

Ocular Sebaceous Gland Carcinoma- A Five Year Experience

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Abstract

Introduction: Sebaceous gland carcinoma of the eyelid is commonly misdiagnosed because it simulates other entities both clinically and pathologically¹. Sebaceous gland carcinoma, also called Meibomian gland carcinoma, is a rare aggressive malignant tumor derived from the adenexal epithelium of sebaceous glands. A five year retrospective review of sebaceous gland carcinoma, eyelid (2008-2013) was conducted in Department of Pathology, Western Regional Institute of Ophthalmology, Ahmedabad. **Objective:** To study the epidemiological and histological spectrum of Ocular sebaceous gland carcinoma in M&J Western Regional Institute of Ophthalmology, Ahmedabad. **Results & Discussion:** Among 139 cases of malignant eyelid tumors, 63 cases of sebaceous gland carcinoma (SGC), 47 Squamous cell carcinoma (SCC), 19 Basal cell carcinoma (BCC) and 10 malignant melanoma (MM) were reported. The tumors manifest most frequently on upper eyelid, the mean age at diagnosis was 70 years with 66.7% females. The most common site of origin is the meibomian glands of eyelids, leading to the term meibomian gland carcinoma. Histologically majority of the tumor tended to be moderately differentiated. Results achieved in present study were compared with other previous studies. According to traditional text book knowledge, Sebaceous gland carcinoma is very rare. By contrast our study agrees with other studies from Asia including Indian study; which suggest that it contributes to a recognisable proportion of malignant eyelid tumour. **Conclusion:** As proved in present study as well as the other studies conducted in past in Asia; Sebaceous gland carcinoma should always be considered in Asian patients, as to a large extent, the surgical approach and management principles differ when those compared to those from other malignant tumours.

Key Words: Basal Cell Carcinoma, Ocular, Malignant, Meibomian gland carcinoma, Sebaceous gland

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Introduction

Sebaceous gland carcinoma, also called Meibomian gland carcinoma, is a rare aggressive malignant tumor derived from the adenexal epithelium of sebaceous glands. Sebaceous carcinoma may occur in either ocular or extra ocular location. It represents 1–5.5% of all eyelid malignancies and is considered to be the third most common eyelid malignancy after basal cell and squamous cell carcinomas, although few reports placed this tumor as second most common after basal cell carcinoma.² The greater number of meibomian glands in the upper lid¹ explains the predilection of sebaceous carcinoma for this site. Ocular sebaceous carcinoma typically affects adults in their sixth to eighth decades of life^{2, 11}. There appears to be a female preponderance^{2, 11}. They are characterized by high rate of local recurrence, regional, and distant metastases. A delay in diagnosis, which can be attributed primarily to ability of this tumor to masquerade as more benign conditions, often leads to inappropriate management with increased morbidity and mortality rates. Histologically, majority of

tumors tended to be moderately differentiated¹.

This was a retrospective study conducted from June 2008 to May 2013 in a tertiary care referral centre, namely the M&J Western Regional Institute, Ahmedabad. All the eyelid tumor biopsy specimens sent to pathology lab were enrolled. The charts of eligible cases were retrieved and the demographics (age, gender), tumor topography (upperlid/lowerlid) and the histological diagnosis were logged. The data were then subjected to descriptive statistical tabulation and analysis.

Objectives: To study the epidemiological and histological spectrum of patients with Ocular sebaceous gland carcinoma in M&J Western Regional Institute of Ophthalmology, Ahmedabad.

Results and Discussion

During the 5 years study, total 63 cases of sebaceous gland carcinoma were detected out of 139 total ocular malignancy reported in histopathology laboratory. Out of 63 confirmed sebaceous gland carcinoma; there were 42 female (66.7%) and 21 male (33.3%) patients. In which upper eyelid was most often involved (85.7% cases) than the

lower eyelid (14.3% cases). Mean age at diagnosis was 70 years. Histologically, most of the tumors were moderately differentiated (49 cases)

Table 1: Prevalence of Sebaceous gland carcinoma in present study

Tumor Type	Number of Cases	Percentage (%)
Sebaceous gland carcinoma	63	45.4
Basal cell carcinoma	19	13.6
Squamous cell carcinoma	47	33.8
Malignant melanoma	10	7.2
Total	139	100

Table 2: Distribution according to degree of differentiation

Differentiation	Number of cases	Percentage (%)
Well	9	14.3
Moderate	49	77.8
Poor	5	7.9

