

ORIGINAL RESEARCH

Assessment of outcome of conjunctival autograft in primary and recurrent pterygium

¹Dr. Kamal Kumar, ²Dr. Deepak Batra

¹Associate Professor, Department of Pharmacology, Major S D Singh Medical College & Hospital, Farrukhabad, Uttar Pradesh, India

²Professor, Department of Orthopaedics, Major S D Singh Medical College & Hospital, Farrukhabad, Uttar Pradesh, India

Corresponding Author

Dr. Deepak Batra

Professor, Department of Orthopaedics, Major S D Singh Medical College & Hospital, Farrukhabad, Uttar Pradesh, India

Received: 09 November, 2016

Accepted: 13 December, 2016

ABSTRACT

Background: A pterygium is a benign growth of the conjunctiva that extends onto the cornea. It is often triangular in shape and can occur in one or both eyes. The present study was conducted to assess outcome of conjunctival autograft in primary and recurrent pterygium. **Materials & Methods:** 65 cases of primary and recurrent pterygium of both genders were examined under a slit lamp, and the Pterygium type was recorded. Notable were the results of the fundus examination, visual acuity, refraction, ocular motility, intraocular pressure, and potency of lacrimal channels. **Results:** Out of 65 patients, males were 30 and females were 35. Occupation was indoor in 24 and outdoor in 41 cases. There were 54 cases of progressive primary Pterygium, and 11 cases of recurrent Pterygium. Pterygium location was nasal in 38, temporal in 20 and both in 7 cases. Pterygium laterality was RE in 35, LE in 19 and bilateral in 11 cases. The difference was significant ($P < 0.05$). Out of 54 cases of progressive primary Pterygium, recurrence was seen in 4 and out of 11 cases of recurrent Pterygium, recurrence was seen in 1 case. **Conclusion:** Autogenous conjunctival grafting is a fast, simple, and safe surgery that stops pterygium from recurring and doesn't require tissue loss. Additionally, it lessens the chance of necrosis, scleral thinning, and granuloma formation.

Keywords: pterygium, cornea, ultraviolet

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

INTRODUCTION

A pterygium is a benign growth of the conjunctiva that extends onto the cornea. It is often triangular in shape and can occur in one or both eyes.¹ Prolonged exposure to ultraviolet (UV) light is a major risk factor. Pterygium is more common in people who spend a lot of time outdoors, particularly in sunny climates.² Exposure to wind, dust, sand, and smoke can contribute to the development of pterygium. Chronic dryness of the eyes can also be a contributing factor. There may be a genetic predisposition in some individuals.³ Symptoms show a fleshy, pinkish growth on the white part of the eye that extends toward the cornea. The affected eye may feel dry, itchy, or irritated. The eye may appear red or inflamed, foreign body sensation. In advanced cases, the growth can encroach onto the cornea and distort vision.⁴

The use of adjuncts such as beta irradiation, thio tepa eye drops, intra- or post-operative mytomycin-C (MMC) or anti-neoplastic agents, amniotic membrane transplantation, conjunctival autograft (CAG) with or without limbal stem cells, and other surgical techniques, such as bare sclera excision, have been illustrated.⁵ The reported rates of recurrence for excision with CAG vary from 2% to 89% for excision of the naked sclera.^{6,7} The present study was conducted to assess outcome of conjunctival autograft in primary and recurrent pterygium.

MATERIALS & METHODS

The present study was conducted on 65 cases of primary and recurrent pterygium of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. Every patient was examined under a slit lamp, and the

Pterygium type was recorded. Notable were the results of the fundus examination, visual acuity, refraction, ocular motility, intraocular pressure, and potency of lacrimal channels. Every patient underwent

standard examinations, such as blood pressure checks and syringing procedures. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 65		
Gender	Male	Female
Number	30	35

Table I shows that out of 65 patients, males were 30 and females were 35.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Occupation	Indoor	24	0.01
	Outdoor	41	
Type	Progressive primary Pterygium	54	0.01
	Recurrent Pterygium	11	
Pterygium location	Nasal	38	0.04
	Temporal	20	
	Both	7	
Pterygium laterality	RE	35	0.05
	LE	19	
	Bilateral	11	

Table II shows that occupation was indoor in 24 and outdoor in 41 cases. There were 54 cases of progressive primary Pterygium, and 11 cases of recurrent Pterygium. Pterygium location was nasal in 38, temporal in 20 and both in 7 cases. Pterygium laterality was RE in 35, LE in 19 and bilateral in 11 cases. The difference was significant ($P < 0.05$).

