to the unique bilateral presentation and apparent quiescence of her breast cancer, this patient was initially treated with antibiotic and steroid eye drops before referral. In addition, she was initially evaluated for systemic disorders, including collagen-vascular and thyroid disease, as a cause of bilateral eyelid swelling.

Palpebral and cutaneous metastatic lesions arise most frequently from the breast, gastrointestinal tract, respiratory tract, skin, and genitourinary tract in decreasing order. In a large series of patients with predominantly unilateral metastatic disease to the eyelid, 41 cases were from the breast, 12 from the gastrointestinal tract, 9 from the respiratory tract, 6 from the skin, and 4 from the genitourinary tract.¹ In another smaller series, Riley⁹ found eyelid metastases originating from breast or skin malignancies in 12 of 15 patients. In these cases, eyelid metastases occurred 2 to 10 years after primary cancer treatment; however, a range from 2 weeks to 32 years has been noted.^{1-4,9,12}

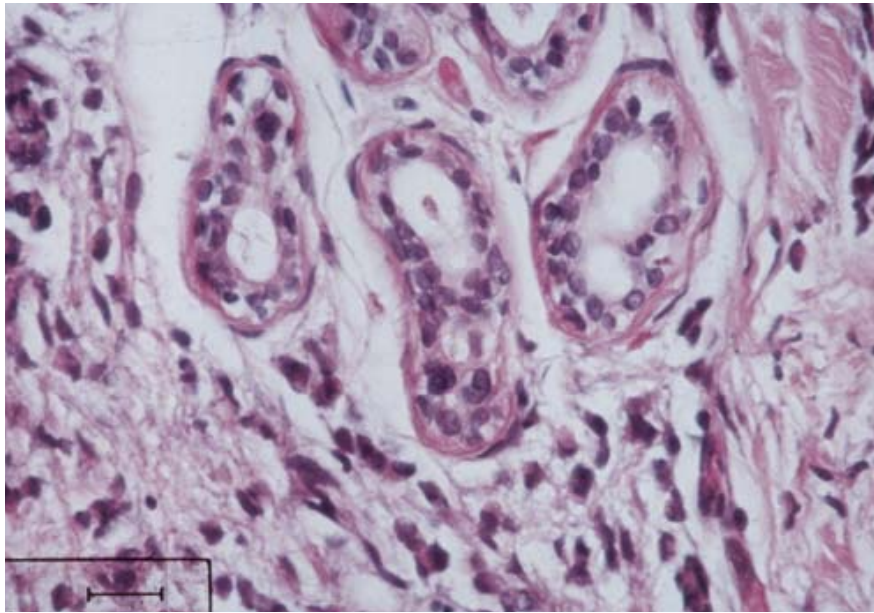


Figure 3. Primary breast tumor biopsy demonstrates clusters of tumor cells with prominent nucleoli arranged in lobules (H&E, original magnification $\times 200$).

In summary, presentation of bilateral metastatic breast cancer to the eyelids is rare; however, the diagnosis must be considered in any patient with a history of breast cancer, despite the length of tumor-free survival. Also, bilateral involvement must not exclude metastatic disease from the differential diagnosis. The diagnosis, however, requires a high degree of clinical suspicion and recognition of the various cutaneous forms.

REFERENCES

- Mansour AM, Hidayat AA. Metastatic eyelid disease. *Ophthalmology*. 1987;94:667-670.
- Claessens N, Rakic L, Arrese JE, et al. Breast cancer metastatic to the eyelids. *Eur J Dermatol*. 2000;10:473-474.
- Grinspan D, Abulafia J, Abbruzzese M. Metastatic involvement of four eyelids. *J Am Acad Dermatol*. 1997;37:362-364.
- Dabski K, Milgrom H, Stoll HL Jr. Breast carcinoma metastatic to eyelids: case report and review of the literature. *J Surg Oncol*. 1985;29:233-236.
- Gronvall H. Metastatic involvement of the eyelids in a case of carcinoma simplex mammae. *Acta Ophthalmol*. 1953;31:163-165.
- Muenzler W, Olsen J, Eubank M. Metastatic tumors of the eyelid. *Am J Ophthalmol*. 1955;55:791-794.
- Auvert B, Haye C, Laurent M, et al. Les tumeurs métastatiques des paupières. *J Fr Ophthalmol*. 1978;4:317-320.
- Weimar VM, Ceilley RT, Hurwitz CN. Breast carcinoma metastatic to the eyelids. *Arch Dermatol*. 1978;114:461.
- Riley FC. Metastatic tumors of the eyelids. *Am J Ophthalmol*. 1970;69:259-264.
- Pec J, Plank L, Frlickova Z, et al. Disseminated cutaneous and eyelid metastases from a carcinoma of the breast [letter]. *Acta Derm Venereol*. 1998;78:158.
- Rubio FA, Pizarro A, Robana G, et al. Eyelid metastasis as the presenting sign of recurrent carcinoma of the breast. *Br J Dermatol*. 1997;137:1026-1027.
- Po SM, Custer PL, Smith ME. Bilateral lagophthalmos: an unusual presentation of metastatic breast carcinoma. *Arch Ophthalmol*. 1996;114:1139-1141.