



An Unusual Association with Conjunctival Malignant Melanoma

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Abstract

Malignant melanoma of the conjunctiva is a rare condition. It is managed by local excision with or without supplementary cryotherapy. Despite an adequate excision, local recurrences are not uncommon. Systematic metastases occur to lung, liver, skin, bone or the gastrointestinal tract (GIT). Metastasis to the genitourinary tract has rarely been reported. Simultaneous occurrence of conjunctival melanoma and transitional cell carcinoma of the urinary bladder, however, has never been reported. Our case report, to the best of our knowledge, presents this association, for the first time.

Keywords: *Conjunctival Malignant Melanoma, Excision biopsy, Transitional cell carcinoma.*

Introduction

Malignant melanoma of the conjunctiva is an uncommon condition which is prone to local recurrences despite adequate surgical excision. Metastasis is most commonly noted in the pre auricular lymph nodes due to the rich lymphatic drainage of the conjunctiva. Lesions involving the palpebrae, fornices and caruncle have a poor prognosis with specific reference to distant metastasis by haematogenous spread, which has been known to occur to the lung, brain, liver, skin, bone and the GIT. Metastasis to the genitourinary tract is rare; a single case of conjunctival melanoma metastasizing to the urinary bladder having been reported. In this case report, we describe a unique case of malignant conjunctival

melanoma associated with transitional cell carcinoma of the bladder. To our best knowledge, this is the first report of such an entity

Case History

A 55 years old male, a farmer by profession, with no known co-morbidities reported to us with complaints of developing a painless, pigmented, slowly enlarging limbal mass in the temporal bulbar conjunctiva of the left eye over a period of a year or so. He had been a smoker for a period of 20 years, smoking two packets of cheroots per day at an average, prior to presentation. There were no visual or other ocular complaints. The general physical examination was essentially normal other than ipsilateral submandibular lymphadenopathy

on the left side. On initial examination, the unaided visual acuity for distance was 20/20 in both eyes. An approximately 1 by 1 by 1 cm triangular shaped temporal elevated mass was noted straddling the limbus in the left eye which was pigmented brown in colour (figure 1).

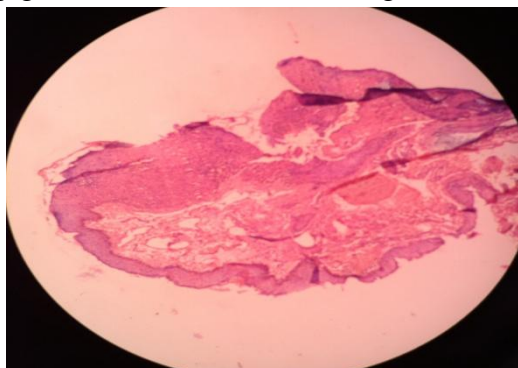


Figure 1 showing microphotograph of conjunctival tissue with proliferation of melanoma tumor cell nests in the stroma separated by the thin walled blood vessels.

The mass was seen to be encroaching onto the cornea by 3mm. There was no associated congestion. Remaining anterior segment evaluation by slit lamp examination did not reveal any abnormality other than grade 1 nuclear sclerosis (Lens opacity classification system II) in either eye. Gonioscopy revealed Grade III open angles in all quadrants in both eyes. Dilated fundus evaluation was normal in both eyes. Intraocular pressure was 14 mmHg in both the eyes.

Excision biopsy for the limbal mass was attempted under peribulbar anesthesia, in the left eye. The corneal component was excised by superficial lamellar keratectomy and the conjunctival part of the lesion was excised with wide healthy margins with minimal manipulation of tissue. No involvement of deeper corneal layers or of sclera was seen. The margins of the biopsy wound were then treated with 3 freeze thaw cycles of cryotherapy. The excised specimen was sent for histopathological evaluation. The specimen was reported as conjunctival malignant melanoma (figure 2 & 3) 7 days after the excision biopsy, which confirmed the initial clinical suspicion.

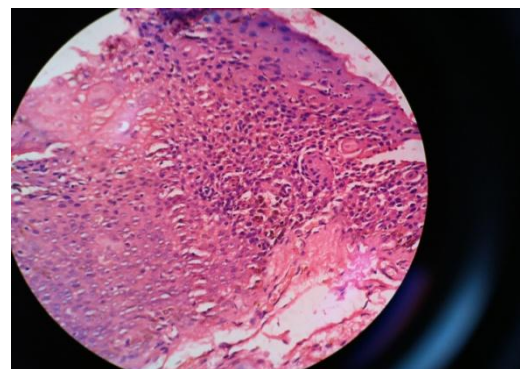


Figure 2 showing microphotograph of conjunctival tissue in which the epithelium shows the tumor cells which are pleomorphic and show prominent eosinophilic nucleoli.

