Original Research Paper

Volume - 12 | Issue - 07 | July - 2022 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Ophthalmology

A CLINICO PATHOLOGICAL STUDY ON BENIGN OCULAR ADNEXAL TUMOURS

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ABSTRACT **Purpose:** 1) To observe the incidence and pattern of presentation of benign adnexal tumours.
2) To establish a Clinico-Pathological correlation.

Design: Hospital based prospective study **Materials And Methods:** A total of 24 patients of benign ocular adnexal tumours were taken and through examination (local and systemic) was performed including Slit lamp examination, probing/syringing, ocular motility,fundoscopy. X-Rays, B-Scan Ultrasonography and C-T Scan were done wherever indicated. For histopathology, FNAC and Biopsy were taken. **Results:** Out of the 24 cases included in the present series, 16 cases occurred in males while 08 cases were detected in females. Most of the benign cases (12 cases) were found in the 21-40 yrs age group which accounted for 50% of all the benign cases. Out of 24 cases, only 16 cases were submitted for HPE and 10 were proved to be same as diagnosed clinically (accuracy rate 62.50%).**Conclusion:** Benign tumours of the ocular adnexa are very common. The four most common types of benign lesions detected in the present series were Capillary Haemangioma (20.83 %) 5 cases, Dermoid (20.83 %) 5 cases, Plexiform Neurofibroma (16.6%) 4 cases, Naevus (12.5%) and Squamous Papilloma (12.5%) 3 cases each.

KEYWORDS : Capillary Haemangioma, Dermoid, Plexiform Neurofibroma, FNAC

INTRODUCTION

The ocular adnexa or the ocular appendages comprise eyelids, eyebrows, the conjunctiva and the lacrimal apparatus. The eyelids are complex structures designed to protect the globe from a variety of traumatic conditions. Tumours of eye and adnexa are a significant cause of morbidity and mortality in our country and worldwide.[1]

Tumours of the eyelid are an important part in ophthalmological practice, because they are very common. The eminent British oncologist Willis defined: "A neoplasm is an abnormal mass of tissue, the growth of which exceeds and is uncoordinated with that of the normal tissues and persists in the same excessive manner after cessation of the stimuli which evoked the change. Some benign lesion of the eyelids may be identified readily by clinical appearance and behaviour. However, many pose a diagnostic challenge, because different lesions may appear similar.

Besides surgical biopsy. fine needle aspiration cytology (FNAC) has also taken a premier place as one of the most useful tools in the diagnosis of tumours.

This prospective study was carried out in the Regional Institute of Ophthalmology Gauhati Medical College and Hospital, Guwahati during a period of 1 (one) year with the following aims and objectives:

1. To observe the incidence and pattern of presentation of benign adnexal tumours.
2. To establish a Clinico-Pathological correlation.

MATERIALS AND METHODS

This prospective study was carried out in the Regional Institute of Ophthalmology (RIO) Gauhati Medical College and Hospital, Guwahati during a period of 1 (one) year i.e., from 1st June 2021 to 31 May 2022. Cases of adnexal tumours were selected from the OPD and indoor patients of the department and studied clinically and histopathologically under the direct observation and guidance of the respectable teachers of the Institute.

The present study comprised 24 cases of Benign adnexal tumour.

Inclusion criteria

1. Patients attending the outpatient department admitted in the ward
2. Patients admitted in the ward
3. Patients of all age group were included.

Exclusion Critera

1. Tumours originating primarily from the orbit and tumours solely affecting the conjunctiva were excluded from the study.
2. Cases of external hordeolum or purely infected cases of the eyelids or conjunctiva, cases of connective tissue disorder affecting the skin and tarsal cyst of the eyelids were also excluded from the study.
3. All cases of malignant histology were excluded.

Clinical Evaluation:

History was taken carefully with special importance given to age of presentation, onset, duration, nature of progression, laterality, associated symptoms, occupation, sun exposure, addiction, diet habit, socio-economic condition, family history, previous treatment, History of recurrent chalazion, radiation therapy, malignancy and any previous operation were also noted. History of any systemic illness like DM, hypertension, asthma, and kidney disease was taken from point of view of operation and dermatological diseases if any was specifically questioned.

A detailed thorough clinical Examination including local and systemic examination (including lymph node examination) was done. Local examination included Inspection, palpation and auscultation of tumor was performed in all cases.A detailed Slit lamp examination, probing/syringing, ocular motility, and fundoscopy was performed in all cases.

Laboratory Investigations including Routine examination of Blood, Stool and urine and Radiological examinations like X-Rays orbit AP and lateral view, B-Scan Ultrasonography. C-T Scan were done wherever indicated. Histopathological Studies like Fine needle aspiration cytology (FNAC) and Incisional and Excisional biopsy were done .