Graph I Assessment of parameters

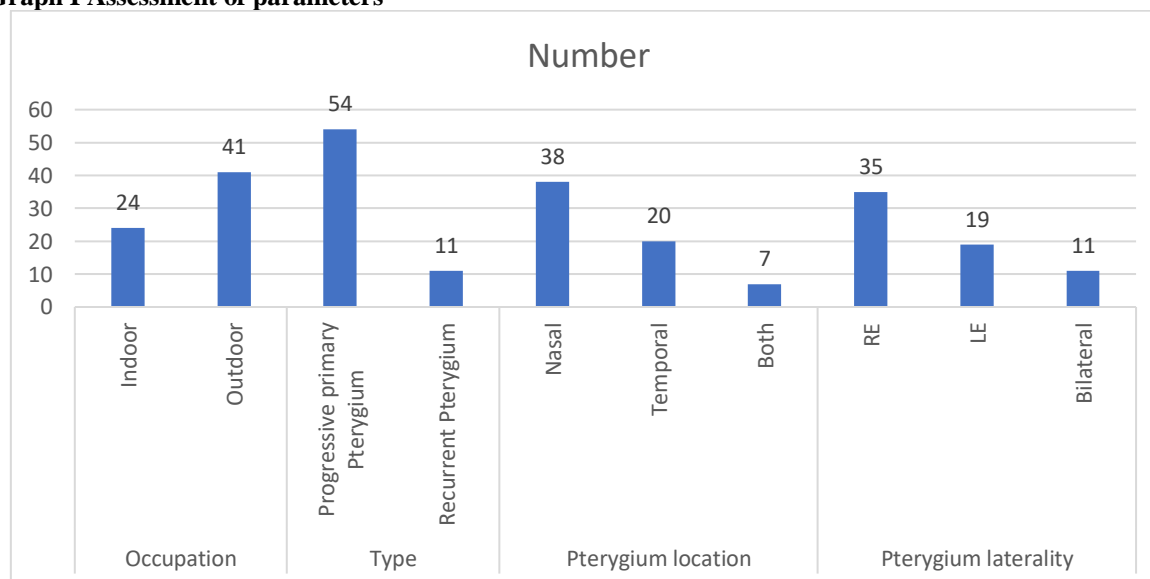


Table III Assessment of recurrence rate

Type	Total	Recurrence
Progressive primary Pterygium	54	4
Recurrent Pterygium	11	1

Table III shows that out of 54 cases of progressive primary Pterygium, recurrence was seen in 4 and out of 11 cases of recurrent Pterygium, recurrence was seen in 1 case.

DISCUSSION

A pterygium is a growth of the conjunctiva that can extend onto the cornea, primarily caused by UV

exposure and environmental irritants.⁸Treatment ranges from observation and lubricating drops to surgical removal, depending on the severity of

symptoms and impact on vision.^{9,10} Preventive measures such as UV protection and eye lubrication are essential.¹¹ The present study was conducted to assess outcome of conjunctival autograft in primary and recurrent pterygium.

We found that out of 65 patients, males were 30 and females were 35. Salagar et al¹² investigated the efficiency of limbal conjunctival autograft in primary and recurrent pterygium. 100 patients were operated of which 6 were recurrent pterygium and the remaining were fleshy pterygium. In this study 7% cases were in age group 20 to 30 years, 22% 31 to 40 years, 30% 41 to 50 years, 24% 51 to 60 years and 17% 60 and above. (2) Depending on occupation high incidence is seen in outdoor patients i.e., 80%, indoor 20%. (3) Depending on location, 50% nasal, 30% temporal, bilateral 20%. (4) Laterality – Right eye 52%, left eye 38%, bilateral 10%. (5) Recurrence – More common in younger patients < 40 age 6 patients developed recurrence.