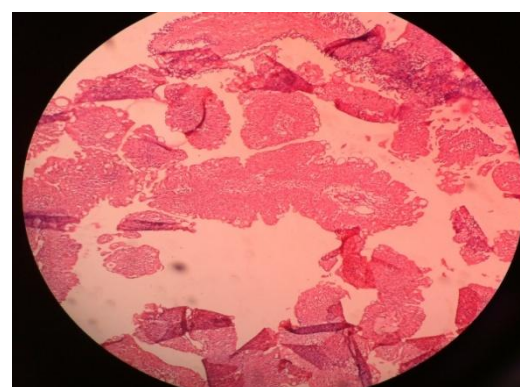


Figure 3 showing microphotograph of conjunctival tissue in which the epithelium shows the tumor cells which are positive for immunohistochemistry with HMB45

The wound was healing well at 14 days post excision biopsy. The patient was referred to the Oncologist for metastatic workup. Sputum cytology was found to be normal. Contrast enhanced CT and Ultrasound examination of the abdomen and pelvis revealed a nodular lesion involving the bladder wall. The patient underwent cystoscopic excision biopsy of the bladder lesion, the histopathological examination of the tissue revealing the finding to be consistent with the diagnosis of a low grade Transitional Cell Carcinoma (figure 4).

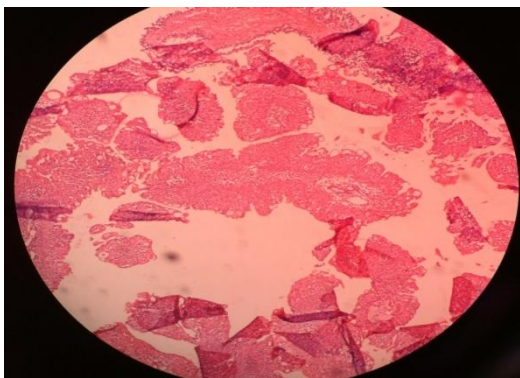


Figure 4a showing microphotograph of urinary bladder biopsy showing papillary multilayered neoplastic urothelial cells.

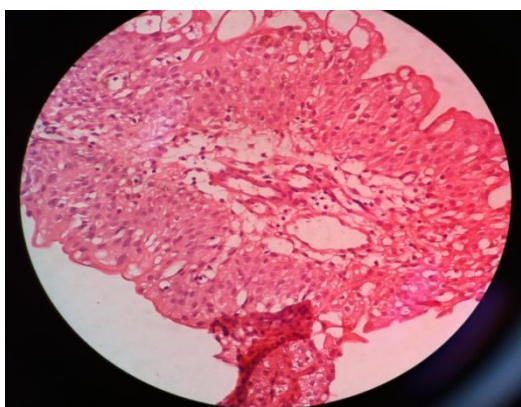


Figure 4b showing microphotograph of urinary bladder biopsy urothelial cells with mild nuclear pleomorphism. No mitosis noted. No lamina propria invasion is seen

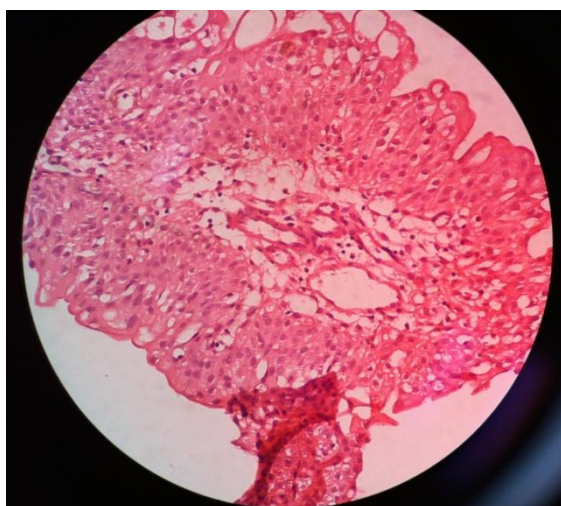


Figure 5 showing microphotograph of urinary bladder biopsy urothelial cells with mild nuclear pleomorphism. No mitosis noted. No lamina propria invasion is seen

The patient was not advised chemotherapy or local radiotherapy by the Oncologist or Urologist. He has been on regular follow up with us and at 6 months post excision, no local recurrence has been noted. The only fresh clinical change since the excision surgery has occurred in the form of a patch of temporal peripheral iris atrophy corresponding to the limbal and adjacent bulbar quadrant to which cryotherapy was applied.