RESULT AND OBSERVATIONS

Table 1: Cause and frequency of Benign Adnexal Tumours

Benign Tumours	No. of Cases	Percentage %
Capillary Haemangioma	5	20.83
Dermoid	5	20.83

Squamous Papilloma	3	12.5
Naevus	3	12.5
Plexiform Neurofibroma	4	16.6
Epidermal Cyst	1	4.16
Fibroma	1	4.16
Sweat Gland Tumour	1	4.16
Pleomorphic Adenoma	1	4.16

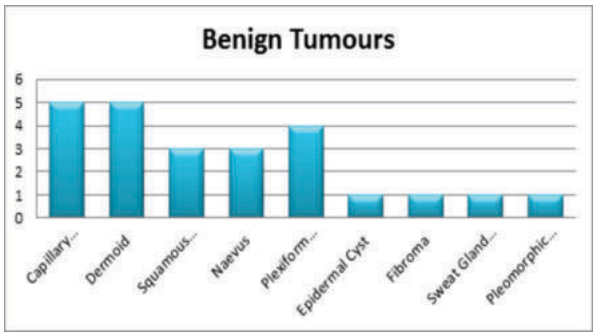


Table 2: Age-wise distribution of Benign adnexal tumours

Age group	No. of cases	Percentage(%)
0-10 YRS	4	16.66
11-20 YRS	3	12.5
21-30 YRS	6	25
31-40 YRS	6	25
41-50 YRS	2	8.33
51-60 YRS	1	4.16
61-70 YRS	1	4.16
>70	1	4.16

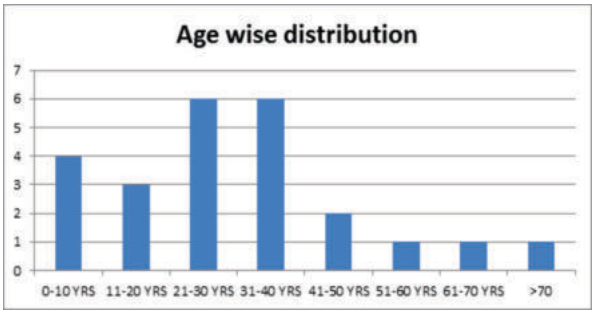


Table 3: Sex-wise distribution of Benign adnexal tumours

	Male	Female	Total	M:F Ratio
BenignTumours	16	08	24	2:1

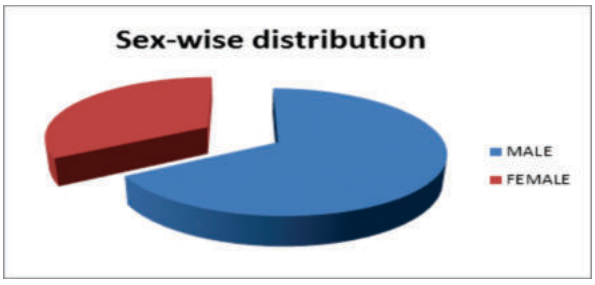


Table 4: Eye involvement for Benign adnexal tumours

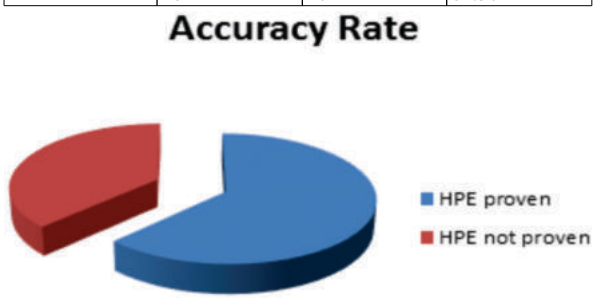
Eye involved	No. of Cases	Percentage %
Right eye	14	58.33
Left Eye	10	41.66
Both eyes	--	

Table 5: Correlation between clinical & histopathological diagnosis of Benign adnexal tumours

Case No.	Clinical Diagnosis	Histopathological Diagnosis
1.	Plexiform Neurofibromatosis	Not done
2.	Dermoid cyst	Dermoid cyst
3.	Pigmented Naevus	Pigmented Naevus
4.	Soft tissue mass	Fibroma
5.	Foreign body granuloma	Squamous Papilloma
6.	Neurofibroma	Dermoid cyst
7.	Capillary haemangioma	Not done
8.	Soft tissue mass	Dermoid cyst
9.	Sebacious adenoma	Epidermal cyst
10.	Plexiform Neurofibromatosis	Not done
11.	Papilloma	Squamous Papilloma
12.	Capillary haemangioma	Not done
13.	Plexiform Neurofibromatosis	Not done
14.	Capillary haemangioma	Not done
15.	Dermoid cyst	Dermoid cyst
16.	Lacrimal gland mass	Pleomorphic adenoma
17.	Naevus	Naevus
18.	Sweat gland tumour	cyst of Moll
19.	Papilloma	Squamous Papilloma
20.	Plexiform Neurofibromatosis	Not done
21.	Naevus	Naevus
22.	Pyogenic granuloma	Capillary haemangioma
23.	Dermoid cyst	Dermoid cyst
24.	Capillary haemangioma	Not done

