# RENAL CELL CARCINOMA PRESENTING WITH INTRAOCULAR METASTASIS – A RARE CASE PRESENTATION


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## ABSTRACT

Renal cell carcinoma (RCC), a tumor originating from the renal cortex, accounts for 2% of all systemic malignancies. About one forth patients have overt metastasis at the time of initial diagnosis of RCC commonly at lung, brain or bones. RCC may rarely get metastasize to eye or eye orbit and may present as an intraocular or orbital mass. Metastasis from a systemic malignancy is one of the most common malignant intraocular tumors in an adult and it is uncommon to have orbital metastases with occult primary disease.

Herein we present a case report of a 46 year old male presenting with gradual painless loss of vision which on further investigations was found to be primary RCC metastasizing to eyeball.



## KEYWORD

Uncommon, Metastasize, Renal cell carcinoma

## ARTICLE HISTORY

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## INTRODUCTION

Renal cell carcinoma (RCC) is a tumor which originates from the renal cortex and accounts for approximately two percent of all systemic malignancies but it is the most common malignant renal tumor in adults.[1] Usually RCC can metastasize to lungs, bone, or liver but sometimes it may metastasize to other less common sites in body.[2] As about 30% patients with RCC presents with metastasis at the time of initial diagnosis and may have signs and symptoms accordingly but many a times metastasis may be long delayed, and appear years or decades after the initial diagnosis of primary RCC.[3] Ophthalmic metastasis from RCC generally manifests as a diffuse mass while it may rarely present as a localized orbital mass with pseudo-capsule formation.[4] Sometimes, ophthalmic metastasis can be highly vascular and may lead to pulsating exophthalmos.[5] Herein we present a case report of RCC metastasis to the eyeball.

## CASE REPORT

A 46-year-old man presented with gradual painless reduction in vision in the right eye for 2 months with proptosis. MRI of right eye was performed which showed an irregular T2 hypo/STIR mildly hyper-intense soft tissue irregularity along medial wall of right globe likely representing choroid detachment. The patient underwent PET-CT showing a well defined enhancing lesion in right eye ball medially with SUV max of 0.78, a well defined exophytic lesion in posterior scalp in the occipital region measuring 1.1×0.8 cm with few subcentimetric right preauricular, at the level of thorax multiple lung nodules were noted in bilateral lungs with increased FDG uptake while an irregular soft tissue density mass lesion is noted at the level of abdomen and pelvis in left kidney with increased FDG uptake.

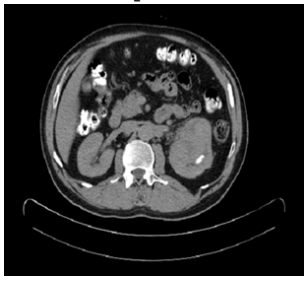

**Figure 1**

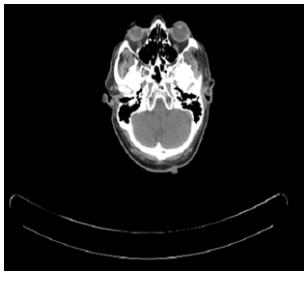

**Figure 2**

**Figure 1&2 showing renal lesion and ophthalmic lesion respectively.**

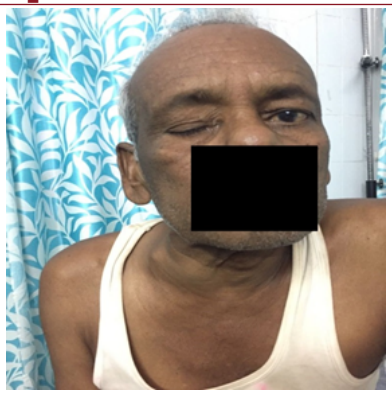

**Figure 3- showing proptosed lt. eye of patient**

PET-CT also showed multiple lytic lesions in C6-7 vertebrae with associated soft tissue component. Further biopsy of left renal mass was advised which came out to be positive for malignancy and was suggestive of renal cell carcinoma which was confirmed by IHC showing diffuse positivity for pancytokeratin and vimentin and negativity for Cd10.

