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Sebaceous Gland Carcinoma of Eyelid: Tumour Biology Based Surgical Approach

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Abstract

Malignant tumours of the face are usually seen in the periocular region. Sebaceous gland carcinomas mostly occur on the upper eyelid due to abundance of meibomian glands. Approach for the tumor should be based on its biology. The best treatment for eyelid malignant tumours is the total excision of the lesion with frozen section control. Defects created should be reconstructed judicially taking care that the near-normal anatomical and functional recovery is achieved. Here we present a case of SGC which was excised and the defect was reconstructed wit Cutler-Beard flap procedure which very well restored the anatomy and function of our patient.

Keywords: Sebaceous gland carcinomas; Upper eyelid; Tumor biology; Reconstruction

Introduction

The eyelid neoplastic pathology is very polymorphic and mostly based on different types of skin cancer, as in western countries the most common malignant tumor of the eyelid is Basal Cell Carcinoma (BCC) (80-95%) of all eyelid malignancies, followed by Squamous cell carcinoma SCC (<5%), sebaceous gland carcinoma SGC (1-3%), malignant melanoma (1%). In Asian countries comparatively BCC is less common (11-65%) while SCC (5-48%) and SGC (7-56%) occur more frequently. Eyelid lesions represent 15% of face tumors and 5-10% from all cutaneous tumors. Cutaneous sebaceous carcinoma is rare in occurrence and accounts for disease that 0.05% of all cutaneous malignancies. But when it comes to the eye, eyelid lesions represent 15% of face tumors. When considering all cutaneous sebaceous carcinomas of eye, up to 40% of these tumors arise in particular anatomical site. Here we present a case of 70 years female of cutaneous sebaceous carcinoma of upper lid which was diagnosed and excised and diagnosis of the same was confirmed histologically [1,2].

Case Report

A70 year's female presented to our eye OPD with the chief complaint of progressive slowly growing nodular mass in her swelling on right upper lid and difficulty in complete eye-opening since two years. The swelling had lately rapidly increased in size for one-month duration. On examination, the mass was 4 × 3 cm hard, rubbery in consistency, reddish-yellow in color and tethering to the tarsal plate (seen on everything the eyelid) (Figure 1).

Eyelashes were sparse in the upper eyelid. Ocular examination revealed within references ranges. Clinically, it resembled a nodular variety of meibomian gland carcinoma. There was no history of past ocular surgery (Figures 2-4).

The patient was a known diabetic but with well control. She gave no history of anorexia/weight loss, drug allergy and no exposure to radiation, etc. Vitals were within normal range. There was no regional or distant lymphadenopathy. A metastatic workup was done which showed a negative result. The patient was classified as stage T3aN0M0 according to AJCC (American Joint Commission on Cancer). Informed consent from the patient was procured. Wide surgical excision was done with safe margins. Reconstruction of the upper eyelid was done with cutler beard flap. The histopathology showed lining of keratinized stratified squamous epithelium underlying stroma shows sheets and clusters of abnormal and atypical epithelial cells with mitotic activity infiltrated deep into the stroma. Some of them show sebaceous cells differentiation. An individual cell is highly pleomorphic with high nuclear-cytoplasmic ratio, prominent nucleoli, some having vacuolization at the cytoplasm (Figures 5 and 6).

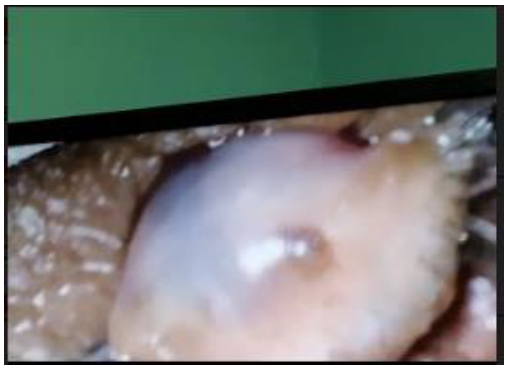

Figure 1: Video microphotograph of big sebaceous carcinoma of eyelid with engorged neo vessels.

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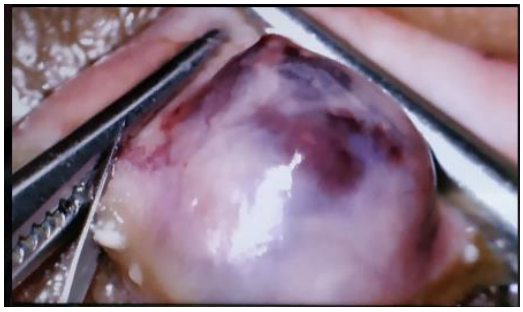

Figure 2: Mass is clamped leaving 3 mm clear area and excised with subsequent cauterization of margins. Engorged blood vessels are clearly visible under tarsal conjunctiva.

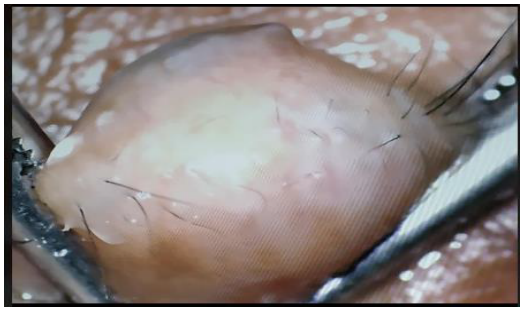

Figure 3: Same mass visible through skin of upper eyelid with lashes.

