



## RESEARCH ARTICLE

### A LARGE ENCYSTED LACRIMAL SAC MUCOCELE – A TYPICAL PRESENTATION

\*<sup>1</sup>Dr. Sumana J Kamath, <sup>2</sup>Dr. Debarshi Saha, <sup>3</sup>Dr. Umesh Krishna and <sup>3</sup>Dr. Bindu Kolavala

<sup>1</sup>MS ophthal, Professor, Dept of Ophthalmology, KMC Mangalore

<sup>2</sup>MD Pathology, Associate professor, Dept of Pathology, KMC Managalore

<sup>3</sup>Junior Resident, (MS Ophthal), Dept of Ophthalmology, KMC Mangalore

#### ARTICLE INFO

##### Article History:

Received 23<sup>rd</sup> July, 2017

Received in revised form

18<sup>th</sup> August, 2017

Accepted 14<sup>th</sup> September, 2017

Published online 31<sup>st</sup> October, 2017

##### Key words:

Chronic dacryocystitis;  
Malignancy; Distortion;  
Mucocele; Pyocele.

Copyright©2017, Dr. Sumana J Kamath et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Dr. Sumana J Kamath, Dr. Debarshi Saha, Dr. Umesh Krishna and Dr. Bindu Kolavala. 2017. "A large encysted lacrimal sac mucocele – A typical presentation", *International Journal of Current Research*, 9, (10), 59920-59922.

#### ABSTRACT

Chronic dacryocystitis is frequently caused by nasolacrimal duct obstruction or infection. Chronic stagnation of tears within the lacrimal sac leads to formation of mucocele which upon pyogenic infection turns into pyocele. Encysted lacrimal mucocele or pyocele presenting as a huge swelling causing distortion of surrounding structures is relatively uncommon. Very few cases were reported yet in the literature. Tumors originating from the lacrimal sac may mimic chronic inflammation and be misdiagnosed, delaying treatment. Here we report a case report of a 73 year old man with encysted lacrimal pyocele secondary to chronic dacryocystitis which was initially thought as malignancy due to the enormous swelling causing distortion.

## INTRODUCTION

Lacrimal sac mucocele (LSM) is characterized by obstruction of the nasolacrimal duct (NLD) with consequent dilatation and distension of the lacrimal sac (LS) by mucopurulent material (Perry, 2012). It is uncommon to encounter an enormous encysted mucocele (Krishnamurthy, 1977). As tumors from lacrimal sac may mimic chronic inflammation (Bianchi, 2010), malignancy has to be ruled out in cases of enormous swellings causing distortion of surrounding structures arousing suspicion of malignancy.

### Case History

A 73 year old male patient was referred from the head and neck surgery department with complaints of watering from right eye since 2 years and a swelling over the medial aspect of right eye since 6 months which was gradual in onset, painless and progressive. He gave history of temporary reduction in the size of the swelling with continuous gushes of sticky fluid like material on applying pressure on the inner side of the eye during initial days. Over a period of time he was not able to express out the sticky material from the swelling and there was an increase in the size of the swelling associated with distortion of right lower eye lid.

\*Corresponding author: Dr. Sumana J Kamath,  
MS Ophthal, Professor, Dept of Ophthalmology, KMC Mangalore

He had no history of surgery or trauma. He gave history of nasal block occasionally since 5-6 years which relieved on taking medications. On examination, right eye showed an oval shaped 2.7 x 2.5 x 1.2cm irreducible, non-tender, firm, mobile swelling, with no inflammatory signs over the lacrimal sac region. Two small scars 0.5x0.5 cm were seen in the centre over the swelling indicating the stage of abscess with spontaneous drainage. Medial aspect of lower lid was displaced laterally and upwards by the swelling resulting in narrowing of the palpebral aperture medially, eyeball was normal. There was no regurgitation of fluid from the punctum on pressure over the swelling. Visual acuity of right eye was 6/18p improving to 6/12 with pinhole and left eye 6/18 improving to 6/9 with pinhole with both eyes senile immature cataract. Rest of the examination was normal (Figure 1). Lacrimal syringing of the right side showed regurgitation from the opposite punctum with initial mucoid discharge, with no increase or decrease in the size of the swelling during syringing indicating block at the level of common canaliculus while lacrimal passages of left side were patent. So, dacryocystography also could not be done. Computed Tomography showed oval well defined hypodense cystic lesion of size 21x17x18 mm in the region of lacrimal fossa indenting the right globe and compressing the nasolacrimal duct without obvious bony erosions and mild deviated nasal septum to right, minimal mucosal thickening in bilateral sinuses and in the nasal cavity (Figure 2).



**Figure 1.** Clinical photograph of the patient with large swelling over the medial canthal region pushing the lower lid upwards



**Figure 2.** Computed tomography of the paranasal sinuses, axial section, in bone window, showing well defined hypodense cystic lesion in the right nasolacrimal duct topography

Patient was advised exploration under general anaesthesia with a possibility of excision of the lacrimal sac being explained to the patient. As the patient was indecisive about surgery, he was started on topical antibiotics and was advised to come sooner for review. On review, swelling increased to 3.5x3x1.4 cm in size, showing signs of inflammation with pus pointing. Patient was admitted and given IV antibiotics. Incision and drainage of the swelling was done, pus was drained and patient was prescribed oral antibiotics in addition to topical antibiotics and discharged (Figure 3).