Figure 1

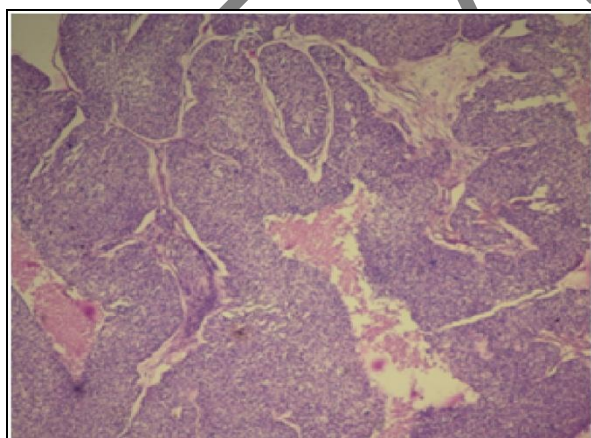


Figure 2

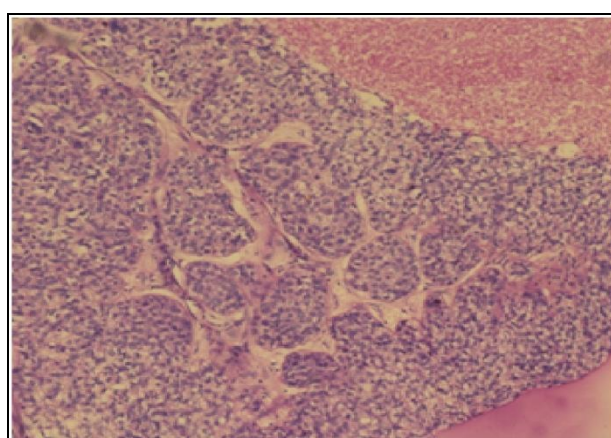


Figure 1 & 2: Low & High power view of well differentiated sebaceous gland carcinoma with lobular pattern

Figure 3

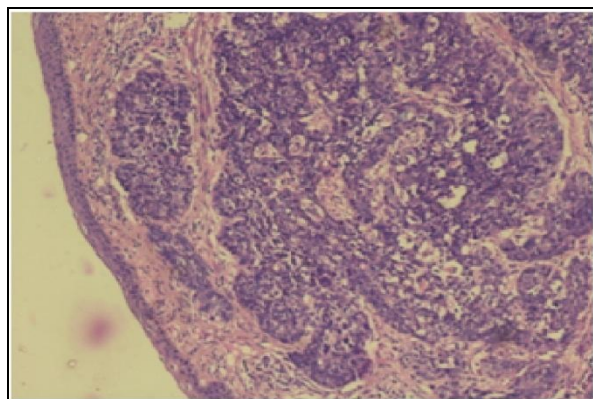


Figure 4

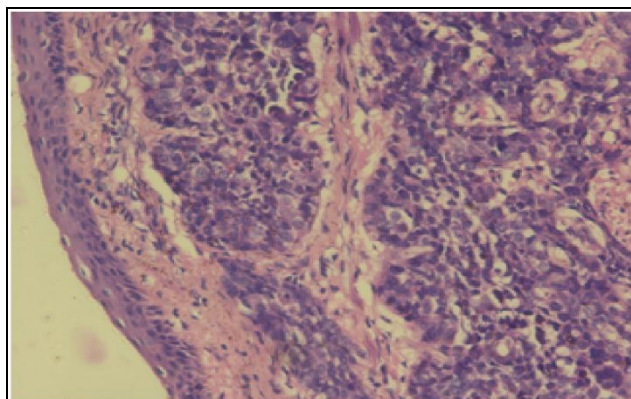


Figure 3&4: Low and High power view of moderately differentiated sebaceous gland carcinoma with only few areas of highly differentiated sebaceous cells. The majority of tumour is composed of neoplastic cells with hyper-chromatic nuclei and abundant basophilic cytoplasm

The data extracted at our centre provided objective evidence of the point prevalence of histological proven sebaceous gland carcinoma in Ahmedabad setting. To our knowledge it is one of the largest local case series describing the

epidemiology and frequency of ocular sebaceous gland carcinoma. Incidence rates vary markedly in different parts of world. Results achieved in present study were compared with other studies conducted in past in Asian region including India.

Table 3: Comparison with other studies

Types of Malignant tumour	Relative Frequency (%)							
	Present Study	Hong Kong Liu et al ³	Beijing, Xu et al ⁴	Northern China, Dal et al ⁵	Taiwan, Lin et al ⁸	Singapore, Lee et al ⁶	Japan, Abe et al ⁷	India, Sihota et al ⁹
BCC	19	43	41	37	62	84	33	30
SCC	47	18	5	8	13	3	48	28
SGC	45	7	39	34	8	10	13	33
MM	10	7	4	3	2	1	4	4

Note: BCC= Basal Cell Carcinoma, SCC= Squamous Cell Carcinoma, SGC= Sebaceous Gland Carcinoma, MM= Malignant Melanoma (Number shown in Percentage)

According to traditional text book knowledge, Sebaceous gland carcinoma is very rare. By contrast our study agrees with other studies from Asia including Indian study by Sihota et al; which suggest that it contributes to a recognisable proportion of malignant eyelid tumour. Such regional differences may be due to differences in skin types, sunlight exposure, disease awareness and surveillance practice.

Conclusion

As shown in the present study, the incidence of Sebaceous gland Carcinoma is significantly high in Asian countries as compared to overall prevalence in the World. Thus, Sebaceous gland carcinoma should always be considered in Asian patients. As to a large extent, the surgical approach and management principles differ when those compared to those from other malignant tumours. In one series, only 32 % of cases were correctly diagnosed¹⁰, as the lesions were often mistaken for blepharoconjunctivitis, chalazion, basal cell carcinoma and squamous cell carcinoma.

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