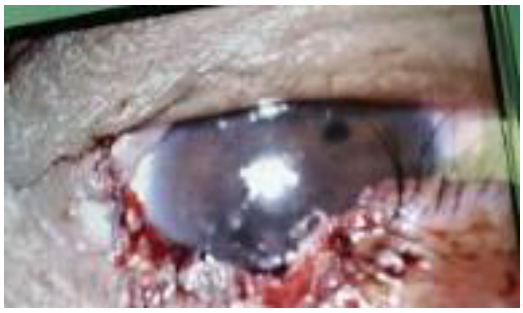

Figure 4: More than 2/3rd area of lid defect visible after excision.

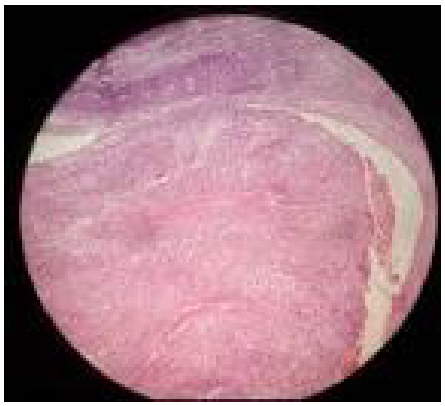

Figure 5: Tissue examined shows underlying stroma sheets and clusters of abnormal and atypical epithelial cells with high mitotic activity, infiltrated deep into the stroma, some of them shows sebaceous cell differentiation, individual cell is highly pleomorphic with high nuclear cytoplasmic ratio, prominent nucleoli, some have vacuolization at the cytoplasm.

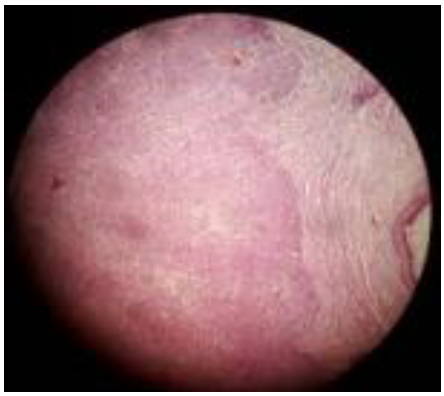

Figure 6: Tissue examined showing lining of keratinised stratified squamous epithelium.

Discussion

Sebaceous gland carcinomas are one of the rarest eye cancers and can look like a chalazion or conjunctivitis. It accounts for less than 1% of all cutaneous malignancies. Sebaceous carcinoma can mimic these relatively benign diseases; hence an ophthalmologist should be suspicious of this tumor in any patient with persistent conjunctivitis, blepharoconjunctivitis or chronic/recurrent chalazion. Therefore absorbing this, conjunctivitis or chalazion not getting better after three months of treatment for the same, should be biopsied. There are two main pathological types nodular and spreading. In our present case report patient was suffering from eye problem since two years and it was a nodular type of lesion [3].

It is a slow-growing tumor and has a multifocal origin with a predilection for upper eyelid. Its high recurrence rate and tendency for intra-epithelial spread, loco-regional and distant metastases make it paramount to recognize. In present case report its spread and metastasis was checked via MRI. It usually crops up from the meibomian glands, then from the glands of Zeis (4-10%) and the sebaceous glands of the eyelid skin (12-24%). There are copious meibomian glands in upper eyelid as compared to the lower eyelid. Hence it becomes the most accepted site for SGC. Same we encountered in our case. The ratio of upper to lower eyelid varies from 1.3 to 3.0 in the literature [4,5].

The etiology of SGC is unknown and proclaimed risk factors include advanced age, Asian race, women, previous irradiation to the head and neck region and a genetic predisposition. As a differential diagnosis, Muir-Torre Syndrome should always crosscheck. It is a rare genetically autosomal dominant cancer syndrome. Patients affected with this syndrome can develop cancer of the colon, breast, genitourinary tract, skin and eye lesions including keratoacanthomas and sebaceous carcinoma [6-8].

Our approach based on tumor biology

- SG tumor extends beyond what is clinically evident hence slit lamp examination was done and is also mandatory to determine the tumor margins preoperatively
- Posterior extent of the tumor was assessed as it arises from the tarsus, tarsal and palpebral conjunctival involvement being generally more extensive than the skin. While excision of tumor each lamina was marked separately based on the extent of involvement
- Get a good view is an imperative step of surgery as to have check on intraoperative hemostasis. For this complete surgery was done using an operating microscope

- Intraoperative frozen section was done to assess the margin. Reconstruction with Cutler Beard flap
- The no-touch technique was used to avoid the risk of tumor seeding
- The patient is under close follow up from past two years

Conclusion

SGC clinically resembles other inflammatory diseases and it shows a big challenge for an ophthalmologist. The precise diagnosis followed by aggressive management with a multimodal approach should be undertaken for better neoplastic control which in turn reduces morbidity and mortality. Early, precise and prompt diagnosis also prevents spread to other distant organs.

Conflict of Interest

Authors have no conflict of interest to disclose.

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