We found that occupation was indoor in 24 and outdoor in 41 cases. There were 54 cases of progressive primary Pterygium, and 11 cases of recurrent Pterygium. Pterygium location was nasal in 38, temporal in 20 and both in 7 cases. Pterygium laterality was RE in 35, LE in 19 and bilateral in 11 cases. Koch M et al¹³ studied results of conjunctiva/limbus transplantation in 13 eyes with primary or cicatricial pterygium (12 cases and 1 case, respectively). In all cases the pterygia were located nasally. The operation was performed by bare sclera excision, covered with a free graft from the superotemporal conjunctiva and limbus. After a mean follow-up time of 5 months there was only one recurrence. On the basis of a new understanding of limbal diseases the authors believe that conjunctiva/limbus transplantation is an encouraging and appropriate technique for ideal anatomic reconstruction and low recurrence rates in pterygia.

We found that out of 54 cases of progressive primary Pterygium, recurrence was seen in 4 and out of 11 cases of recurrent Pterygium, recurrence was seen in 1 case. Mrzygiot et al¹⁴ performed 41 operations of pterygium with transplantation of a free epithelial flap from the bulbar conjunctiva in order to cover the defect after the removal of the pathological tissue. The results of 35 operations had been controlled in the period of one to ten years. In 25 cases the operation was the first intervention, in 9 cases the second or third in a recurrent pterygium treated by other methods. In case of necessity the semilunar fold was reconstructed. A recurrence took place in one case after 6 months. The cause of the recurrence was the collection of the flap together with the fibrous layer of

the conjunctiva. In the remaining cases a good and lasting effect was achieved, as well from an anatomical as from a cosmetic point of view.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that autogenous conjunctival grafting is a fast, simple, and safe surgery that stops pterygium from recurring and doesn't require tissue loss. Additionally, it lessens the chance of necrosis, scleral thinning, and granuloma formation.

REFERENCES

1. Dushku N, Reid TW. Immunohistochemical evidence that human pterygia originate from an invasion of vimentin expressing altered limbal epithelial basal cells. *Curr. Eye Res.* 1994;13: 473-81.
2. Li DQ, Lee SB, Gurja – Smith Z, Liu Y, Solomon A, Meller D, et al. over expression of collagenase (mm P-1) and stromelysin (mm P-3) by Pterygium head fibroblasts. *Arch. Ophthalmol.* 2001; 119: 71-80.
3. Hirst LW. The treatment of Pterygium. *Surv. Ophthalmology.* 2003; 45: 145-80.
4. Lewallen SA. Randomized trial of conjunctival autografting for pterygium in the tropics. *Ophthalmology.* 1989; 96: 1612-14.
5. Chen PP, Ariyasu RG, Kaza V, LaBree LD, McConnell PJA. randomized trial comparing mitomycin C and conjunctival autograft after excision of primary Pterygium. *Am. J. Ophthalmol.* 1995; 120: 151-60.
6. Mannis CA, Koless PM, Diaz D, Yee, RW. Intra-operative mitomycin in primary Pterygium excision. *Ophthalmology.* 1997; 104: 844-48.
7. Rao SK, Lekha T, Mukesh BN, Sitalakshmi G, Padmanabhan P. Conjunctival limbal autografts for primary and recurrent pterygia: technique and results. *Indian J. Ophthalmology.* 1998; 46: 203-09.
8. McReynolds JO. The nature and treatment of pterygia. *JAMA.* 1902;39: 296.
9. Kerkenezov N. *Trans. Ophthalmic society. Aust.* 1956; 16: 110.
10. Fernandes M, Sangevan VS, Bansal AK, Gangopadhyay N, Sridhar MS, Garg P, et al. India; Outcome of Pterygium surgery bt. 1988-2001; *Eye* 2005; 19(11):1182- 90.
11. Salagar KM, Biradar KG. Conjunctival autograft in primary and recurrent pterygium: A study. *Journal of clinical and diagnostic research: JCDR.* 2013 Dec;7(12):2825.
12. Koch M, Mellin JB, Waubke TN. Initial experience with autologous conjunctival transplantation in pterygium. *Klin MonatsblAugenheilkd.* 1990; 197: 106–9.
13. Mrzygiot S, ScubitZewsca T. Surgery for pterygium with transplantation of an epithelial conjunctival flap. *Klin Ozna.* 1990; 92: 99–100.