There is no uncertainty as to the fact that conjunctival malignant melanoma is a rare ocular tumour, much more so than choroidal melanoma, which has been reported as 40 times more common, and cutaneous melanoma, which is seen to be 500 times more common in incidence. It is also well known that, conjunctival melanoma has a guarded prognosis, with a reported 10 year mortality rate of 30 %.¹⁻³ The lesion arises in melanocytes of neural crest origin, the commonest sites being the perilimbal and inter palpebral bulbar conjunctiva. When the palpebral, forniceal or caruncular sites are affected, the prognosis is worse. Since the conjunctival stroma is richly vascular and well supplied with lymphatics, there exists a significant potential for local and systemic metastases.⁴ Associated regional submandibular or preauricular lymphadenopathy with medial or lateral lesions respectively is a common finding. Direct spread of the conjunctival melanoma to the globe or the orbit has rarely been reported.⁵ Treatment of the local lesion involves a wide excision followed by cryotherapy of the excised margins by a triple freeze thaw cycle method.⁶ However, despite adequate resection of the tumour, whether or not supplemented by cryotherapy, the local recurrence rates were of the order of 63%, as was demonstrated in a study by Esmaeli, et al.⁵ Systemic metastasis of conjunctival melanoma occurs in 14 – 27 % cases, most commonly to the lung, liver, skin, gastrointestinal tract and bone.^{1,2,4,5,7,8} Spread of melanoma to the genitourinary tract and the bladder specifically, is however less known and is rarely detected clinically, more than 80 % cases being picked up only on post mortem

examination. In a series of 80 cases of bladder metastases, the reviewers found only 18 cases (22.5%) to be malignant melanoma, none being of ocular origin. Most of these cases were detected on autopsy.⁹⁻¹¹ Another series of 43 cases of malignant melanoma metastatic to the bladder, when reviewed, revealed antemortem signs or symptoms, the most common being haematuria, only in 15 cases (35%).¹²

There is only one reported case in the literature, of conjunctival melanoma metastasizing to the bladder.¹³ This case had a local recurrence despite adequate excision and adjuvant cryotherapy. The patient presented with haematuria after 3 months and was detected to have a bladder lesion on CT urogram. Cystoscopic excision biopsy of the lesion confirmed a diagnosis of metastasized melanoma. The association of conjunctival melanoma with bladder carcinoma and non-small cell carcinoma of the lung as a single case of triple malignancy has been reported by Melicharet al.¹⁴ To the best of our knowledge, our case is the only other reported case of conjunctival melanoma associated with transitional cell carcinoma of the bladder. Our case report highlights this unique clinical association, besides demonstrating the salutary effect of prompt and targeted therapy towards preventing local recurrences, as well as emphasizing the importance of a multidisciplinary approach to metastatic workup in detecting systemic malignancies associated with ocular ones.

- 1) This case highlights the unknown association between conjunctival malignant melanoma and transitional cell carcinoma.
- 2) This case directs us to have systemic workup including full body CT scan in a patient with conjunctival malignant melanoma.
- 3) This case also motivates us to home down to molecular level to find an association between conjunctival malignant melanoma and transitional cell carcinoma.

References

1. Brownstein S. Malignant Melanoma of the Conjunctiva. *Cancer Control* 2004;11(5): 310-16.
2. Seregard S. Conjunctival Melanoma. *SurvOphthalmol* 1998; 42:321-50.
3. Jakobiec FA. Conjunctival Melanoma. *Arch Ophthalmol* 1980; 98:1378-84.
4. Paridaens AD, Minassian DC, McCartney AC, et al. Prognostic factors in primary malignant melanoma of the conjunctiva: a clinicopathological study of 256 cases. *Br J Ophthalmol* 1994;78:252-59.
5. Esmaeli B, Wang X, Youssef A, et al. Patterns of regional and distant metastasis in patients with conjunctival melanoma: Experience at a cancer center over four decades. *Ophthalmology* 2001;108:2101-05.
6. Jakobiec FA, Rini FJ, Fraunfelder FT, et al. Cryotherapy for conjunctival primary acquired melanosis and malignant melanoma. Experience with 62 cases. *Ophthalmology* 1988;95:1058-70.
7. Folberg R, Mc Lean IW, Zimmerman LE. Malignant melanoma of the conjunctiva. *Hum Pathol* 1985;16:136-43.
8. Shields CL, Shields JA, Gunduz K, et al. Conjunctival melanoma: Risk factors for recurrence, exenteration, metastasis and death in 150 consecutive patients. *Arch Ophthalmol* 2000;118: 1497-1507.
9. Stein BS, Kendall AR. Malignant melanoma of the genitourinary tract. *J Urol* 1984;132:859-68.
10. Dasgupta T, Grabstald H: Melanoma of the genitourinary tract. *J Urol* 1965;93:607-14.
11. Golstein HM, Kaminsky S, Wallace S, et al. Urographic manifestations of metastatic melanoma. *Am J Roentgenol Radium TherNucl Med* 1974;121:801-05.
12. Amar AD: Metastatic melanoma of the bladder. *J Urol* 1964;92:198-200.

13. Nair BCJ, Williams NC, Cui C, et al.
Conjunctival Melanoma: Bladder and
Upper Urinary Tract Metastases. Journal
of Clinical Oncology 2011;29:216-9.
14. Melichar B, Ryska A, Vesely P, et al.
Triple malignancy in a patient with
conjunctival melanoma. J FrOphthalmol
2008;31(2):4.