**Figure 3.** Photograph showing drainage of pus

On further follow up after 12 days, swelling recurred over the medial aspect of the right eye. There were no complaints of pain or discharge from the swelling. The swelling was soft, non-tender measuring 2.5 x2.5x1 cm, with incision and

drainage scar of 0.5 x 0.5 cm present over the medial side of the swelling. Exploration with dacryocystectomy was done under sedation in view of recurrent swelling. A huge encysted mucocele measuring 3 x 1 x 0.5 cm was excised (Figure 4 and 5).

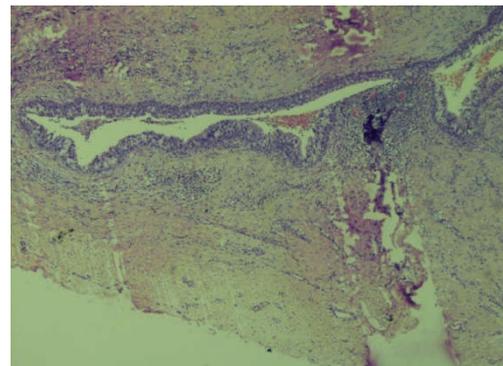


**Figure 4.** Recurrent swelling over the region of medial canthus



**Figure 5.** Intra operative photograph showing exploration with excision of lacrimal sac

The excised surgical specimen was sent for histopathological assessment. Histopathology report of the sections studied showed a cystic cavity lined by stratified squamous epithelium with focal squamous metaplasia; subepithelium showed moderate to dense lymphocytic infiltrate admixed with few histiocytes, fibrocollagenous deeper tissue with features consistent with clinical diagnosis of encysted mucocele possibly from lacrimal sac (Figure 6 and 7).



**Figure 6.** Histopathology images showing cystic cavity lined by squamous epithelium with focal squamous metaplasia



**Figure 7. Postoperative photograph after dacryocystectomy**

Patient was reviewed in outpatient department. Suture removal was done. Patient remained asymptomatic except for the epiphora and without clinical signs 2 months after surgery.

## DISCUSSION

Lacrimal excretory system helps in the drainage of tears. It is lined by mucous membrane which is contiguous with two surfaces (conjunctival and nasal mucosal) that are normally colonized with bacteria (Avasthi, 1971). Obstruction of Nasolacrimal duct leading to stagnation of tears causes epiphora and also can result in dacryocystitis. Acquired dacryocystitis can be acute or chronic (Mills, 2007). Acute dacryocystitis is manifested by the sudden onset of pain, erythema, and edema overlying the lacrimal sac region (Pinar-Sueiro, 2012). An insidious onset of epiphora is characteristic of chronic inflammation or infection of the lacrimal sac. The primary morbidity is associated with chronic tearing, matting, and conjunctival inflammation and infection (Ostler, 1923). There are four stages of chronic dacryocystitis (Khurana, 1998). (Chronic catarrhal dacryocystitis, lacrimal mucocele, Chronic suppurative dacryocystitis and Chronic fibrotic sac). In this case with encysted mucocele of lacrimal sac, there were no inflammatory signs and the swelling was enormous pushing the lower lid upwards and causing distortion of surrounding tissues arousing the suspicion of malignancy. As the tumors from lacrimal sac may mimic chronic dacryocystitis which will lead to misdiagnosis delaying treatment, the possibility of malignancy has to be clearly excluded in huge masses like this causing displacement of surrounding structures.

Rare instance of orbital extension of mucocele through a rent in the orbital septum has been reported. Enormous, tense mucoceles can produce a rent in the weak area of orbital septum with the resultant orbital extension and may cause displacement of orbital tissues (Krishnamurthy, 1977). So, early removal of such enormous encysted lacrimal mucoceles is important. Dacryocystectomy was done to remove the enlarged, altered lacrimal sac. Lacrimal sac pyoceles can present as huge masses causing displacement of surrounding structures mimicking malignancy though it is extremely rare. Surgery is the definitive treatment of choice. Early removal of enormous mucoceles can help avoid untoward consequences.

## REFERENCES

- Avasthi, P., Misra, R.N., Sood, A.K. 1971. Clinical and anatomical considerations of dacryocystitis. *Int Surg. Mar.*, 55(3): 200-3.
- Bianchi, F.A., Tosco, P., Campisi, P., Namsyl-Kaletka, A., Munoz, F., Ramieri, G. 2010. Mucoepidermoid carcinoma of the lacrimal sac masquerading as dacryocystitis. *May*; 21(3):797-800.
- Khurana, A.K., Indu Khurana, 1998. Anatomy and Physiology of eye. CBS publication, 337-364.
- Krishnamurthy, G., Padmawar, B. U., Desai, Y. 1977. An encysted lacrimal mucocele with orbital extension. *Indian J Ophthalmol.*, 25:40-1
- Mills, D.M., Bodman, M.G., Meyer, DR, Morton, A.D. 3rd. 2007. The microbiologic spectrum of dacryocystitis: a national study of acute versus chronic infection. *OphthalPlastReconstr Surg.* Jul-Aug. 23(4):302-6.
- Ostler, A. B., Ostler, M. 1923. Diseases of external eye and adnexa. Lacrimal sac inflammation. Williams and wilkins, 300-130.
- Perry, L.J.P., Jakobiec, F.A., Zakka, F.R., Rubin, P.A.D. 2012. Giant dacryocystomucopyocele in an adult: a review of lacrimal sac enlargements with clinical and histopathologic differential diagnoses. *Surv Ophthalmol.*, 57 :474-85.
- Pinar-Sueiro, S., Sota, M., Lerchundi, T.X., Gibelalde, A., Berasategui, B., Vilar, B., et al. 2012. Dacryocystitis: Systematic Approach to Diagnosis and Therapy. *Curr Infect Dis Rep.*, Jan 29.

\*\*\*\*\*