Table 6: showing accuracy rate of clinical diagnosis for benign adnexal tumours

No. of cases diagnosed clinically	No. of cases submitted for HPE	No. of cases proved by HPE	Accuracy rate of clinical diagnosis
24	16	10	62.50



DISCUSSION

Age distribution:

In the present series, the age of presentation in case of benign tumour varied from 2 yrs - 83 yrs. Most of the benign cases (12 cases) were found in the 21-40 yrs age group which accounted for 50% of all the benign cases. The mean age calculated for benign ocular adnexal tumors was found to be 30 yrs in present series.

Abdi U et al[2] (1996) found benign tumours of the eyelid to be commonest in the first 2 decades of life while malignant tumours were commonest in 40-60 yrs age group. Lee et al (1999, May)[3] reported the median age at diagnosis to be 63 yrs for males and for females in case of malignant lid tumours. 66 yrs

In the present series 29.10% (7 cases) of benign tumours were below 20 yrs of age .

Sex distribution:

Out of the 24 cases included in the present series, 16 cases occurred in males while 08 cases were detected in females. The male to female ratio for benign adnexal growth was found to be 2:1.

Abdi U et al (1996)[2] in their retrospective study of 207 eyelid tumour, for the period 1957 to 1991, found a slight preponderance in males and male: female ratio of 1.3:1.

Gupta' et al (1999)[4] found in their study of 30 cases that 20 males and 10 females were affected with M:F ratio of 2:1.

Eye involvement :

Out of the 24 cases included in the present series, 14 cases occurred in the right eye while 10 cases were detected in the left eye.

Fedrick T et al (1996) studied 18 cases of malignant eyelid tumour and found 10 cases having right eye and 8 cases having left eye involvement.

Size of the tumour:

Fedrick T et al (1996) reported size of the malignant lid tumours, during presentation in the range of 7 mm to 6cm.

In the present series the tumour size ranged from 2 mm to 8 cm. This late presentation is mainly attributed to the low level of education, lower socioeconomic condition and rural background in most of the cases.

Tumour type:

The four most common types of benign lesions detected in the present series were Capillary Haemangioma (20.83 %) 5 cases, Dermoid (20.83 %) 5 cases, Plexiform Neurofibroma (16.6%) 4 cases, Naevus (12.5%) and Squamous Papilloma (12.5%) 3 cases each.

Abdi et al[2] in their study found that the commonest benign tumours were vascular tumours (21.3%), neural tumours (18%), dermoid cysts (16.4%), squamous papilloma (13.1%) and naevi (12.3%). These results were quite similar to that of our study. Aurora et al[5'] had also noted a high incidence of benign tumours (76.5%) in their study. Similar findings had being reported by other author like Welch & Duke H & J Anderson. Kerstens[6] et al found the incidence of benign tumours to be 81.9 % which very closely matches with our study.

The above noted difference in observations between this present study and that of the other cited authors may be due to geographical, cultural, and social differences, between ours patients and the western countries. The high incidence of sebaceous gland carcinoma could be attributed to the increased incidence of sweating and high humidity in this part of the state.

Clinical diagnosis and histopathological correlation

Out of 24 cases, only 16 cases were submitted for HPE and 10 were proved to be same as diagnosed clinically (accuracy rate 62.50%). Accuracy rate of clinical diagnosis in case of benign lid tumours in the present series is less compared to study by Margo C57 et al (1993)[7].

Management of benign tumours:

In the present series, out of 24 cases of benign tumour, 15 cases were treated surgically followed by reconstruction. Preoperatively CT was done in two cases to determine the posterior extent of the tumour. For all but one case, excision was done under local anaesthesia while general anesthesia was required for an apprehensive patient aged 12 yrs.

In the whole study only one tumour was detected which involved the lacrimal system. The tumour occurred in the lacrimal gland of the left eye. Surgical resection of the whole lacrimal gland along with the tumour's pseudocapsule was done via anterior orbitotomy approach.

CONCLUSION

Benign tumours of the ocular adnexa are very common. A simple biopsy can determine whether the tumour is malignant or benign. Malignant tumours generally occur in elderly age group whereas benign tumours occur in relatively younger age group. Prompt and adequate biopsy can facilitate early diagnosis and thus avoid unnecessary metastatic spread in case of malignant tumours. The goal of surgery for eyelid tumours should be total removal of the mass and cosmetic. Small tumours are usually removed by pentagonal wedge resection.

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