## DISCUSSION

The most common malignant intraocular tumors in an adult are of metastatic origin while intraocular melanoma of the eye is the most common primary malignant tumor in adults. In eye choroid is the most common primary site of metastasis followed by iris. Primary breast and lung malignancies together accounted for most of the choroidal metastases. In men, the lungs are the most common sites of primary malignancy for ocular metastases while in women breast is the most common primary site for ocular metastases. Orbits are the most frequently involved site of eye for ocular metastases in RCC while metastasis to the lacrimal gland is very rare with only few cases documented in the literature.[6,7,8] Other extraocular sites involved are conjunctiva and eyelid.[9,10,11]Opthalmic metastases of RCC are uncommon as compared to other common sites like bones. In Ferry and Font's series of 227 cases of ophthalmic metastasis only seven cases were found to be metastasizing from primary RCC.[12] Shields et al, noted that among 502 patients of ophthalmic tumor 34% of patients gave no previous history of cancer while half of the patients remained undiagnosed for primary malignancy inspite of extensive investigations suggesting a lower frequency of primary ophthalmic tumor in comparison to secondary metastasis from other systemic malignancy. Common presenting symptoms of ophthalmic metastasis are proptosis, diplopia, pain, diminished vision, ptosis, and enophthalmos. It is not uncommon to have orbital metastasis with an occult primary malignancy and in such cases it is difficult to distinguish between primary and secondary ophthalmic tumors. The most common sources for orbital metastasis are carcinoma breast in women and carcinoma lung and prostate in men while gastrointestinal tract and thyroid cancer may also metastasize to eye. Ophthalmic metastases from renal cell carcinoma, however, are rarely reported.

## CONCLUSION

Ophthalmic tumors most commonly arise due to metastasis from primary breast or lung carcinoma in adults but RCC primarily presenting as symptomatic ophthalmic tumor is an uncommon presentation. Above case report reveals that RCC must also be kept as a differential diagnosis in cases of ophthalmic malignancies with occult primary disease.

## REFERENCE


1. Kosary CL, McLaughlin JK: Kidney and renal pelvis, in Miller BA, Ries LAG, Hankey BF, et al (eds): SEER Cancer Statistics Review, 1973--1990. Bethesda MD National Cancer Institute (NIH publication no. 93-2789), 1993. pp. XI.1--XI.22
2. Ritchie AW, Chisholm GD: The natural history of renal carcinoma. Semin Oncol 10:390--400, 1983.
3. Van Amam CE, Fine M: Orbital metastasis of renal carcinoma. Arch Ophthalmol 57:694--701, 1957
4. Bersani TA, Costello JJ, Mango CA, Streeten BW: Benign approach to a malignant orbital tumor: Metastatic renal cell carcinoma. Ophthal Plast Reconstr Surg 10:42--4, 1994
5. Howard GM, Jakobiec FA, Trokel SL, et al: Pulsating metastatic tumor of the orbit. Am J Ophthalmol 85:767– 71, 1978
6. Denby P, Harvey L, English MG: Solitary metastasis from an occult renal cell carcinoma presenting as a primary lacrimal gland tumor. Orbit 5:21--4, 1986
7. Shields JA, Shields CL, Eagle RC, et al: Metastatic renal cell carcinoma to the palpebral lobe of the lacrimal gland. Ophthal Plast Reconstr Surg 17:191--4, 2001
8. Shields CL, Shields JA, Eagle RC, et al: Clinicopathologic review of 142 cases of lacrimal gland lesions. Ophthalmology 96:431--5, 1989
9. Kindermann WR, Shields JA, Eiferman RA, et al: Metastatic renal cell carcinoma to the eye and adnexae: a report of three cases and review of the literature. Ophthalmology 88:\ 1347--50, 1981 222 Surv Ophthalmol 52 (2) March--April 2007
10. Riley FC: Metastatic tumors of the eyelids. Am J Ophthalmol 69:259--64, 1970
11. Ware GT, Haik BG, Morris WR: Renal cell carcinoma with involvement of iris and conjunctiva. Am J Ophthalmol 127: 460--1, 1999
12. Ferry AP, Font RL: Carcinoma metastatic to the eye and orbit. I. A clinicopathologic study of 227 cases. Arch Ophthalmol 92:276--86, 1974